IRMA
Initiative for Responsible Mining Assurance

IRMA Standard for Responsible Mining – Guidance Document

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Preamble

Guidance Document for the IRMA *Standard for Responsible Mining*

This guidance document is meant to be used by mining companies and others who wish to understand in greater detail the expectations laid out in the Initiative for Responsible Mining Assurance's (IRMA) *Standard for Responsible Mining*. The bulk of the document provides detailed information on a requirement-by-requirement basis, including explanatory notes, means of verification and examples of evidence that may be provided by mines during an independent, third-party assessment.

This document is a work in progress. As more mines go through IRMA's self-assessment and independent, third-party assessment processes, IRMA will continue to add to and refine the explanatory notes and other information contained in this document.

About IRMA

IRMA was founded in 2006 by a coalition of nongovernment organizations (NGOs); downstream businesses who purchase minerals and metals for the products they make and sell; trade unions; affected communities; and mining companies. IRMA leaders believe that many of the negative social and environmental impacts can be avoided if mines operate according to leading practices. Its vision is:

> *a world where the mining industry is: respectful of the human rights and aspirations of affected communities; provides safe, healthful and respectful workplaces; avoids or minimizes harm to the environment; and leaves positive legacies.*

IRMA's mission is to establish a multi-stakeholder and independently verified responsible mining assurance system that improves social and environmental performance and creates value for leading mine sites. Through IRMA:

- Industrial-scale mines can document their leadership and receive value for proven responsible performance;
- Purchasers of metals and minerals can source from mines that meet or are working toward meeting a full array of leading practices in social and environmental responsibility;
- Communities, workers, and civil society organizations can convey social licence with assurance that the mine operates to leading levels of socially and environmentally responsible performance.

IRMA'S LAUNCH PHASE

The IRMA Board of Directors is fully committed to the objectives articulated in each chapter of the *Standard for Responsible Mining* (v.1.0). The IRMA Board also recognizes errors or oversights made in crafting the specific requirements to meet those objectives are likely only to be revealed when the Standard is tested for feasibility at a global mix of diverse types of mine sites. The Launch Phase is timebound, flexible learning phase. The data, feedback and input collected during this phase will be used to identify gaps, clarify requirements and the means of their verification, and continue to actively engage stakeholders in the *Standard for Responsible Mining*. The Launch Phase includes specific offerings to mine sites and other stakeholders:

- **Self-Assessment:** Mine sites are invited to self-assess their performance against the Standard for Responsible Mining v.1.0. A self-assessment tool is available at tools.responsiblemining.net/self-assess. Mines using the self-assessment tool are asked to provide input on the content of the Standard, and on the self-assessment tool.

- **Certification and Independently-Verified Achievement:** IRMA-trained auditors will be available to independently review site performance and provide a verified scoring of site performance in September 2019. IRMA will actively collect feedback from participating mines as well as auditors and stakeholders involved in the independent assessment process.
- **Stakeholder Engagement:** Other stakeholders are invited to share their comments on the content of the Standard through comment@responsiblemining.net. IRMA will also host engagements with specific stakeholders such as communities with mine sites to collect feedback on the content of the Standard.

Introduction to the IRMA Standard

Modern societies rely on mined minerals and metals to function. Nearly everything manufactured or constructed – from buildings to roads to computers and trains – contains material mined from the Earth. Mining provides important employment and financial opportunities for host communities and host countries. But large-scale mining is a complex and intensive process that can negatively impact the physical environment, such as through the loss of habitat or contamination of water, and local communities' social and economic situations.

The *Standard for Responsible Mining* (v.1.0) specifies a set of objectives and leading performance requirements for environmentally and socially responsible practice. The Standard serves as the basis of a voluntary system offering independent third-party review and certification of environmental and social performance measures at industrial-scale mine sites around the world.

Principles and Objectives

The IRMA *Standard for Responsible Mining* (the IRMA Standard) is designed to support the achievement of four overarching principles. Additionally, each chapter of the IRMA Standard has an objective that meets one or more of these principles. For organizational purposes, chapters are listed under one core principle. It should be noted, however, that most chapters and their objectives are relevant to more than principle.

Principle 1—Business Integrity

> INTENT: Operating companies conduct their business in a transparent manner that complies with applicable host country and international laws, regulations and best practice, respects human rights, and builds trust and credibility with workers, communities and stakeholders.

> > Chapter 1.1—Legal Compliance: To support the application of the laws and regulations of the country in which mining takes place, or exceed host country laws in a manner consistent with best practice.
>
> > Chapter 1.2—Community and Stakeholder Engagement: To support mining company decision-making and enable communities and stakeholders to participate in mining-related decisions that affect their health, wellbeing, safety, livelihoods, futures and the environment.
>
> > Chapter 1.3—Human Rights Due Diligence: To respect human rights, and identify, prevent, mitigate and remedy infringements of human rights.
>
> > Chapter 1.4— Complaints and Grievance Mechanism and Access to Remedy: To provide accessible and effective means for affected communities and individuals to raise and resolve mine-related complaints and grievances at the mine operational level, while not limiting their ability to seek remedy through other mechanisms.
>
> > Chapter 1.5—Revenue and Payments Transparency: To increase transparency of mining related payments and provide communities and the general public with the information they need to understand and assess the fairness of financial arrangements related to mining operations.

Principle 2— Planning and Managing for Positive Legacies

> INTENT: Operating companies engage with stakeholders from the early planning stages and throughout the mine lifecycle to ensure that mining projects are planned and managed to deliver positive economic, social and environmental legacies for companies, workers and communities.

> > Chapter 2.1—Environmental and Social Impact Assessment and Management: To proactively anticipate and

assess environmental and social impacts; manage them in accordance with the mitigation hierarchy; and monitor and adapt environmental and social management systems in a manner that protects affected communities, workers and the environment throughout the entire mine lifecycle.

Chapter 2.2—Free, Prior and Informed Consent (FPIC): To demonstrate respect for the rights, dignity, aspirations, culture, and livelihoods of indigenous peoples, participate in ongoing dialogue and engagement and collaborate to minimize impacts and create benefits for indigenous peoples, thereby creating conditions that allow for indigenous peoples' free, prior and informed consent and decision-making regarding mining development.

Chapter 2.3—Obtaining Community Support and Delivering Benefits: To obtain and maintain credible broad support from affected communities; and produce tangible and equitable benefits that are in alignment with community needs and aspirations and are sustainable over the long term.

Chapter 2.4—Resettlement: To avoid involuntary resettlement, and when that is not possible, equitably compensate affected persons and improve the livelihoods and living standards of displaced persons.

Chapter 2.5—Emergency Preparedness and Response: To plan for and be prepared to respond effectively to industrial emergency situations that may affect offsite resources or communities, and to minimize the likelihood of accidents, loss of life, injuries, and damage to property, environment, health and social well-being.

Chapter 2.6—Planning and Financing Reclamation and Closure: To protect long-term environmental and social values and ensure that the costs of site reclamation and closure are not borne by affected communities or the wider public.

Principle 3— Social Responsibility

INTENT: Operating companies engage with workers, stakeholders and rights holders to maintain or enhance the health, safety, cultural values, quality of life and livelihoods of workers and communities.

Chapter 3.1—Fair Labor and Terms of Work: To maintain or enhance the social and economic wellbeing of mine workers and respect internationally recognized workers' rights.

Chapter 3.2—Occupational Health and Safety: To identify and avoid or mitigate occupational health and safety hazards; maintain working environments that protect workers' health and working capacity; and promote workplace safety and health.

Chapter 3.3—Community Health and Safety: To protect and improve the health and safety of individuals, families, and communities affected by mining projects.

Chapter 3.4—Mining and Conflict-Affected or High-Risk Areas: To prevent contribution to conflict or the perpetration of serious human rights abuses in conflict-affected or high-risk areas.

Chapter 3.5—Security Arrangements: To manage security in a manner that protects mining operations and products without infringing on human rights.

Chapter 3.6—Artisanal and Small-Scale Mining: To avoid conflict and, where possible within the scope of national law, foster positive relationships between large-scale mines and artisanal and small-scale mining (ASM) entities, and support the development of ASM that provides positive livelihood opportunities and is protective of human rights, health, safety and the environment.

Chapter 3.7—Cultural Heritage: To protect and respect the cultural heritage of communities and indigenous peoples.

Principle 4—Environmental Responsibility

INTENT: Operating companies engage with stakeholders to ensure that mining is planned and carried out in a manner that maintains or enhances environmental values, and avoids or minimizes impacts to the environment and communities.

Chapter 4.1—Waste and Materials Management: To eliminate off-site contamination, minimize short- and long-term risks to the health and safety of communities and the environment, and protect future land and water uses.

Chapter 4.2—Water Management: To manage water resources in a manner that strives to protect current and future uses of water.

Chapter 4.3—Air Quality: To protect human health and the environment from airborne contaminants.

Chapter 4.4—Noise and Vibration: To preserve the health and well-being of nearby noise receptors and the amenity of properties and community values, and to protect offset structures from vibration impacts.

Chapter 4.5—Greenhouse Gas Emissions: To minimize climate change impacts through increased energy efficiency, reduced energy consumption and reduced emissions of greenhouse gases.

Chapter 4.6—Biodiversity, Ecosystem Services and Protected Areas: To protect biodiversity, maintain the benefits of ecosystem services and respect the values being safeguarded in protected areas.

Chapter 4.7—Cyanide: To protect human health and the environment through the responsible management of cyanide.

Chapter 4.8—Mercury Management: To protect human health and the environment through the responsible management of mercury.

IRMA and its supporters are committed to promoting the uptake of the IRMA Standard by recognizing and rewarding mining operations that are certified as meeting the requirements in each chapter of the Standard and thereby fulfilling IRMA's overall principles objectives.

Development of the Standard for Responsible Mining

The *Standard for Responsible Mining* v1.0 was created by the IRMA Steering Committee (now Board of Directors) and Secretariat through an intensive multi-year consultation process. Representatives of IRMA's five core sectors as well as representatives from government agencies, financial institutions, academic organizations, related certification programs, and others participated in the process to define the content of the Standard.

IRMA conducted two rounds of public consultation (in 2014 and 2016) and two field tests (one in Zimbabwe and one in the United States) to collect input on the requirements of the Standard, and convened multi-stakeholder working groups and consulted independent experts to further articulate requirements that reflect responsible mining. During the two public consultation periods, more than 120 individuals and organizations provided over 2,100 comments and recommendations that informed the content presented in *Standard for Responsible Mining* v.1.0.

To view stakeholder comments and IRMA's responses, visit: http://www.responsiblemining.net/irma-standard/

Scope of the IRMA Standard

The IRMA Standard is intended to be applicable to all types of industrial- or large-scale mining (including surface, sub-surface and solution mining), and all mined materials (e.g., minerals, metals) with the exception of energy fuels. IRMA will not certify oil and gas operations, and more work is needed before thermal coal and uranium can be considered for inclusion.

There is no defined minimum cut-off point for the scale of mine to which the IRMA Standard may apply, but it is not designed to be applicable to artisanal or small-scale mining.

The IRMA Standard and certification scheme covers mining and associated activities, such as construction of infrastructure or preliminary ore processing, that occur on the mine site, and includes requirements that pertain to different phases of the mine life cycle. The Standard does not apply to additional processing of mined material that takes place off site, the manufacturing and assembly of products, or end product use and disposal.

All certified mine sites of whatever type and scale will be required to comply with all relevant requirements of the IRMA Standard. The requirements have therefore been drafted at a level of generality that allows different actions to be taken at mine sites of different types and scales, while still being able to demonstrate compliance.

IRMA is paying specific attention to the issues of scope and applicability of the IRMA *Standard for Responsible Mining* to mine sites of different scales and types within its scope during its Launch Phase (see pages 5 and 6), and if necessary, will develop further guidance. The subsections below provide more information on the applicability of the Standard under different conditions.

Application in Relation to Timing of Certification

IRMA recognizes that there are some requirements within the Standard that cannot be met once a mining operation has reached a certain stage – in other words, an operator cannot "turn back the clock" to change actions that have already occurred, nor can it meet time-dependent requirements that did not take place at the appropriate time. For example, a mine already in operation that seeks to be certified by IRMA but did not obtain the free, prior and informed consent of indigenous peoples before it went into operation can no longer obtain the "prior" consent of indigenous peoples.

IRMA also recognizes that some of the best practices outlined in the IRMA Standard reflect changes in global practice and norms that have come to the fore only in recent years. For example, while there may have been an understanding that companies should respect human rights, the 2011 *UN Guiding Principles on Business and Human Rights* strengthened the expectation that companies do so. Similarly, while there may have been some understanding that companies should act responsibly when operating in conflict-affected or high-risk areas, it was not until 2011, and the release of the *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, that there was an internationally recognized and accepted due diligence framework for companies to follow. While newer mines may have implemented systems to meet these relatively new expectations, older mining operations may not have done so.

IRMA seeks to make its certification system available to any mine that can demonstrate a high performance level that is consistent with the Standard's principles and objectives. The fact that a mining project did not fully comply with all requirements of the IRMA Standard during an early stage of its development should not necessarily exclude it from subsequent certification, as long as the social and environmental objectives of the IRMA Standard are achieved, and mines address and remedy impacts from past practices that do not meet those objectives.

The IRMA Steering Committee is actively considering how best to address non-compliances with the IRMA Standard that occurred during a mine's early stages of development. In some chapters, readers will notice that the Scope of Application section has information on "New versus Existing Mines." Where present, that subsection recognizes that some requirements in the chapter cannot be applied retroactively at existing mines, and clarifies how IRMA expects companies to demonstrate that they still meet the intent of the social and environmental objectives of the chapter. We realize that further attention (and guidance to companies and auditors) may be needed in this area, and are prepared to further revise as warranted so that stakeholders can be assured that IRMA certification delivers a high performance bar in all cases.

Application in Relation to Mine Life Cycle

The IRMA Standard contains requirements that apply during different phases of the mining life cycle (e.g., exploration, construction, operations and closure). The Standard recognizes that different aspects of some requirements will be assessed at different phases of the life cycle (for example, while requirements related to the

planning of mine closure may be assessed even during the construction phase, effective implementation of those requirements cannot be assessed until closure is under way or completed).

At present, assessment of compliance is expected to occur after a mine becomes operational. While the current Standard focuses on certifying operating mines it is possible that future versions will include additional nodes applying to specific phases (e.g., exploration, construction) so that companies might be assessed during these early stages and be certified as a prospective "IRMA Ready" mine project (having met requirements related to social engagement and environmental protection for those particular stages of development).

Application in Relation to Scale of Mine Site

As mentioned previously, IRMA is planning on certifying industrial-scale mining operations. However, IRMA is paying particular attention to issues related to small-to-medium-sized companies that operate industrial-scale mines**.** IRMA leaders understand that smaller companies may have less experience with some planning, monitoring, reporting and other formal processes than larger companies with more resources. IRMA wants to create a Standard that is accessible to all companies wanting to demonstrate their commitment to greater social and environmental performance, and as a result, we are evaluating potential barriers to smaller operators and considering ways to reduce barriers while still maintaining a Standard that is protective of social and environmental values. Possible strategies being considered include longer timelines allowed to accomplish some tasks, adjusted fees for participation in IRMA, and technical and financial resources to support capacity building, training opportunities for smaller companies, especially those producing low-value commodities.

Language

The IRMA Standard follows ISO guidance in the use of the word 'shall' to indicate a requirement that must be met. For example, "There shall be an environmental impact assessment for the mine site."

The requirements of the IRMA Standard have been drafted taking account of the intent that conformity will be strictly assessed in accordance with the wording. If flexibility is intended, for example, if mines can choose to implement one or more elements from a longer list, then this is specified in the wording of the requirement.

A range of technical terms are defined in the Glossary located at the end of the document. The definitions are considered to be normative for the purpose of interpreting the IRMA Standard. As mentioned above, where these terms appear in the text of a chapter, they are listed up front, and are defined at the end of each chapter.

Flagged Items

There are seven chapters in the Standard (Chapters 2.1, 2.4, 3.2, 4.2, 4.3, 4.5 and 4.8) where either the chapter or specific requirements in them have been flagged. Flagged issues are places where IRMA seeks assistance in resolving challenging issues in which there is either a difference in opinion between stakeholder perspectives and/or it is a complex topic on which the broader world community is also struggling with no clear resolution.

We have marked these types of challenges in this document with a [flag] and are most appreciative of solution-based suggestions. You can search for these flags by using the search term flag, or look for flags in Chapters 2.1, 2.4, 3.2, 4.2, 4.3, 4.5 and 4.8.

In most cases, IRMA is looking for input from mine sites, to help inform how IRMA will approach certain issues in the future. So auditors will be expected to document mine site input on the flagged issues.

NOTE that in two chapters (4.3-Air Quality and 4.8-Mercury Management), the flagged requirements will not factor into the mine's score.

Chapter Structure

BACKGROUND

Each chapter has a short introduction to the issue covered in the chapter, which may include an explanation of why the issue is important, a description of key issues of concern, and the identification of key aspects of recognized or emerging best practice that the standard aims to reflect.

OBJECTIVES/INTENT STATEMENT

A description of the key objectives that the chapter is intended to contribute to or meet.

TERMS USED IN THIS CHAPTER

This is a list of the terms used in the chapter ■ The terms listed are defined at the end of each chapter ■ They are also defined in the Glossary at the end of the Standard document ■

In each chapter, the defined terms appear in the text with a dashed underline, *and you can click here to jump to definitions at the end of the chapter*

SCOPE OF APPLICATION

A description of the conditions under which the chapter may or may not be relevant for particular mines. If the company can provide evidence that a chapter is not relevant, that chapter will not need to be included in the scope of the IRMA certification audit. A requirement is 'not relevant' if the issue to which a requirement relates is not applicable at the mine site. For example, requirements related to the use of cyanide would not be relevant at a mine site at which cyanide is never used.

The section may also include information on the applicability of certain chapters, or requirements within chapters, based on the timing of certification. This differentiation was needed, because existing mines may not have implemented certain best practices during particular phases (and those requirements cannot be carried out retroactively), while new mines will be expected to have implemented the best practices.

CRITICAL REQUIREMENTS IN THIS CHAPTER

If a chapter has critical requirements they are listed here. Critical requirements consist of a set of 40 requirements that have been identified by the IRMA Board of Directors as being core requirements that any mine site claiming to be following good practices in mining should be meeting.

CRITERIA AND REQUIREMENTS

X.X.X. These are Criteria Headings

X.X.X.X. (if this is a critical requirement it will be indicated here in red text)
These are the requirements that must be met for an IRMA certificate to be issued and subsequently maintained by a mining project. Most criteria have more than one requirement. All requirements must be met in order to comply fully with the criterion.

a. Some requirements consist of hierarchical elements
   i. at more than one level.

Applicants may be required to meet all elements in a list, or one or more of the elements of such a list, as specified.

NOTES

Any additional notes related to the chapter and its requirements are explained here.

Cross References to Other Chapters	
CHAPTER	ISSUES
Chapters that have content related to the chapter at hand are listed here	This area describes how the chapters are related.

TERMS USED IN THIS CHAPTER

Terms used in the chapter are defined in this section.

Guidance Version of the Document

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
The requirements listed under each Criterion heading are normative. Assessment of conformity is against the requirements. Additional information on the intent of the requirements may be contained in Explanatory Notes. If there Is a question related to the intent of the requirement, they should be directed to the IRMA Director of Standards and Assurance. All questions will be documented, and may result in additional information added to Explanatory Notes.	This information provides non-normative guidance to help auditors, companies and stakeholders understand sources of information that an auditor would be expected to have access to, and the kinds of activities that the auditor might be expected to undertake in order to verify conformity with a requirement. This is not a complete list of methods, nor is the certification body required to carry out all of the means of verification listed.	This section provides non-normative examples of some of the documents and records that could be used to assess conformity with IRMA requirements. This is not a complete list, nor is the certification body required to inspect all documents listed here.	Explanatory Notes contain additional information that may aid Auditors in assessing conformity with IRMA requirements. This includes information related to the intent of the requirement, as well as resources that may be reviewed to provide more context. If there Is a question related to the intent of the requirement, they should be directed to the IRMA Director of Standards and Assurance.[1] All questions will be documented, and may result in additional information added to Explanatory Notes.

Requirements for Certification and Achievement Levels

IRMA and its supporters are committed to promoting the uptake of the IRMA Standard by recognizing and rewarding mines that have achieved best practices in environmental and social responsibility. IRMA leaders also recognize that, in the past, there may not have been incentive for mines to go beyond host country laws and strive

[1] Email Lisa Sumi: lsumi@responsiblemining.net

for best practices, or that some mines may have unique circumstances that pose particular challenges to implementing certain best practices.

Rather than only rewarding the small group of mines that are already achieving best practices, IRMA leaders have developed a system to also recognize lower levels of achievement in hopes that more mines will be able to come into the IRMA system and gain some market benefits, while continuing to strive toward meeting IRMA's comprehensive set best practices over time.

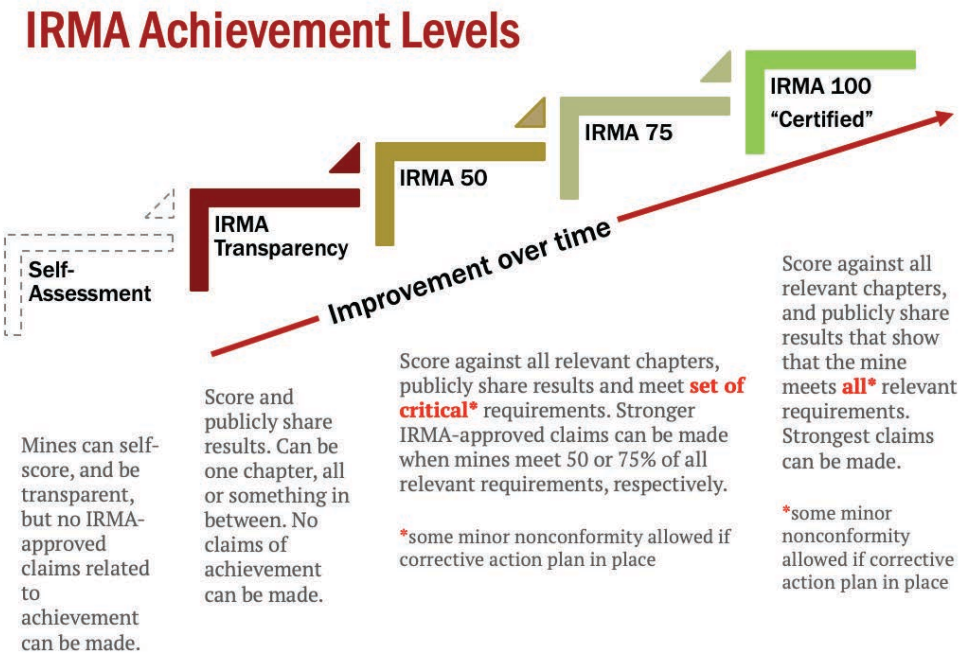
Three levels of achievement will be recognized within the IRMA system:

- **IRMA 100 (Certification)** – Mines fully meet all critical requirements (see Annex B), at least substantially meet all non-critical requirements, and achieve an overall score of 90% in each of the four IRMA principles (i.e., Business Integrity, Positive Legacies, Social Responsibility and Environmental Responsibility).* Where requirements are only substantially met there is a corrective action plan in place, approved by the certification body, to reach full conformance within allotted time frames. Mines are required to publicly release audit summary.
- **IRMA 75 (Verified Achievement Level)** – Mines at least substantially meet all critical requirements (see Annex B), and have in place a corrective action plan to fully meet them. A score of 75% is achieved in each of the four IRMA principles.* Mines are required to publicly release audit summary.
- **IRMA 50 (Verified Achievement Level)** – Mines at least substantially meet all critical requirements (see Annex B), and have in place a corrective action plan to fully meet them. A score of 50% is achieved in each of the four IRMA principles.* Mines are required to publicly release audit summary.

* The "principle" score is based on total number of relevant requirements in the chapters that fall under each principle, see example on page 28.

There is one other way for mines to be recognized in the IRMA system. There is no achievement level awarded by IRMA, but through IRMA Transparency mines can still publicly disclose their participation in the IRMA system and talk about their performance publicly.

- **IRMA Transparency (Verified Score)** – be audited by IRMA-approved auditors and publicly release score and audit summary.



IRMA Rating System

All requirements under assessment will be rated on their level of conformity. The following rating system will be used, and the general criteria for differentiating between ratings is as follows:

Fully meets:

Relevant policies, procedures, methodologies, training programs, or work plans, etc. and performance meet the requirement as written or fully meet its intent. Stated performance for all elements or sub-requirements is evident with extremely rare exceptions (and exceptions in compliance do not affect, in any way, consistency with the objective of the chapter).

Substantially meets:

Relevant policies, procedures, methodologies, training programs, or work plans, etc. have sufficient detail or require only minor augmentation. For example:

- Many, but perhaps not all relevant personnel are informed of policies and procedures. Work plans are developed and implementation is under way.
- Training programs are being implemented, though perhaps not fully or to maximum efficacy.

Where requirements are performance-based, mine has implemented appropriate actions to meet the performance expectation, but is not fully meeting it.

Where sub-requirements exist, the majority of the sub-requirements are being met, but one or a few factors need clarification, augmentation or complete implementation.

Partially meets:

Relevant procedures, methodologies, training programs, or work plans, etc. are under development; or policies, procedures, etc. are in place but do not have sufficient detail and need significant augmentation;

or they are in place but are not being implemented or are inconsistently applied; or implementation is in early stages so difficult to gauge its effectiveness/successful implementation.

Where requirements are performance-based, mine has taken some actions to meet the performance expectation outlined, but there is considerable additional work necessary to meet the expectations.

Where sub-requirements exist, the majority or all of the sub-requirements need clarification, augmentation or implementation.

Does not meet:

Relevant policies, procedures not developed, actions have not been taken to meet performance expectations, or performance expectations are not being met despite efforts being made by the company.

Not relevant

Requirements are not applicable at the mine site. Mines will be expected to provide rationale for why requirements are not relevant.

Not assessed

Mines choose to exclude certain requirements from the assessment.

IRMA Scoring System

All requirements, except for those deemed "not relevant," will be scored. The following scoring system will be used:

Rating	Score
Fully meets	2
Substantially meets	1.5
Partially meets	1
Does not meet	0
Not assessed	0

As mentioned above, mines may opt to exclude requirements from an assessment in order to reduce audit costs, e.g., when they know for sure that they are not meeting the requirement. Mines should be aware, however, that all relevant requirements factor into the score for a particular chapter. Consequently, if a mine chooses to not have a relevant requirement assessed it will receive a score of zero (0). This is because if a requirement is not assessed there is no evidence that the mine is partially, substantially or fully meeting the requirement. In the public audit report the rating will show up as "Not Assessed."

Critical Requirements in the IRMA Standard

Critical requirements consist of a set of 40 requirements that have been identified by the IRMA Board of Directors as being core requirements that any mine site claiming to be following good practices in mining should be meeting. The critical requirements are identified in the Standard portion of this document (and are listed in Annex B of the *Assessment Manual for Mines*).

Certified mines must fully meet all critical requirements, and mines achieving IRMA 50 or IRMA 75 must substantially meet all critical requirements, demonstrate progress over time, and fully meet all critical requirements within specified time frames (see Table 3 in the *Assessment Manual for Mines*). By requiring mines at the IRMA 50 or 75 level to be working toward full achievement of all critical requirements IRMA is fostering improvement at these sites.

Basis for Certification (IRMA 100)

The highest level of achievement within the IRMA system is "certification" or IRMA 100. The basis for IRMA certification is that 100% of the relevant requirements of the IRMA Standard have been met by the applicant mine or have been substantially met and the mine develops a corrective action plan that outlines measures to be taken to fully conform with all requirements within specified time frames (see Table 2 in the *Assessment Manual for Mines*).

IRMA is allowing certification even with some level of minor nonconformity because it is recognized that occasional, temporary failures of conformity are inevitable when managing large, complex mining operations. Consequently, and in line with other comparable voluntary certification schemes, IRMA expects that certificates may be issued, and may subsequently be maintained, despite the existence of minor nonconformities with the requirements of the IRMA Standard. If certification is granted even though the mine has some minor nonconformities, it will be expected that appropriate and timely actions will be taken by the mine to correct problems and analyze issues contributing to the nonconformity so that they can be avoided in the future.

Any failures to conform with IRMA Standard requirements identified by an auditor will be explicitly documented in the audit report, and the resulting decision to issue, re-issue, suspend or withdraw a certificate will be clearly and explicitly justified by the responsible certification body.

Prior to the CB's decision on whether or not to grant certification or issue a verified statement related to other achievement levels (see IRMA 50 and 75, below), operating companies will have the opportunity to provide additional evidence if they believe any ratings have been made in error.

Conditions for Certification (IRMA 100):

- IRMA has identified 40 requirements in the IRMA Standard that it has listed as critical requirements (see Annex B). Mines must fully meet all critical requirements.
- Mines must at least substantially meet all relevant non-critical requirements in the IRMA Standard. Requirements with a "substantially met" score must develop a corrective action plan and implement actions by the next surveillance audit.
- Mines must achieve a score of at least 90% of the total possible score in each of the four IRMA Principle areas (i.e., Business Integrity, Positive Legacies, Social Responsibility and Environmental Responsibility).[2]
- Once a mine has been certified, the same requirement shall not receive a rating lower than "fully meets" in three (3) consecutive certification/surveillance/recertification audits. The rationale for this is that corrective actions taken are failing to provide lasting remedy. If a there is a third occurrence, the mine's achievement level may be suspended or withdrawn.

Basis for Verified Achievement Levels (IRMA 50 and 75)

The basis for IRMA 50 or IRMA 75 is that mines must demonstrate that they have reached a score of 50% or 75% of the total possible score, respectively, in each of the four IRMA Principle areas (i.e., Business Integrity, Positive Legacies, Social Responsibility and Environmental Responsibility).[3] See Appendix 3 for an example of how scoring will be applied.

The rationale for calculating the score for each Principle, rather than the Standard as a whole, is to ensure that mines that receive an IRMA achievement level of 50 or 75 are able to demonstrate a level of competency across the four primary areas of the IRMA Standard, rather than performing strongly in one or two areas only.

[2] For example, the total possible score in Principle 1 = # of relevant requirements in every chapter in Principle 1 x 2 points.

[3] Ibid.

Additionally, all critical requirements in the IRMA Standard must at least be "substantially met," and have in place a corrective action plan to fully meet those requirements by the following surveillance or recertification audit (whichever comes first). There is the potential to receive an extension of 12-18 months to reach "fully met" status, if progress is being made but there are there are extenuating circumstances that prevented full conformance within the allotted time frame.

Basis for Transparency and Demonstration of Improvement Over Time

The IRMA Standard is a high-bar standard, and for some mines the process of working toward meeting such a comprehensive set of best practices will take longer. While the IRMA system primarily aims to recognize and reward mines that are achieving best practices in social and environmental performance, IRMA leaders also recognize the value and importance of supporting mines wherever they happen to be on their journey to improve their practices.

Within IRMA, the act of transparency is recognized as a form of leadership in and of itself, as increased transparency can lead to more meaningful engagement and dialogue with a mine's stakeholders about particular strengths and challenges with the mining project.

The IRMA Board of Directors has therefore decided that mines that are not yet achieving 50% of the requirements in each of the four IRMA principles can still be recognized by IRMA by setting a baseline of performance through a third-party audit and sharing their results publicly. Through follow-up audits these mines can demonstrate publicly that they are improving over time. These mines may decide to set a goal to achieve a certain IRMA level with a certain time frame, but this is not required by IRMA.

Associated Documents and Materials

It is important to note what is **not** in this document. IRMA leaders recognize that there are key aspects of certification that are equally relevant to the Standard for the success of IRMA's mission and which are being developed in tandem but are not embodied in this Guidance Document.

IRMA Requirements for Certification Bodies (CBs): IRMA's requirements for Certification Bodies describe the requirements for CBs to be eligible for to perform auditing and certification services for IRMA. The document contains procedures for auditing and verifying compliance with the IRMA Standard, and granting certificates or verified statements of achievement.

Comments on the IRMA Standard and system are always welcome. They may be emailed to us at:
comments@responsiblemining.net

Additional information about IRMA is available on our website: www.responsiblemining.net

The IRMA Standard:

Requirements

Business Integrity

Chapter 1.1—Legal Compliance

BACKGROUND

Compliance with applicable host country laws is one of the most basic principles of operating a mine, or any activity, in a given jurisdiction. As an international best practice standard IRMA's requirements may also contain provisions that will be more stringent or demanding than the minimum legal requirements specified at the national level in a particular country.

This chapter seeks to ensure that the IRMA Standard supports and complements compliance with international and national laws and regulations. It is based on five precepts:

- Compliance with host country laws and permits;
- Compliance with the IRMA Standard and requirements;
- Compliance with the most protective of host country or IRMA requirements;
- Compliance with the host country law when there is a direct conflict with an IRMA requirement - and explanation and documentation of any conflict to ensure that the decision process and response are clear and available to interested parties; and
- Maintenance of records to document and demonstrate compliance with host country requirements and the IRMA Standard.

TERMS USED IN THIS CHAPTER

Associated Facility ■ Competent Authority ■ Confidential Business Information ■ Contractor ■ Corporate Owner ■ Host Country Law ■ Mine Closure ■ Mining Project ■ Operating Company ■ Remedy ■ Stakeholder ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To support the application of the laws and regulations of the country in which mining takes place, or exceed host country laws in a manner consistent with best practice.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is applicable to all mines applying for IRMA certification.

CRITICAL REQUIREMENTS IN THIS CHAPTER

The operating company complies with host country laws that are applicable to the mining project (1.1.1.1).

Legal Compliance Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.1.1. Compliance with Host Country Laws 1.1.1.1. (Critical Requirement) The operating company shall comply with all applicable host country laws in	**Auditing Note for 1.1.1.1:** Ideally, the operating company will have a system in place for identifying which host country laws apply to the project, and for tracking compliance with laws and	**For 1.1.1.1:** • Licences, permits, operational notices such as notices of violation, citations, inspection reports, enforcement actions, payments of penalties and fines, and other	**Explanatory Note for 1.1.1.1:** Host country law may also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
relation to the mining project and associated facilities.	permits. If mines do not have such a system, it would be a possible suggestion for an area of improvement (but not required as a corrective action). Re: international laws. If the host country has ratified or acceded to international laws or treaties, but has not implemented them in host country law, mines are not expected to be complying with those particular international laws. However, mines could be encouraged to do so, and if they are already complying it should be noted as a strength, as that would definitely be a demonstration of best practice. **For 1.1.1.1:** If in place, review documentation tracking compliance obligations and compliance status. Review licences, permits, operational notices such as notices of violation, citations, enforcement actions, payments of penalties and fines, and other regulatory documentation. Review claims and/or prima facie evidence of non-compliance; and government, company, and third-party records and documentation sufficient to demonstrate compliance in relation to any claims/prima facie evidence of non-compliance.	regulatory documentation. • Matrix, chart or other tracking system listing regulatory requirements, source documents, and compliance status (updated over time). • Internal or external audits (e.g., ISO audits or others) related to legal and/or regulatory compliance.	Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. It also includes any international laws, conventions, treaties, etc. that have been ratified or acceded to by the host country and incorporated into law through specific national policy and legislation. If the host country has ratified or acceded to international laws or treaties, but has not implemented them in host country law, mines are not expected to be complying with those particular international laws. However, mines are encouraged to do so, as that would definitely be a demonstration of best practice. If companies are in conformance with ISO 14001 (Environmental Management Systems) they will have documented their compliance obligations relevant to environmental aspects, planned actions to be taken to address those obligations, and monitored and evaluated compliance status with legal and regulatory requirements.[4] Ideally, systems should be in place for tracking the status of all compliance obligations (e.g., environmental, occupational health and safety, labor, human rights, social, taxes, etc.).

[4] See, for example, ISO 14001:2015. Environmental management systems — Requirements with guidance for use. See, for example, Sections 6.1.3 , 6.1.4, 9.1.2. Standard available for purchase at: https://www.iso.org/standard/60857.html

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.1.2. Compliance with Most Protective Requirements 1.1.2.1. The operating company shall comply with whichever provides the greatest social and/or environmental protections of host country law or IRMA requirements. If complying fully with an IRMA requirement would require the operating company to break host country law then the company shall endeavor to meet the intent of the IRMA requirement to the extent feasible without violating the law.	For 1.1.2.1: Review mine operations and practices for clear demonstration that they meet IRMA Standards, unless the host country laws are more stringent. When a company expresses inability to meet an IRMA requirement because it requires breaking host country law, the operating company should provide an explanation of the applicable host country law, the law's conflict with IRMA, and the resolution implemented by the company, including any efforts to meet the intent of the IRMA requirement within the bounds of host country law. Where justification, further detail, or documentation is required then the operating company shall also provide that to the IRMA auditor.	For 1.1.2.1: • Copies of any host-country laws that conflict with IRMA requirements.	Explanatory Note for 1.1.2.1: For purposes of this section, "most protective" means the law or requirement that will best prevent or mitigate negative impacts on human health, safety, environment, human rights, cultural resources, etc., in the host country and cause the least risk to the host state's economic resources.
1.1.3. Response to Non-Compliance 1.1.3.1. If non-compliance with a host country law has taken place, the operating company shall be able to demonstrate that timely and effective action was taken to remedy the non-compliance and to prevent further non-compliances from recurring.	For 1.1.3.1: Review operating company responses and remedies to confirm that timely and effective action has been taken, i.e., the company has successfully resolved non-compliances and problems within a timeframe acceptable to the competent authority. Confirm through interviews or document review that compliance has been achieved, or is being sufficiently pursued, to the satisfaction of the competent authority. Review any procedural or other changes that have been implemented to prevent similar non-compliance from recurring.	For 1.1.3.1: • Documentation of non-compliances (e.g., notices of violation, enforcement actions, inspection reports or other regulatory documentation) • Documentation of any resolutions to non-compliance issues (e.g., corrective actions taken; payment of fines; subsequent documentation from regulatory authorities confirming that non-compliance issues have been resolved, etc.) NOTE: This evidence is intended to inform two IRMA issues: (1) that the operating company is documenting things that IRMA requires it to document/disclose and (2) that the operating company is compliant or taking	Explanatory Note for 1.1.3.1: Non-compliance with host country law includes any breaches of laws, as well as breaches of permit requirements (e.g., if a water quality criterion value in a permit has been exceeded, that is a non-compliance issue, even if no citation or fine was issued).

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	If the non-compliance is human rights related, see IRMA Chapter 1.3 for IRMA expectations related to effective remedy for infringements of human rights.	appropriate steps to become compliant for all requirements plus host country law.	
1.1.4. Contractor Compliance 1.1.4.1. The operating company shall demonstrate that it takes appropriate steps to ensure compliance with the IRMA Standard by contractors engaged in activities relevant to the mining project.	**For 1.1.4.1:** Review actions and documentation demonstrating that the operating company performs oversight and monitoring of its contractors related to compliance with IRMA requirements. Demonstration of oversight shall include, but not be limited to operating company records, actions, plans, or policies related to contractors while working at the mine site and while engaged in activities reasonably related to the contractor's services to the operating company, and any systems in place to track contractor compliance with company's performance expectations. Contractors should be aware that they are expected to comply with certain environmental and social performance levels conveyed to them by the operating company (although they need not be aware of the IRMA Standard requirements, per se, as long as they are meeting them in practice).	**For 1.1.4.1:** • Policies that include environmental or social expectations of contractors (that are consistent with IRMA requirements) while working at the mine site or engaged in activities reasonably related to the contractor's services to the operating company. • Documentation of meetings or correspondence with contractors where information was conveyed on expectations to meet certain environmental and social standards (e.g., IRMA requirements). • Documentation of oversight of contractor practices, such as audits, inspections, reports from contractors on their performance, etc. • Documentation of the operating company discussing deficiencies and requiring corrective actions where a contractor failed to operate according to these requirements, and documentation that the operating company acted in response. • Documentation of contractors communicating about a deficiency with operating company/IRMA performance standards, and corrections undertaken of its own initiative, which would demonstrate both that the operating company has requirements for compliance and that steps are being taken by contractors to comply.	**Explanatory Note for 1.1.4:** The definition of contractors includes relevant subcontractors (i.e., those involved in providing to the operating company or the company's contractors work or services that are relevant to the mining project). Contractors will be only expected to comply with IRMA requirements that relate to the performance of any of their activities that are relevant to the mining project. While not required, it may be beneficial for companies to integrate contractor obligations related to environmental and social management into the mine's Environmental and Social Management System (see Chapter 2.1, criteria 2.1.7).
1.1.5. Record-Keeping and Disclosure 1.1.5.1. The operating company shall maintain records and documentation	**For 1.1.5.1:** Review operating company records for their qualitative and quantitative completeness	**For 1.1.5.1 and 1.1.5.2:** • Documentation including permits, licences, operational notices, inspection reports, and other regulatory	**Explanatory Note for 1.1.5.1:** Operating companies should keep records of inspections and any information regarding non-compliance (e.g. notices of non-compliance or less

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
sufficient to authenticate and demonstrate compliance and/or non-compliance with host country laws and the IRMA Standard.	demonstrating compliance with host country laws and IRMA requirements. Records should be maintained in perpetuity, but for IRMA purposes, at least through mine closure. Examples of relevant records include documentation related to IRMA's individual chapters, host country regulatory reports (both compliance and non-compliance, compliance inspections), and monitoring data/reports.	documentation. • Documentation related to non-compliance with host country law (e.g., notices of violation, enforcement actions, reports of failed inspections, payments of penalties and fines, or other regulatory documentation) • Documentation of any resolutions to non-compliance issues (e.g., corrective actions taken; payment of fines; subsequent documentation from regulatory authorities confirming that non-compliance issues have been resolved, etc.) NOTE: Documentation related to compliance with IRMA requirements will be checked by auditors during the independent audit process, and will vary by chapter.	formal correspondence/notification) from regulatory bodies, and also document steps taken to resolve those non-compliance issues, ongoing or permanent activities, and dates when non-compliance issues are considered by regulatory bodies to be resolved. Also, companies that seek to be certified by IRMA will also need to keep sufficient records to be able to demonstrate compliance with IRMA Standard requirements. It is recognized, however, that at existing mines some records may no longer exist. In those cases, it may be possible to waive this requirement. Those questions will be handled on a case-by-case basis during the certification process.
1.1.5.2. Records related to compliance and/or non-compliance with host country laws shall be made available to IRMA auditors, and shall include descriptions of non-compliance events and ongoing and final remedies.	For 1.1.5.2: Confirm that the company willingly shares non-confidential data on compliance and non-compliance with auditors. Review operating company documents and other sources (e.g., government documentation) of mine-related non-compliance. Documentation might include a link to the company's permit-related non-compliance in company annual or sustainability reports; or, if not publicly available, review of company documents. The operating company shall provide access to actual government reports in its possession or to which it has access, such as inspection reports, notices of violations and resolution, etc. Confirm that company information is present and up-to-date.		Explanatory Note for 1.1.5.2: As used in this section, "records" includes, but is not limited to, any permit, regulatory, or relevant governmental actions whether pending or resolved "ongoing remedies" refers to situations where the operating company is still working on achieving compliance to the satisfaction of the regulatory government entities/competent authorities. This information is required to be released to auditors, so that auditors can verify that timely and effective action is being taken to comply with the law and/or remedy any non-compliance and prevent further non-compliances from recurring.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.1.5.3. Upon request, operating companies shall provide stakeholders with a summary of the mine project's regulatory non-compliance issues that are publicly available.	Auditing Note for 1.1.5.3: Companies may provide stakeholders with non-compliance information that is not already publicly available through regulators or the company, but are not required to do so in 1.1.5.3. This extra level of transparency would be notable as going beyond leading practice. For 1.1.5.3: Confirm through review of information requests, interviews with operating company and stakeholders that if requested, companies have provided stakeholders with information on regulatory non-compliances such as citations, violations, fines or penalties that is publicly available. (See Explanatory Note for 1.1.5.3). Provision of information needs to conform with criterion 1.2.4 in Chapter 1.2.	For 1.1.5.3: • Records (e.g., emails, copies of letters, etc.) indicating that stakeholder requests for summaries of a mining project's regulatory non-compliance issues have been provided to stakeholders.	Explanatory Note for 1.1.5.3: "Publicly available" means that information is either already accessible by the public (e.g., compliance/non-compliance reports, statistics, inspection or other reports published on a regulatory website, or compliance/non-compliance-related information published by the company), or that information could be accessed through legal public means (e.g., through information requests to regulators).
1.1.5.4. Where the operating company claims that records or documentation contains confidential business information, it shall: a. Provide to auditors a general description of the confidential material and an explanation of the reasons for classifying the information as confidential; and b. If a part of a document is confidential, only that confidential part shall be redacted, allowing for	For 1.1.5.4: Review operating company documentation or interview relevant personnel to obtain an explanation for why confidential information is being withheld from auditor. Confirm that company rationale for keeping information confidential aligns with the definition of confidential business information. Review any documents provided to auditors that include confidential business information. Confirm that non-confidential information is not redacted.	For 1.1.5.4: • Copies of records or documents that include information that has been withheld from the public, with information redacted, and written or verbal description of the confidential business information	Explanatory Note for 1.1.5.4: Note that IRMA auditors or certification bodies may be required to execute nondisclosure-confidentiality agreements to view confidential information. These agreements shall not be a bar to IRMA auditors disclosing confidential information required by law. The operating company's description of confidential business information must be sufficient to identify the information claimed as confidential - and to demonstrate that only confidential information is being withheld. For example, an operating company's annual submission to government regulators may contain confidential information about ore mineralization and volumes/locations (which could be

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
the release of non-confidential information.			legitimately confidential) but will also probably contain non-confidential information that should not be claimed as confidential. By comparison, a report from or to a mineralogy lab may be fully confidential.

NOTES

This chapter balances the importance of compliance with host country laws with the recognition that laws can greatly vary between countries and regions. Therefore, this chapter establishes minimum legal standards and applicability requirements for other IRMA chapters when comparing host country law with the requirements in the IRMA Standard. As a general rule, and particularly recognizing that participation in IRMA is voluntary, this chapter prioritizes IRMA requirements because IRMA seeks to raise the bar of mining practices globally - and not just codify existing practices (whether considered best or not).

IRMA certification is based on the evidence available to and reviewed by a certification body. Certification does not guarantee that a certificate holder complies with all the legal obligations associated with a certified mining project and may not be used to suggest otherwise or as a defense to claims regarding legal violations.

IRMA is developing a Policy on Association that, when finalized, will identify selected, essential international norms and requirements, the breach of which may be grounds for rejection of an operating company and/or its corporate owner from continued IRMA participation. The IRMA Policy on Association will not be put into effect until after the IRMA Launch Phase. IRMA welcomes comments on its draft Policy on Association, which is available at: www.responsiblemining.net/images/uploads/IRMA_Policy_On_Association_Draft_v1.0.pdf.

Cross References to Other Chapters	
CHAPTER	ISSUES
All IRMA Chapters	As per Chapter 1.1, if there are host country laws that pertain specifically to the topics addressed in any IRMA chapter, the operating company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the company to break the host country law. Contractors may be hired by the operating company to carry out various activities such as environmental, social or other impact assessments, construction work, mine site security, or others. As per 1.1.4, such contractors are expected to operate in manner that aligns with the IRMA Standard.
1.2—Community and Stakeholder Engagement	Stakeholders have access to information on regulatory non-compliances upon request (1.1.5.3). Access to information needs to conform with criteria 1.2.4 in Chapter 1.2. Both Chapters 1.1 and 1.2 include provisions that allow confidential business information to be withheld from auditors (Chapter 1.1) and stakeholders (Chapter 1.2). In both cases, however, companies are expected to redact only the confidential information and release the remaining non-confidential information to auditors and stakeholders.
1.3—Human Rights Due Diligence	If an operating company's legal non-compliance is human rights related, see IRMA Chapter 1.3 for IRMA expectations related to effective remedy.
1.5—Revenue and Payments Transparency	In Chapter 1.5, criteria 1.5.2 on disclosure of project-level payments to governments requires operating companies to disclose publicly any fines or other similar penalties that have been issued in relation to the mining project. This information should be made available to stakeholders if requested, as per requirement 1.1.5.3 in this chapter.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Associated Facility

Any facility owned by the operating company that is located on or near to the mine lease/property and is related to the mining project (including ore processing facilities, stationary physical property such as power plants, roads, railroads, borrow areas, fuel production or preparation facilities, parking areas, shops, offices, housing facilities, storage facilities and others).

Certificate Holder

The operating company that applies for IRMA certification and, if the application is successful, is issued with a certificate of compliance for a particular mine site. The certificate holder is responsible for ensuring that all the requirements of certification for the certified mine site are met on an ongoing basis, and for demonstrating this to the satisfaction of its certification body.

Certification Body

Also known as a conformity assessment body, is an entity that performs auditing and conformity assessment services to determine if specified requirements are fulfilled (in this case conformity with the IRMA *Standard for Responsible Mining*).

Competent Authority

The government department or other authority having power to issue and enforce regulations, orders or other instructions having the force of law in respect of the subject matter of the provision concerned.

Confidential Business Information

Material that contains trade secrets or commercial or financial information that has been claimed as confidential by its source. The information must be secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; it must have commercial value because it is secret; and it must have been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.

Contractor

An individual, company, or other legal entity that carries out duties subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Corporate Owner(s)

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Mine Closure

A period of time when ore-extracting and processing activities of a mine have ceased, and final decommissioning and mine reclamation are occurring. It typically includes pre-closure (detailed closure design and planning), closure (actual activities of closure of mine workings and construction/decommissioning) and post-closure (mainly long-term reclamation, monitoring, and treatment) periods, each with its own specific activities.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Remedy/Remediation (including in relation to Human Rights Impacts)

Remediation and remedy refer to both the processes of providing remedy for an adverse impact and the substantive outcomes that can counteract, or make good, the adverse impact. These outcomes may take a range of forms, such as apologies, restitution, rehabilitation, financial or non-financial compensation, and punitive sanctions (whether criminal or administrative, such as fines), as well as the prevention of further harm through, for example, injunctions or guarantees of non-repetition.

Stakeholder

A person or group or people who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 1.2—Community and Stakeholder Engagement

BACKGROUND

Large-scale mining developments have the potential to last for decades over their life cycle. Often mines are built in locations near existing communities; in other cases, new communities emerge because of mining activities. Mining projects have the potential to significantly impact the lives of people in those communities. Some changes may be beneficial, for example, through the provision of jobs, or through mining company investment in community development projects. But mining projects also have the potential to create negative impacts, and even be a source of social conflict, within communities.

Increasingly, mining companies, host governments, and financial institutions are recognizing that building strong, lasting relationships with those affected by mining activities can improve the identification and management of risks, as well as the long-term viability of operations.[5] Meaningful stakeholder engagement that is proactive, inclusive, accountable, and transparent is more likely to result in optimal outcomes for both communities and mining companies.[6]

TERMS USED IN THIS CHAPTER

Accessible ■ Affected Community ■ Artisanal and Small-Scale Mining (ASM) ■ Child Labor ■ Collaborate ■ Confidential Business Information ■ Consultation ■ Existing Mine ■ Forced Labor ■ Inclusive ■ Indigenous Peoples ■ Mining Project ■ Mining-Related Activities ■ New Mine ■ Operating Company ■ Rights Holder ■ Stakeholder ■ Vulnerable Group ■ Worker ■ Workers' Organizations ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To support mining company decision-making and enable communities and stakeholders to participate in mining-related decisions that affect their health, wellbeing, safety, livelihoods, futures and the environment.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant for all mines applying for IRMA certification.

New vs. Existing Mines: New mines shall meet all requirements in this chapter. Existing mines seeking certification will be required to meet all requirements in Chapter 1.2, with the exception of the requirement in 1.2.2.1 that engagement begin prior to or early in the development phase of the mining project. For some existing mines, this may not have occurred. Those mines will have to demonstrate that they currently engage with stakeholders on an ongoing basis.

CRITICAL REQUIREMENTS IN THIS CHAPTER

The mine fosters two-way dialogue and meaningful engagement with stakeholders (1.2.2.2).

[5] Herbertson, K., Ballestaeros, A., Goodland, R. and Munilla, I. 2009. Breaking Ground: Engaging Communities In Extractive And Infrastructure Projects. (World Resources Institute). pdf.wri.org/breaking_ground_engaging_communities.pdf

[6] For example, Principle 10 of the Rio Declaration of 1992 states that, "Environmental issues are best handled with the participation of all concerned citizens." See United Nations. 1992. Report of the United Nations Conference on Environment and Development. Annex I. "Rio Declaration on Environment and Development." http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm See IRMA Guidance for more information.

Community and Stakeholder Engagement Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.2.1. Planning and Designing Stakeholder Engagement Processes 1.2.1.1. The operating company shall undertake identification and analysis of the range of groups and individuals, including community members, rights holders and others (hereafter referred to collectively as "stakeholders") who may be affected by or interested in the company's mining-related activities.	**Auditing Note for 1.2.1:** For 1.2.1, generally, criterion, relevant documents may include: engagement plan, relevant sections of the environmental and social impact assessment, and minutes of meetings with stakeholders consulted in engagement plan development. **For 1.2.1.1:** Interview operating company representatives (e.g., site management, community relations team, staff from other departments that engage with stakeholders) and stakeholders and review documentation to confirm that that operator has identified a reasonable range of affected and interested stakeholders.	**For 1.2.1.1:** • Stakeholder analysis reports/records. • Stakeholder mapping reports/records. • Stakeholder database. • Stakeholder tracking reports/records. • Stakeholder engagement plan. • Stakeholder engagement procedure. • Minutes of meetings with stakeholders from relevant company departments.	**Explanatory Note for 1.2.1.1:** Stakeholder analysis involves a more in-depth look at stakeholder group interests, how those interests will be affected and to what degree, and what influence stakeholders could have on the project. The answers to these questions provide the basis from which to build stakeholder engagement plan. It is important to note that not all stakeholders in a particular group or sub-group will necessarily share the same concerns or have unified opinions or priorities. Various activities being undertaken by a company (e.g., socio-economic baseline studies and livelihood studies) can inform both the identification of stakeholders and the existence of sub-groups within communities, and the analysis of stakeholders, as can consultations with the exploration team, site visits and consultations with local community members. Stakeholder mapping exercises and the compilation of community Venn diagrams may assist in better understanding local groupings and their interactions.[7] The "range of stakeholders" should include those whose lives, livelihoods, health, safety and rights may be directly affected by the company's activities. Relevant stakeholders will vary from one mine to the next, but should always include women, men, and vulnerable groups (or their representatives) such as children, minorities and the elderly. Depending on the circumstances, stakeholders may include indigenous peoples (if their rights or territories may be affected), mine workers (if they live in affected communities), artisanal and small-scale miners (ASM), farmers, hunters, gatherers, fishers, water users, etc. Stakeholders also include those who have an interest in the mining project and also those who have the potential to affect the operation, such as government officials, public health agencies, non-governmental organizations/civil society, other mining or industrial operations in the area, etc. For the purposes of this chapter, we are referring to rights holders and stakeholders collectively as stakeholders. However, when rights holders have

[7] A Venn diagram is a drawing made up of circles representing different groups and/or organizations. The size and position of the circles represents the importance and interaction of the group/organizations in relation to others.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			been identified (e.g., see IRMA Chapter 1.3, requirement 1.3.2.3.e) particular effort should be made to include them in stakeholder engagement processes. According to OECD, "All people have human rights and thus all stakeholders as individuals are "rights-holders". However, not all stakeholders will have their human rights put at risk or impacted by an extractive project or its associated activities. . . individuals living in a community whose only local water source may be polluted by an extractive operation may be rights-holders. Workers facing discrimination in the workplace are also rights-holders. In addition to individual human rights, certain groups such as indigenous and tribal peoples can have collective rights and consequently the group itself may be considered a rights-holder."[8]
1.2.1.2. A stakeholder engagement plan scaled to the mining project's risks and impacts and stage of development shall be developed, implemented and updated as necessary.	For 1.2.1.2: Interview operating company representatives and stakeholders and review documentation to confirm that that operator has developed and implemented its engagement plan, and updated if necessary.	For 1.2.1.2: • Stakeholder engagement plan and evidence of its implementation. • Stakeholder engagement procedures.	Explanatory Note for 1.2.1.2: The purpose of a stakeholder engagement plan is to describe a company's program for engaging with stakeholders in a culturally appropriate manner (whether it be for a single project or a range of company operations). The goal is to ensure the timely provision of relevant and understandable information. It is also to create a process that provides opportunities for stakeholders to express their views and concerns, and allows the company to consider and respond to them. According to IFC (2007), stakeholder engagement plans should: • Describe regulatory, lender, company, and/or other requirements for consultation and disclosure • Identify and prioritize key stakeholder groups • Provide a strategy and timetable for sharing information and consulting with each of these groups • Describe resources and responsibilities for implementing stakeholder engagement activities • Describe how stakeholder engagement activities will be incorporated into a company's management system.

[8] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* p. 20. Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

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			Re: engagement plans being updated "as necessary." It is important to understand that stakeholders' interests can change or realign as their relationships with the project progress. As a result, stakeholder engagement plans should change over time to reflect this, as well as reflect engagement with new stakeholders over time. At minimum, this should occur when there are major changes to the scope of the mining project (e.g., expansions, proposed resettlement projects, addition of new facilities, major changes in security arrangements, etc.) or the operating environment (e.g., changes in political stability, demographic changes the community, arrival or increase of artisanal mining in the region, etc.). "Scaled to the mining project's risks and impacts" means that the level of stakeholder engagement may need to be greater, and include a wider range of stakeholders, if the risks to communities and the environment are high. Increased stakeholder engagement is likely warranted in these circumstances due to the heightened concern or interest in the project, and the increased potential for conflict and opposition to a project. Conversely, if the risks to communities and the environment are low, there may be less need to engage a wide range of stakeholders, and engagement can focus more on the directly affected stakeholders and affected communities. "Scaled to the stage of development" means that the engagement plan may be different for different stages of development, e.g., exploration, permitting, construction, operation, decommissioning and closure, post-closure. Engagement plans will likely need to change over time to reflect the different levels of engagement that should occur during these stages.
1.2.1.3. The operating company shall consult with stakeholders to design engagement processes that are accessible, inclusive and culturally appropriate,[9] and shall	For 1.2.1.3: Review documentation, including minutes of meetings, and interview stakeholders and community members to confirm their participation in the development of	For 1.2.1.3: • Stakeholder engagement plan. • Stakeholder consultation plan. • Stakeholder engagement procedure.	Explanatory Note for 1.2.1.3: "Accessible," in reference to engagement processes, means being made available in an understandable manner to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access. For example, there may be communities or groups within communities that are not literate,

[9] See definitions of inclusive and accessible.

"Culturally appropriate" engagement processes (e.g., communications, interactions and conveyance of information) would be those that are aligned with the cultural norms and communication styles of the affected communities and stakeholders. Companies would be expected to use methods, languages, terminology and formats that are respectful of cultural differences (e.g., in some cultures, it is disrespectful to look directly into a person's eyes), and can be easily understood by the affected communities and stakeholders. As per requirement 2.8.1.3, stakeholders can help to define for the company what is considered culturally appropriate.

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demonstrate that continuous efforts are taken to understand and remove barriers to engagement for affected stakeholders (especially women, marginalized and vulnerable groups).	engagement processes that are accessible (efforts have been made to remove barriers to participation and make information understandable), culturally appropriate and inclusive. Review the grievance log to check any grievances related to lack of stakeholder engagement. Determine if relevant stakeholder feedback, whenever received, results in changes to reduce barriers to engagement.	• Stakeholder management procedure. • Stakeholder communication strategy/procedure. • Stakeholder analysis reports/records. • Stakeholder mapping reports/records. • Records of communication with stakeholders, e.g. meeting minutes, recordings, etc. • Grievance mechanism/policies and procedure. • Records of lodged/investigated grievances. • Monitoring or evaluation reports related to on stakeholder engagement.	and therefore, need information conveyed in a form other than written (e.g., face-to-face meetings; video; audio). Some communities may prefer to receive information verbally. Some communities or groups within communities may not have reliable access to the internet or computers, and therefore would need written information in hard copy, available at a nearby locations during hours that enable access to individuals who work during the day. “Inclusive,” in the context of stakeholder engagement, means that engagement includes men, women, the elderly, youth, displaced persons, vulnerable groups and disadvantaged persons or groups. "Culturally appropriate” engagement processes would be those that are aligned with the cultural norms and communication styles of the affected communities and stakeholders. Companies would be expected to use methods, languages, terminology and formats that are respectful of cultural differences (e.g., in some cultures, it is disrespectful to look directly into a person’s eyes), and can be easily understood by the affected communities and stakeholders. Stakeholders can help to define for the company what is considered culturally appropriate. Some indigenous peoples have developed community consultation protocols or policies that outline how external actors (governments, companies, NGOs, researchers) are expected to engage with them in the context of activities that could impact their land or natural resources. In the absence of any formal protocols, operating companies could consult with external experts or others for suggestions of how to initiate engagement, and whom to engage in indigenous peoples' communities. It is critical that the social and cultural contexts be understood in order to identify and develop plans to address barriers to engagement. Potential barriers to engagement may include the following: • Power dynamics within communities. Local power brokers may dominate meetings with outsiders or create a coercive atmosphere which hinders meaningful and inclusive engagement. Engagement activities may put some stakeholders at risk (e.g., human rights defenders, community or workers' representatives and leaders). • Social or cultural norms or practices may prevent certain individuals or

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			groups in a community from participating in engagement activities. For example, in some cultures women may not feel comfortable or be permitted to participate in important community decision-making processes. In some contexts, religious denomination, ethnicity or caste may exclude some people from meetings or from important decision-making processes. Vulnerable groups and youth may be excluded from engagement in some cultures. • Logistical constraints may include isolation of communities, rugged terrain, and poor transportation infrastructure may make it difficult for certain stakeholders to participate in engagement activities. Poor communication networks may also hinder participation. The women with family responsibilities, elderly/youth and those in poor health or with disabilities may face constraints in participating in engagement processes. • Socio-economic constraints may include situations where people may not be able to afford transportation costs or to take time off work or family duties to attend meetings and consultations. Stakeholders may not be literate or may have low levels of education. • Legislative requirements and repressive regimes may mean that in some cases local law or practice may contradict enterprise policy or international standards. Local government authorities or traditional leaders may not have had prior experience in engagement for a major extractive project, and may require capacity building. Or, they may request assistance to help them manage the additional burden or pressure that comes from coordinating a community consultation or engagement process. • The needs, wants or expectations of various stakeholder groups may be competing or diametrically opposed, meaning there is no consensus on issues amongst stakeholders. Competing interests and expectations could cause challenges to effective engagement if the operating company favors one group over another in the distribution of benefits from a project during engagement activities, or may be perceived as doing so. • Violence and opposition from stakeholders or civil society who are actively campaigning against the enterprise or project may make engagement efforts with some stakeholders challenging. Violence is used by some stakeholders to express dissatisfaction with the enterprise or project.

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1.2.1.4. The operating company shall demonstrate that efforts have been made to understand community dynamics in order to prevent or mitigate community conflicts that might otherwise occur as a result of company engagement processes.	**For 1.2.1.4:** Confirm that the company has made efforts to understand community dynamics; and that this information has fed into the development of appropriate engagement processes. Relevant documentation to support the review of these requirements may include the following: • Outreach materials sent to stakeholders; • Attendance records, meeting minutes and other documentation such as notes from meetings held with community stakeholders; • Copies of presentation or other communication material provide to community stakeholders by the operating company or any other third parties supporting the engagement processes; • Terms of reference for any committees or forums established to engage with affected communities and stakeholders. • Social baseline study; community development projects or programs; grievance log; community Venn diagrams. • Other relevant materials.	**For 1.2.1.4:** • Social baseline report. • Stakeholder engagement plan. • Stakeholder consultation plan. • Stakeholder engagement procedure. • Stakeholder management procedure. • Community development project or program documentation. • Venn diagrams of community groups/sub-groups from stakeholder analyses. • Stakeholder engagement reports. • Records of communication with stakeholders. • Documented meeting minutes or recordings. • Stakeholder analysis reports/records. • Stakeholder mapping reports/records. • Grievance mechanism/policies and procedure. • Records of lodged grievances.	**Explanatory Note for 1.2.1.4:** Understanding impacts, and local power dynamics is important for designing stakeholder engagement activities appropriately tailored to the culture and context.[10] Social or cultural norms or practices may prevent certain individuals or groups in a community from participating in engagement activities. For example, in some cultures women may not be permitted to participate in important community decision-making processes. In some contexts, religious denomination, ethnicity or caste may exclude some people from meetings or from important decision-making processes, or existing tensions between groups may prevent participation in engagement processes or create conflicts during engagement processes. Youth may be excluded from engagement in some cultures, potentially creating disillusionment in a population that may have interest in the mining project but no voice. In these cases, it may be necessary to hold separate consultation and engagement activities with different groups. Efforts may include consulting with individual or certain groups of stakeholders on issues related community dynamics about which the company should be made aware, or consulting with external experts to better understand if there may be any cultural or social factors that, if not managed for in engagement processes, could create unintended conflicts within communities. It is important that designated personnel (in particular those who liaise with stakeholders) are aware of the findings, so that they can continue to ensure that efforts are undertaken to reduce community conflicts that may be caused or exacerbated by the company's engagement processes.

[10] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

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1.2.2. Engagement Processes 1.2.2.1. Stakeholder engagement shall begin prior to or during mine planning, and be ongoing, throughout the life of the mine.	**For 1.2.2.1:** For new mines, interview the operating company and stakeholders, and review documents to confirm that stakeholder engagement occurred from the point that the company undertook mining-related activities in the area. For existing mines, confirm that they have engagement processes in place and are engaging with stakeholders on an ongoing basis. See the Table "Cross-References to Other Chapters" and confirm that required stakeholder engagement outlined in other IRMA Chapters has occurred.	**For 1.2.2.1:** • Stakeholder engagement plan. • Stakeholder consultation plan. • Stakeholder engagement procedure. • Stakeholder management procedure. • Stakeholder engagement reports. • Records of communication with stakeholders. • Documented meeting minutes or recordings. • Grievance mechanism/policies and procedure. • Records of lodged grievances.	**Explanatory Note for 1.2.2.1:** Ideally, stakeholder engagement should begin during exploration, or, if the operating company purchased or acquired an exploration project, soon after the purchase/acquisition. For new mines, engagement is expected to begin no later than the mine planning stage. It is recognized that early stakeholder engagement, i.e., prior to or during mine planning, may not have occurred at some existing mines. Because existing mines cannot turn back the clock, those mines will only have to demonstrate that they currently engage with stakeholders on an ongoing basis. The process of stakeholder engagement is dynamic, interactive and ongoing. Often mines will have active community liaison staff to provide ongoing access to the company on a daily basis, as well as more formal engagement activities and events. Assigned timelines for engagement activities should be flexible to the extent possible taking into consideration timing obligations imposed by governments or outlined in contracts. Planned stakeholder engagement activities, as well as stakeholder identification and outreach plans, should be reviewed and adjusted in response to or in anticipation of the following events, as relevant: • Advanced exploration • Feasibility studies • Acquisition of a deposit/concession • Construction of new infrastructure or mine expansions • Meetings with stakeholders during mine operations to provide updates on mining project activities and discuss stakeholder issues of concern The IRMA Standard specifies numerous points in the mine development process where stakeholder engagement is required. See the Table "Cross-References to Other Chapters" at the end of the chapter to find out more.

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1.2.2.2. (Critical Requirement) The operating company shall foster two-way dialogue and meaningful engagement with stakeholders by: a. Providing relevant information to stakeholders in a timely manner; b. Including participation by site management and subject-matter experts when addressing concerns of significance to stakeholders; c. Engaging in a manner that is respectful, and free from manipulation, interference, coercion or intimidation; d. Soliciting feedback from stakeholders on issues relevant to them; and e. Providing stakeholders with feedback on how the company has taken their input into account.	For 1.2.2.2: Interview operating company and stakeholders to confirm that: relevant information is made available; issues experts/company management have been engaged; engagement includes dialogue and information exchange (not simply one-way transfer of information from company to stakeholders); engagement respectful, free from manipulation, interference, coercion and intimidation; the company solicits input and provides stakeholders with feedback on how input has been taken into account. Review minutes of meetings or the stakeholder database, which may include suggestions and comments from stakeholders, and discuss with company how these have been addressed/taken into account.	For 1.2.2.2: • Stakeholder engagement plan. • Stakeholder consultation plan. • Stakeholder engagement procedure. • Stakeholder management procedure. • Stakeholder engagement reports. • Stakeholder database. • Stakeholder tracking reports/records. • Records of communication with stakeholders. • Documented meeting minutes or recordings. • Meeting attendance records. • Stakeholder survey response records • Reports or summaries of stakeholder input and company feedback. • Grievance mechanism/policies and procedure. • Records of lodged grievances.	Explanatory Note for 1.2.2.2: "Meaningful engagement" includes a two-way exchange of information between the operating company and stakeholders, with stakeholders' views being taken into account in decision-making; engagement is conducted in good faith (i.e., the company genuinely intends to understand how stakeholder interests are affected by their actions and to address adverse impacts, and stakeholders honestly represent their interests, intentions and concerns); and companies are responsive to stakeholder input and follow through on commitments.[11] "marginalized or vulnerable groups" may include ethnic or religious minorities, the poor, the elderly, children, youth, etc. In such cases, confirm that efforts have been made to include their participation either directly, or through representatives such as advocates for children or the poor, recognized or respected leaders or spokespeople for various groups, etc. Timelines for stakeholder engagement should be planned for that allow for engagement to begin as early as practicable, provide stakeholders with sufficient time to engage meaningfully and are flexible enough to be adjusted to changes in the local context or operating environment. Timelines should also reflect the ongoing nature of stakeholder engagement. Useful sources of information on stakeholder engagement include: • OECD. 2017. OECD *Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector*.[12] • Herbertson, K., Ballestaeros, A., Goodland, R. and Munilla, I. 2009. *Breaking Ground: Engaging Communities in Extractive and Infrastructure Projects*. (World Resources Institute).[13] • IFC. 2007. *Stakeholder Engagement: A good practice handbook for companies doing business in emerging markets*.[14] Available at: • AccountAbility. 2006. *From Words to Action: the Stakeholder Engagement*

[11] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* p. 18. Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

[12] Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

[13] Available at: pdf.wri.org/breaking_ground_engaging_communities.pdf

[14] Available at: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_stakeholderengagement__wci__1319577185063

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			Manual.[15]
1.2.2.3. The operating company shall collaborate with stakeholders, including representatives from affected communities, to design and form stakeholder engagement mechanism(s) (e.g., a permanent advisory committee, or committees dedicated to specific issues), to provide stakeholder oversight of the mining project's environmental and social performance, and/or input to the company on issues of concern to stakeholders.	For 1.2.2.3: Interview operating company and stakeholders to confirm that specific engagement mechanisms have been co-created by the company and stakeholders to provide oversight of the company's environmental and social performance. Note the form of such mechanisms.	For 1.2.2.3: • Stakeholder engagement plan. • Stakeholder consultation plan. • Stakeholder engagement procedure. • Stakeholder management procedure. • Stakeholder engagement reports. • Records of communication with stakeholders. • Documented meeting minutes or recordings. • Meeting attendance records. • Reports or summaries of stakeholder input and company feedback to stakeholders. • Stakeholder analysis reports/records. • Stakeholder mapping reports/records. • Scoping reports. • Environmental Impact Assessment Reports. • Grievance mechanism/policies and procedure. Records of lodged grievances.	Explanatory Note for 1.2.2.3: A stakeholder advisory committee represents interests and views related to a project. The committee can be composed of representatives from community, gender groups, religious groups, civic organizations among others. If a stakeholder advisory-type committee (or its equivalent) is formed, the role that such a committee serves will be different in different communities. Some communities may be more concerned with environmental impacts, and want to play more of a role in participating in or reviewing monitoring data, while other communities may be more interested in development opportunities or community health impacts. Also, the interests, and therefore role of committees may shift over time. Several committees or advisory groups may be formed to interact with the operating company on different issues. In some cases, stakeholder advisory committees may not reflect the manner in which communities wish to engage with companies, so other mechanisms may be more appropriate. Any alternative mechanisms should be designed in collaboration with the stakeholders.
1.2.2.4. Engagement processes shall be accessible and culturally appropriate, and the operating company shall demonstrate that efforts have been made to include participation by women, men, and	For 1.2.2.4: Interview operating company and stakeholders to confirm that processes are accessible, culturally appropriate and inclusive (of gender, age, economic status, stakeholder sectors, etc.). Note that marginalized or vulnerable	For 1.2.2.4: • Stakeholder engagement plan. • Stakeholder consultation plan. • Stakeholder engagement procedure. • Stakeholder management procedure. • Stakeholder engagement reports.	Explanatory Note for 1.2.2.4: "Accessible": In reference to engagement processes, means being made available in an understandable manner to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access. For example, providing opportunities for participation at times of day and in locations that make it possible for interested stakeholders to attend meetings, etc. "Culturally appropriate" engagement processes (e.g., communications, interactions and conveyance of information) would be those that are aligned

[15] Available at: http://www.setoolbelt.org/resources/949

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marginalized and vulnerable groups or their representatives.	groups may include ethnic or religious minorities, the poor, the elderly, children, youth, etc. In such cases, confirm that efforts have been made to include their participation either directly, or through representatives such as advocates for children or the poor, recognized or respected leaders or spokespeople for various groups, etc. Auditors may not have access to vulnerable people directly, and so confirmation may need to come through interviews with community advocates or others with local knowledge.	• Records of communication with stakeholders. • Records of communications with stakeholder advocates or specialists with local knowledge, expertise. • Documented meeting minutes or recordings. • Meeting attendance records. • Reports or summaries of stakeholder input and company feedback to stakeholders. • Stakeholder analysis reports/records. • Stakeholder mapping reports/records. • Scoping reports. • Environmental Impact Assessment Reports. • Grievance mechanism/policies and procedure. • Records of lodged grievances.	with the cultural norms and communication styles of the affected communities and stakeholders. Companies would be expected to use methods, languages, terminology and formats that are respectful of cultural differences (e.g., in some cultures, it is disrespectful to look directly into a person's eyes), and can be easily understood by the affected communities and stakeholders. Stakeholders can help to define for the company what is considered culturally appropriate. Some indigenous peoples have developed community consultation protocols or policies that outline how external actors (governments, companies, NGOs, researchers) are expected to engage with them in the context of activities that could impact their land or natural resources. In the absence of any formal protocols, operating companies could consult with external experts or others for suggestions of how to initiate engagement, and whom to engage in indigenous peoples' communities. Specialists with extensive local knowledge may also be able to provide insight into appropriate engagement processes.
1.2.2.5. When stakeholder engagement processes depend substantially on community representatives, the operating company shall demonstrate that efforts have been made to confirm whether or not such persons represent the views and interests of affected community members and can be relied upon to faithfully communicate relevant information to them. If this is not the case, the operating company shall undertake additional engagement processes to enable	For 1.2.2.5: If relevant, interview operating company and stakeholders to confirm that efforts were made to determine that elected community representatives adequately represent the views/interests of constituents, and that they are reporting back to the community; and/or to determine whether alternative processes were set up to enable wider community feedback.	For 1.2.2.5: • Stakeholder engagement plan. • Stakeholder consultation plan. • Stakeholder engagement procedure. • Stakeholder management procedure. • Stakeholder engagement reports. • Records of communication with stakeholders. • Documented meeting minutes or recordings. • Meeting attendance records. • Reports or summaries of stakeholder input and company feedback to stakeholders.	Explanatory Note for 1.2.2.5: In some situations, stakeholder engagement processes rely substantially on select community representatives instead of participation by broader community members. This may occur, for example, as a result of community preferences or protocols. In these cases, it is important for operating companies to understand whether or not accurate information about the mining project is being conveyed to the broader community, and whether or not the views and interests of the broader community are being accurately reflected back to the company by the community representatives. One method for gauging broad community awareness of and concerns with the mining operation is for the mine to conduct a stakeholder survey. Additionally, if mines have a community liaison person that is regularly available in the community (including during evening hours so that those with day-jobs have access to the liaison), then mine stakeholders and the company itself would have a way to double-check that

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more meaningful participation by and information sharing with the broader community.		• Stakeholder analysis reports/records. • Stakeholder mapping reports/records. • Grievance mechanism/policies and procedure. • Records of lodged grievances.	information being provided by community representatives to the broader community is accurate and complete. If the concerns and interest of the broader community are not being heard and responded to by the operating company, conflicts between the company and community (or within communities) could arise. Alternative ways of engaging the broader community may include, for example, holding separate meetings with different groups, with the objective of ensuring marginalized or potentially vulnerable people (e.g. ethnic minorities, different caste groups) have a chance to participate in engagement processes (e.g., to hear about the company's activities and provide feedback). Similarly, there may be the need to provide a separate forum for women to participate in engagement to ensure that the engagement team includes women.[16]
1.2.2.6. The operating company shall document engagement processes, including, at minimum, names of participants, and input received from and company feedback provided to stakeholders.	For 1.2.2.6 and 1.2.2.7: Review documentation (e.g., stakeholder input forms, published feedback summaries, meeting minutes, slides from presentations, etc.) related to stakeholder engagement, confirming that the company has documented engagement with stakeholders, and provided responses to stakeholder input including through reporting (in person, or through distribution of summary reports).	For 1.2.2.6: • Stakeholder database. • Stakeholder tracking reports/records. • Meeting attendance records/registers. • Documented meeting minutes, presentations or recordings etc. • Stakeholder engagement reports. • Records of communication with stakeholders. • Reports or summaries of stakeholder input and company feedback to stakeholders.	Explanatory Note for 1.2.2.6: Databases, such as Microsoft Access, enable tracking of ongoing interactions between the company and stakeholders. While not required, it is a recommended way to document and track engagement efforts. Documenting names of all participants at a meeting may be difficult, particularly at large community meetings that include illiterate communities. Also, some cultures or stakeholders may not want to sign attendance lists. In these situations, companies should be able to demonstrate that efforts were made to document participant names at all meetings (e.g., through sign-up lists), and that if actual names were not always gathered that at least the number and diversity of participants (e.g., genders, ages, etc.) should be noted. Unattributed questions and comments should also be tracked, as well as company responses.
1.2.2.7. The operating company shall report back to affected communities and stakeholders on	For 1.2.2.6 and 1.2.2.7: Review documentation (e.g., stakeholder input forms, published feedback summaries,	For 1.2.2.7: • Stakeholder engagement reports.	Explanatory Note for 1.2.2.7: Reporting back to stakeholders is important to demonstrate how their inputs have or have not been integrated into mining operation planning, why and how any issues raised during the process have

[16] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

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issues raised during engagement processes.	meeting minutes, slides from presentations, etc.) related to stakeholder engagement, confirming that the company has documented engagement with stakeholders, and provided responses to stakeholder input including through reporting (in person, or through distribution of summary reports).	• Stakeholder tracking reports/records. • Records of communication with stakeholders. • Documented stakeholder input forms, meeting minutes, published feedback summaries, slides from presentations, etc. • Meeting attendance records. • Reports or summaries of stakeholder input and company feedback to stakeholders. • Grievance mechanism/policies and procedure. • Records of lodged grievances.	been resolved, and to notify them of any next steps. Reporting back should also involve consultation with the stakeholders in question on their satisfaction as to how their inputs have or have not been integrated into the operation planning or not. Reporting back should be done regularly and in a timely manner. Periodic check-ins with stakeholder groups can be helpful in assessing whether they feel their views are being adequately represented and to discuss how to proceed when it is believed that this is not the case.[17]
1.2.3. Strengthening Capacity 1.2.3.1. The operating company shall offer to collaborate with stakeholders from affected communities to assess their capacity to effectively engage in consultations, studies, assessments, and the development of mitigation, monitoring and community development strategies.[18] Where capacity gaps are identified, the operating company shall offer appropriate assistance to facilitate	**For 1.2.3.1:** Interview operating company and sample of stakeholders to determine if attempts have been made to assess capacity needs of stakeholders from affected communities, and strengthen the capacity of affected community members so that they are able to fully participate in mining-project-related engagement activities. Review capacity building training materials and records (participant lists, workshop summaries or minutes) or other materials related to efforts to facilitate effective stakeholder engagement. And, if relevant, correspondence with capacity building	**For 1.2.3.1:** • Stakeholder engagement reports. • Records of communication with stakeholders. • Documented meeting minutes or recordings. • Meeting attendance records. • Capacity building training materials and records, and/or correspondence with any collaborators • Records of funding or other in-kind support to stakeholders • Reports or summaries of stakeholder input and company feedback to stakeholders. • Scoping reports.	**Explanatory Note for 1.2.3.1:** Stakeholders may not be interested in participating in all of the activities listed in 1.2.3.1. In such cases, the operating company should be able to produce evidence that good faith efforts that were made to provide stakeholders with opportunities to fully participate. Capacity needs may be legal, technical, process-oriented (e.g., negotiation skills), logistical, or other. "Appropriate assistance to facilitate effective engagement" may include the provision of information and explanations in local languages; the creation of materials and approaches designed to be accessible to lay people; provision of capacity building or training on data collection methods, mapping, monitoring or other topics that may be relevant to the issues being discussed; or provision of funding to stakeholders so that they can work with independent experts. It may also include ensuring that sufficient time is given for stakeholders to review information and comment on materials, and get feedback on why their comments were or were not taken into account.

[17] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* pp. 79, 80. Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

[18] Capacity needs may be legal, technical, process-oriented (e.g., negotiation skills), logistical, or other.

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effective stakeholder engagement.[19]	collaborators (e.g., government agencies, academia, NGOS). Review materials related to other means of facilitating stakeholder capacity to engage meaningfully (E.g., provision of funding for stakeholders to hire experts to train or advise them on issues, procedures, etc.). Note that stakeholders may not be interested in participating in all of the activities listed in 1.2.3.1. In such cases, the operating company should be able to produce evidence (e.g., meeting minutes, written responses from stakeholders declining invitations to participate) that good faith efforts that were made to provide stakeholders with opportunities to fully participate.	• Environmental impact assessment reports. • Specialist study reports. • Grievance mechanism/policies and procedure. • Records of lodged grievances	The operating company may provide assistance directly or in partnership with other agencies such as national and global trade unions, NGOs, academic institutions, government, etc. Resources to support engagement (e.g. technical and legal support, community capacity building, local facilitators as well as compensation for costs to communities of engaging in the process) should be determined in consultation with stakeholders. If capacity building training is provided, it should be designed and delivered in a manner that is culturally sensitive and appropriate.
1.2.4. Communications and Access to Information 1.2.4.1. Any information that relates to the mine's performance against the IRMA Standard shall be made available to relevant stakeholders upon request, unless the operating company deems the request to be unreasonable[20] or the information requested is	**For 1.2.4.1:** Determine, through interviews with operating company and/or review of company websites to see if information is publicly available; and to confirm that information not publicly available has been made available to stakeholders upon request.	**For 1.2.4.1:** • Stakeholder engagement plan. • Stakeholder engagement procedure. • Stakeholder communication strategy/procedure. • Records of requests made by stakeholders. • Records of communication with stakeholders. • Grievance mechanism/policies and	**Explanatory Note for 1.2.4.1:** A determination of "relevant stakeholders" will vary from mine to mine and issue to issue. However, at minimum, members of affected communities should always be considered relevant stakeholders, as they are the most likely to be directly affected by the mine. Rights holders, i.e., those whose human rights are put at risk or impacted by the mining project, should also always be considered relevant stakeholders. (See Explanatory Note for 1.2.1.1) Other stakeholders, such as government agencies, NGOs/civil society, academics, finance institutions, purchasers, etc., will be particularly relevant on some issues, and less relevant for others. In some chapters of the IRMA

[19] Depending on the circumstances, appropriate assistance may include providing access to training, independent experts, etc.

[20] Companies are not expected to release information that is culturally inappropriate, compromises the safety of any individual, is confidential employee information, or legitimate confidential business information. Culturally inappropriate information may include that which is sensitive to particular communities, and therefore should not be freely released to all requesting parties (e.g., locations of indigenous peoples' sacred sites). As per requirement 1.2.1.3, stakeholders can help to define what is considered culturally inappropriate.

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legitimate confidential business information. If part of a document is confidential only that confidential part shall be redacted, allowing for the release of non-confidential information.		procedure. • Meeting minutes. • Records of publicly available information (e.g. website, newsletters, audit summaries, etc.) relating to the mine's performance against the IRMA Standard.	Standard chapters there is guidance on the types of stakeholders who could be deemed relevant. For example: • In Chapter 2.1, where environmental impacts may occur that don't directly impact humans, "relevant stakeholders" to be engaged might include governmental or academic scientists, environmental NGOs that work on biodiversity, wildlife management or other ecological issues, or community members who indirectly depend on the adequate functioning of potentially impacted ecosystems. • In Chapter 3.1, companies are encouraged to engage with relevant stakeholders on issues of child labor and forced labor. Such stakeholders might include NGOs working on those issues, as well as workers or workers' organizations. • In Chapter 3.3, when addressing treatment and prevention of infectious diseases, relevant stakeholders may include workers' organizations, public health agencies, community organizations working on education and access to treatment • In Chapter 3.4, relevant stakeholders are to be consulted in the development of conflict risk assessments. In that case, relevant stakeholders may include local government or community leaders; civil society organizations; other companies operating in the area; or independent experts with local knowledge and expertise. Relevant stakeholders must be provided with access to information needed to engage with the operating company/mining project in an informed manner on topics or requirements included in the IRMA Standard. IRMA encourages full transparency, but understands that there may be circumstances where providing requested information may create challenges for some mines, especially smaller operations. Operating companies may elect to refuse requests deemed to be overly onerous to compile/fulfill, such as converting large volumes of complex, technical data into a relevant, understandable form, etc., but as per 1.2.4.4 they must provide a written justification for why the information is being withheld. And as per 1.2.4.2, in such cases, efforts should be made to at least provide to stakeholders with overviews or summaries of the information requested.

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			Companies are not expected to release information that is culturally inappropriate, compromises the safety of any individual, is confidential employee information, or legitimate confidential business information.[21] Culturally inappropriate information may include that which is sensitive to particular communities, and therefore should not be freely released to all requesting parties (e.g., locations of indigenous peoples' sacred sites). As per requirement 1.2.1.3, stakeholders can help to define what is considered culturally inappropriate.
1.2.4.2. If original requests for information are deemed unreasonable, efforts shall be made by the operating company to provide stakeholders with overviews or summaries of the information requested.	For 1.2.4.2: Confirm that if stakeholder requests have not been fully or partially fulfilled, that the operating company has made an effort to accommodate the requests with at least a summary or overview of the issues.	For 1.2.4.2: • Stakeholder engagement plan. • Stakeholder engagement procedure. • Stakeholder communication strategy/procedure. • Records of requests made by stakeholders. • Records of communication with stakeholders. • Grievance mechanism/policies and procedure. • Records of redacted information provided to stakeholders. • Meeting minutes. • Records of publicly available information (e.g. website, newsletters, etc.).	Explanatory Note for 1.2.4.2: As mentioned in the note for 1.2.4.1, designated or relevant personnel should be made aware that if information requests are not completely fulfilled by the company, that efforts need to be made to at least provide an overview or summary of the information requested. Companies are not expected, however, to release information that is culturally inappropriate, compromises the safety of any individual, is confidential employee information, or legitimate confidential business information
1.2.4.3. Communications shall be carried out and information shall be provided to stakeholders in a timely manner, and shall be in formats and languages that are	For 1.2.4.3: Interview stakeholders to determine if they have timely access to the operating company documents and information in formats and	For 1.2.4.3: • Stakeholder engagement plan. • Stakeholder consultation plan. • Stakeholder engagement procedure.	Explanatory Note for 1.2.4.3 and 1.2.4.4: "in a timely manner" will likely vary based on the operating company's resources and procedures (e.g., some companies may have due diligence procedures in place for releasing data publicly) and also the size/nature of the request. As a general rule of thumb, however, requests should be fulfilled within 1 to 3 months, although for particularly large requests or requests made to companies with limited

[21] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. Report of the Special Representative of the Secretary General on the issue of human rights and transnational corporations and other business enterprises, John Ruggie. (A/HRC/17/31). https://www.ohchr.org/documents/issues/business/A.HRC.17.31.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
culturally appropriate and accessible to affected communities and stakeholders.[22]	languages that are accessible and understandable.	• Stakeholder management procedure. • Stakeholder engagement reports. • Stakeholder communication strategy/procedure. • Records of communication with stakeholders. • Documented meeting minutes or recordings. • Grievance mechanism/policies and procedure. • Records of lodged grievances.	capacity to fulfill information requests, some flexibility may be needed. Also, some companies have stringent quality assurance procedures that must be followed in order to share data publicly, and so may require more time to prepare materials for release. (See also 1.2.4.4 for requests that are not responded to in what seems like a "timely manner.") "Culturally appropriate": communication includes interactions and conveyance of information using methods, languages, terminology and formats that are respectful of cultural differences (e.g., in some cultures, it is disrespectful to look directly into a person's eyes); and can be easily understood by the affected communities and stakeholders. As per requirement 1.2.1.3, stakeholders can help to define for the company what is considered culturally appropriate. "Accessible": In reference to engagement processes, means being known in an understandable manner to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access. For example, there may be communities or groups within communities that are not literate, and therefore, need information conveyed in a form other than written (e.g., face-to-face meetings; video; audio). Some communities may prefer to receive information verbally. Some communities or groups within communities may not have reliable access to the internet or computers, and therefore would need written information in hard copy, available at a nearby locations during hours that enable access to individuals who work during the day.
1.2.4.4. If requests for information are not met in full, or in a timely manner, the operating company shall provide stakeholders with a written	For 1.2.4.4: If there have been stakeholder requests for information, confirm with stakeholders that if any requests were not fulfilled in a timely manner or were not met in full, that	For 1.2.4.4: • Stakeholder engagement reports. • Records of communication with stakeholders.	Explanatory Note for 1.2.4.4: Providing information "in a timely manner" will likely vary based on the operating company's resources and procedures (e.g., some companies have stringent quality assurance procedures that must be followed in order to share data publicly, and so may require more time to prepare materials for release), and also the size/nature of the request. As a

[22] "Culturally appropriate": communication includes interactions and conveyance of information using methods, languages, terminology and formats that are respectful of cultural differences (e.g., in some cultures, it is disrespectful to look directly into a person's eyes); and can be easily understood by the affected communities and stakeholders. As per requirement 1.2.1.3, stakeholders can help to define for the company what is considered culturally appropriate.

"Accessible": In reference to engagement processes, means being known in an understandable manner to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access. For example, there may be communities or groups within communities that are not literate, and therefore, need information conveyed in a form other than written (e.g., face-to-face meetings; video; audio). Some communities may prefer to receive information verbally. Some communities or groups within communities may not have reliable access to the internet or computers, and therefore would need written information in hard copy, available at a nearby locations during hours that enable access to individuals who work during the day.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
justification for why it has withheld information.	they were provided with a written reason.	• Documented meeting minutes or recordings. • Meeting attendance records. • Reports or summaries of stakeholder input and company feedback to stakeholders. • Grievance mechanism/policies and procedure. • Records of lodged grievances.	general rule, however, requests should be fulfilled within 1 to 3 months, although for particularly large requests or requests made to companies with limited capacity to fulfill information requests, some flexibility may be needed. (See also 1.2.4.4 for requests that are not responded to in what seems like a "timely manner.")

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	Stakeholders have access to information on regulatory non-compliances upon request (1.1.5.3). Access to information needs to conform with criteria 1.2.4 in Chapter 1.2.
1.3—Human Rights Due Diligence	Stakeholders are consulted in the human rights risks and impact assessment process, including providing input and reviewing drafts. Affected rights holders are engaged in a collaborative process with companies in the development of mitigation plans when their human rights have been infringed upon; and can provide input on the company's monitoring of its human rights due diligence. Engagement needs to conform with the requirements in Chapter 1.2.
1.4— Complaints and Grievance Mechanism and Access to Remedy	Stakeholders are engaged in the development of an operational-level grievance mechanism, which will provide stakeholders and rights holders with a culturally appropriate means of filing complaints and suggestions, and having their concerns addressed. This engagement needs to conform with the requirements in Chapter 1.2.
2.1—Environmental and Social Impact Assessment and Management	Stakeholders are consulted throughout the environmental and social impact assessment process, including scoping, the collection of data, the development of mitigation plans, and in the monitoring program. This engagement needs to conform with the requirements in Chapter 1.2.
2.2—Free, Prior and Informed Consent	Companies collaborate with indigenous peoples to identify indigenous peoples' rights and interests such as lands or resources that may be affected by the mining project; identify studies or assessments needed to determine potential impacts from the mine on these rights and interests; and design and implement plans to address information gaps. Engagement continues throughout the Free, Prior and Informed Consent (FPIC) process, and if consent is given, throughout the life of the mine. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
2.3—Obtaining Community Support and Delivering Benefits	Companies collaborate with affected community members and other relevant stakeholders in the development of a participatory community development planning process to guide a company's contributions to community benefits; and to monitor any mechanisms developed to deliver benefits. This engagement needs to conform with the requirements in Chapter 1.2.
2.4—Resettlement	Individuals and communities potentially affected by resettlement are consulted during the assessment of risks and impacts; the development of Resettlement Action Plan and/or Livelihood Restoration Plan and resettlement options; and resettlement implementation, including the monitoring of that implementation. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
2.5—Emergency Preparedness/Response	Stakeholders are involved in the development of the Emergency Response Plan and participate in emergency response planning exercises. This engagement needs to conform with the requirements in Chapter 1.2.

Cross References to Other Chapters	
2.6—Reclamation and Closure	Stakeholders can comment on reclamation and closure plan, and the mine's financial surety; and if long-term water treatment may occur, stakeholders are consulted during the risk assessment and subsequent community/company discussions. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
3.1—Fair Labor and Terms of Work	Workers and workers' representatives are stakeholders of the mine. Engagement with workers and/or workers' representatives occurs during the negotiation of collective bargaining agreements, retrenchment plans and in the calculation of living wage. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
3.2—Occupational Health and Safety	Engagement with workers/workers' representatives occurs during health and safety risk assessment; design of workplace monitoring and worker health surveillance; development of strategies to prevent or mitigate risks to workers; design of programs to support worker health and safety; and in inspections, monitoring and investigation of safety and health matters. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
3.3—Community Health and Safety	Companies collaborate with relevant community members and other stakeholders, including workers who live in affected communities, in the scoping of community health and safety risks and impacts; the development of prevention or mitigation strategies; the collection of any data needed to inform the health risk and impact assessment process; and the design and implementation of community health and safety monitoring programs. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
3.4—Mining and Conflict Affected Areas	Stakeholders are consulted during the conflict-affected areas screening process and conflict risk assessment; and affected stakeholders collaborate in the development of mitigation strategies to address risks that are relevant to them. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
3.5—Security Arrangements	Stakeholders are consulted during the security risk assessment; and if there are risks specific to conflicts between communities/workers and mine security providers, community and worker stakeholders collaborate with the company to develop strategies to prevent or mitigate those risks. Stakeholders may also receive training on security and human rights issues. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
3.6—Artisanal and Small-Scale Mining	If artisanal and small-scale mining (ASM) is occurring in the vicinity of the industrial scale mine that is participating in IRMA, the ASM operating entities and miners would be considered stakeholders, and engagement with them would need to conform with the requirements in Chapter 1.2.
3.7—Cultural Heritage	Stakeholders are consulted during cultural heritage screening, assessment and development of mitigation measures. If indigenous peoples' cultural heritage is affected, they are engaged in and FPIC process before any critical cultural heritage is disturbed or used for commercial purposes. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
4.1—Waste and Materials Management	Stakeholders are required to be consulted during the screening and assessment of mine waste facility site and management alternatives; and in preparation of emergency preparedness plans on issues related to catastrophic failure of waste facilities. Stakeholders are also to be provided with certain information related to waste management upon request. Engagement and communications with stakeholders must conform with the requirements in Chapter 1.2.
4.2—Water Management	Stakeholders are engaged in the identification of potential and future uses of water (4.2.1), scoping of impacts of the mining project water (4.2.2.2), evaluation of mitigation measures (4.2.3.1), if relevant, risk assessment related to mixing zones (4.2.3.2), decisions on replacement water sources (4.2.3.4), participation in water monitoring (4.2.4.3), review and revision of adaptive management plans (4.2.4.6), and sharing of information (4.2.5). This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
4.4—Noise and Vibration	Affected stakeholders are consulted in the development of noise mitigation plans. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.
4.6— Biodiversity, Ecosystem Services and Protected Areas	Stakeholders are consulted in the assessment of potential effects of mining on biodiversity, ecosystem services and protected areas. This engagement and access to relevant information needs to conform with the requirements in Chapter 1.2.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Accessible

In reference to grievance mechanism or engagement processes, means being known in an understandable manner to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access.

Affected Community

A community that is subject to risks or impacts from a project.

Artisanal and Small-Scale Mining (ASM)

Formal or informal operations with predominantly simplified forms of exploration, extraction, processing and transportation. ASM is normally low capital intensive and uses high labour intensive technology. ASM can include men and women working on an individual basis as well as those working in family groups, in partnership or as members of cooperatives or other types of legal associations and enterprises involving hundreds or thousands of miners. For example, it is common for work groups of 4-10 individuals, sometimes in family units, to share tasks at one single point of mineral extraction (e.g. excavating one tunnel). At the organisational level, groups of 30-300 miners are common, extracting jointly one mineral deposit (e.g. working in different tunnels), and sometimes sharing processing facilities.

Child Labor

Work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Confidential Business Information

Material that contains trade secrets or commercial or financial information that has been claimed as confidential by its source. The information must be secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; it must have commercial value because it is secret; and it must have been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Forced Labor

Any work or service not voluntarily performed that is exacted or coerced from an individual under threat of force or penalty. This covers any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements required to pay off a debt; or slavery or slavery-like practices. It also includes requirements of excessive monetary deposits, excessive limitations on freedom of movement, excessive notice periods, substantial or inappropriate fines, and loss or delay of wages that prevent workers from voluntarily ending employment within their legal rights.

Inclusive

In the context of stakeholder engagement, means that engagement includes men, women, the elderly, youth, displaced persons, vulnerable and disadvantaged persons or groups.

Indigenous Peoples

An official definition of "indigenous" has not been adopted by the United Nations system due to the diversity of the world's indigenous peoples. Instead, a modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Rights Holder

Rights holders are individuals or social groups that have particular entitlements in relation to specific duty bearers (e.g., State or non-state actors that have a particular obligation or responsibility to respect, promote and realize human rights and abstain from human rights violations). In general terms, all human beings are rights-holders under the Universal Declaration of Human Rights. In particular contexts, there are often specific social groups whose human rights are not fully realized, respected or protected.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of social or economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

Workers

All non-management personnel.

Workers' Organization

Typically called trade unions or labor unions, these organizations are voluntary associations of workers organized on a continuing basis for the purpose of maintaining and improving their terms of employment and workplace conditions.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 1.3—Human Rights Due Diligence

BACKGROUND

In 1948, the United Nations General Assembly adopted the *Universal Declaration of Human Rights*, which for the first time in human history, enumerated the fundamental civil, political, economic, social and cultural rights that all human beings should enjoy. Since that time, a series of core international human rights conventions and treaties, along with other instruments, have established the international legal framework for individual and collective human rights.[23] For example, United Nations instruments have elaborated on the rights of indigenous peoples; women; national or ethnic, religious and linguistic minorities; children; persons with disabilities; and migrant workers and their families.[24]

In 2011, the UN *Guiding Principles on Business and Human Rights* (the 'Guiding Principles'), which were unanimously endorsed by the United Nations' Human Rights Council, clarified the corporate responsibility to respect human rights, stating that all corporations "should avoid infringing on the human rights of others."[25] Other frameworks have similarly emerged that outline specific due diligence under particular circumstances. For example, the *OECD Due Diligence Guidance for Mineral Supply Chains in Conflict-Affected and High-Risk Areas*[26] provides specific guidance for mining companies on what due diligence is required in such areas to address risks to human rights and other risks when operating in those areas (see IRMA Chapter 3.4).

TERMS USED IN THIS CHAPTER

Actual Human Rights Impact ■ Adverse Human Rights Impact ■ Business Relationships ■ Competent Professionals ■ Confidential Business Information Consultation ■ Grievance ■ Grievance Mechanism ■ Human Rights Defenders ■ Human Rights Risks ■ Indigenous Peoples ■ Inform ■ Leverage ■ Mining Project ■ Mining–Related Activities ■ Mitigation ■ Operating Company ■ Potential Human Rights Impact ■ Remediation/Remedy ■ Rights-Compatible ■ Rights Holder ■ Salient Human Rights ■ Serious Human Rights Abuses ■ Stakeholders ■ Vulnerable Group ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To respect human rights, and identify, prevent, mitigate and remedy infringements of human rights.

SCOPE OF APPLICATION

Chapter Relevance: This chapter applies to any mine that is seeking IRMA certification. The requirements outlined below are applicable to activities and business relationships that relate to the mining project seeking certification, not all of a company's activities and business relationships.

CRITICAL REQUIREMENTS IN THIS CHAPTER

The operating company has a policy in place that acknowledges its responsibility to respect all internationally recognized human rights (1.3.1.1) and an ongoing process to identify and assess potential and actual human rights impacts from mining project activities and business relationships (1.3.2.1). The operating company is taking steps to remediate any known impacts on human rights caused by the mine (1.3.3.3).

[23] For more information, see the UN website: www.un.org/en/sections/what-we-do/protect-human-rights/index.html and OHCHR Human Rights website: www.ohchr.org/EN/ProfessionalInterest/Pages/UniversalHumanRightsInstruments.aspx

[24] The Office of the High Commissioner for Human Rights (OHCHR) lists a number of United Nations human rights instruments that enumerate the rights of persons belonging to particular groups or populations. See: OHCHR. 2012. The Corporate Responsibility to Respect – An Interpretive Guide. p. 38. www.ohchr.org/Documents/Issues/Business/RtRInterpretativeGuide.pdf

[25] See: Ruggie, J. 2011. Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework. March 21, 2011. A/HRC/17/31. www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf

[26] OECD. 2013. Due Diligence Guidance on Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (2nd Ed.) p. 3. www.oecd.org/corporate/mne/GuidanceEdition2.pdf

Human Rights Due Diligence Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.3.1. Policy Commitment 1.3.1.1. (Critical Requirement) The operating company shall adopt a policy commitment that includes an acknowledgement of its responsibility to respect all internationally recognized human rights.	**Auditing Note for Chapter 1.3:** It may not always possible, or safe, to engage directly with rights holders as part of the means of verification process. For example, "Some individuals and/or groups would face persecution for even suggesting that impacts may constitute a corporate human rights abuse. . . The process for assessing rights in these contexts will require alternative methodologies. For situations where direct consultation may put groups at risk, it may be necessary to engage third parties, such as NGOs or other agencies or individuals who have worked closely with particular groups."[27] **For 1.3.1.1:** Confirm that a policy commitment is in place that includes an acknowledgement to respect all internationally recognized human rights (e.g., at minimum those included in the International Bill of Human Rights and the eight ILO core conventions).	**For 1.3.1.1:** • Human rights policy, corporate responsibility policy or other policy or policies documenting respect for human rights (a policy may be specific to the operating company, or a corporate policy that is being implemented by the operating company at the mine site level).	**Explanatory Note for 1.3.1.1:** IRMA recognizes that for some operating companies, a policy commitment may be made at the corporate level. In these cases, we do not expect operating companies to have their own policies, but they will be expected to demonstrate that they are operating in compliance with their corporate owner's policy (e.g., site-level management understand the policy, and have integrated it into the mine's procedures and dealings with business partners, contractors, etc.). Re: "all internationally recognized human rights", as per the United Nations Guiding Principles for Business and Human Rights (UNGPs) the core internationally recognized human rights include those contained in the International Bill of Human Rights and the eight ILO core conventions. The UNGPs also state that: "Depending on circumstances, business enterprises may need to consider additional standards. For instance, enterprises should respect the human rights of individuals belonging to specific groups or populations that require particular attention, where they may have adverse human rights impacts on them. In this connection, United Nations instruments have elaborated further on the rights of indigenous peoples; women; national or ethnic, religious and linguistic minorities; children; persons with disabilities; and migrant workers and their families. Moreover, in situations of armed conflict enterprises should respect the standards of international humanitarian law."[28]

[27] Kemp, D. & Vanclay, F. 2013. "Human rights and impact assessment: clarifying the connections in practice," *Impact Assessment and Project Appraisal.* 31 (2), p. 92. https://www.tandfonline.com/doi/abs/10.1080/14615517.2013.782978

[28] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. p. 14. https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

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1.3.1.2. The policy shall: a. Be approved at the most senior level of the company; b. Be informed by relevant internal and/or external expertise; c. Stipulate the operating company's human rights expectations of personnel, business partners and other parties directly linked to its mining project; d. Be publicly available and communicated internally and externally to all personnel, business partners, other relevant parties and stakeholders; e. Be reflected in the mining project's operational policies and procedures.	For 1.3.1.2: • Interview senior management or review documentation that shows the commitment is approved at the most senior level. • Interview relevant staff and review documentation to confirm the policy was informed by internal/external expertise. • Review documents to confirm the company has a policy/procedure that stipulates its expectations of personnel, business partners and others parties. • Review communication with suppliers, business relations and other parties directly linked to its operations, products or services, to establish that the company's policy and the company's specific expectations of the business partner/supplier, etc., has been communicated to relevant representatives. If necessary, interview a sample of those parties. • Interview company to confirm that the commitment was communicated internally and externally, and is publicly available, e.g., on a website, and/or in published materials. Interview stakeholders to confirm	For 1.3.1.2: • Human rights policy, corporate responsibility policy or other policy or policies documenting respect for human rights (a policy may be specific to the operating company, or a corporate policy that is being implemented by the operating company at the mine site level). • Records of policy development/implementation related communications & processes (e.g. minutes; project management charts with time-frames, etc.). • Policy development road map (e.g. 'who', 'when', 'how'). • Records of communications with company personnel, business partners, other relevant parties and stakeholders (e.g., meeting minutes, correspondence, etc.). • Codes of conduct or other materials that codify expected human rights behavior of business partners and other parties, and documentation tracking their performance against key indicators	Explanatory Note for 1.3.1.2: This requirement is from United Nations Guiding Principles for Business and Human Rights.[29] For 1.3.1.2.b, expertise can be drawn from various sources, ranging from credible online or written resources to consultation with recognized experts. For 1.3.1.2.c, the operating company should document in the policy its expectations of company personnel, business partners and others linked to the mining project (e.g., contractors, suppliers, State security forces and investors). For example, the company may require that certain entities are only expected to comply with particular parts of the company's policy, or the company may stipulate that entities are expected to comply with the entire policy. For 1.3.1.2.d, the operating company must communicate the policy to all personnel, suppliers, business relations and other parties directly linked to its operations, products or services, and, in the case of operations with significant human rights risks, to the potentially affected stakeholders. Doing so provides a starting point from which the company can better leverage respect for human rights in these relationships, should this be necessary. For example, it can facilitate the inclusion of provisions for the respect of human rights in contracts with suppliers and partners; and it can provide the basis for auditing or monitoring performance and for factoring the results into decisions on future business relationships.[30] For 1.3.1.2.e, relevant human rights policies, procedures and practices should be integrated in the company's management system, ideally though:

[29] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. Principle 16. https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

[30] Office of the High Commissioner for Human Rights (OHCHR). 2012. The Corporate Responsibility to Respect Human Rights - An Interpretive Guide. https://www.ohchr.org/Documents/Publications/HR.PUB.12.2_En.pdf

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	they were informed of the company's human rights commitments in formats understandable to them. • Review procedures, and interview relevant staff to confirm that the commitment to respect human rights has been integrated into the operation (i.e., recognized at different levels of the company) and that operational-level procedures have been developed and are being implemented.		• Operational policies, processes and practices that regulate the way the different business activities of the company are regulated and carried out; and • Developing key actions on the integration of human rights considerations to be embedded in operational policies and processes, for example, in recruiting and developing employees, acquiring land and building infrastructure, using natural resources and disposing of waste etc.[31]
1.3.2. Assessment of Human Rights Risks and Impacts 1.3.2.1. (Critical Requirement) The operating company shall establish an ongoing process to identify and assess potential human rights impacts (hereafter referred to as human rights "risks") and actual human rights impacts from mining project activities and business relationships. Assessment of human rights risks and impacts shall be updated periodically, including, at minimum, when there are significant changes in the mining project, business relationships, or in the operating environment.	**For 1.3.2.1:** Interview relevant operating company staff and review any related policies or procedures on how the company assesses human rights risks and impacts. Confirm that an assessment has been completed and, if relevant, updated in response to changes in the mining project (e.g., expansions), business relationships (e.g., a new security provider) or in the operating environment (e.g., increase in political conflict or insecurity).	**For 1.3.2.1 – 1.3.2.4:** • Human rights risk and impact assessment methodology and/or process. • Human rights risk and impact assessment reports. • Documentation of stakeholder and rights holder consultations related to human rights risk and impact assessment. • Documentation of monitoring or other reports (e.g., monitoring of security risks, conflict risks, country risks, changes in demographics, proposals for changes to the mine's operations) that may trigger the need to update the assessment of human rights risks and impacts.	**Explanatory Note for 1.3.2.1:** The assessment of human rights risks and impacts may be done as a stand-alone assessment, or integrated into the ESIA or another assessment. (E.g., Environmental and Social Impact Assessments (see Chapter 2.1), Resettlement risk and impact assessments (Chapter 2.4), conflict risk assessments (Chapter 3.4), security risk assessments (Chapter 3.5), etc. The time frame for "periodically updating" the human rights risk assessment should be defined in the human rights risk assessment methodology. Updates should occur, for example, prior to initiation of a new phase of development, when any major changes in operations occur such as expansion, if there is an influx of migrant labor, or if there are changes in ownership structure or management of the company, etc. Although not required, companies may want to consider having independent, third-parties conduct the

[31] IBLF and IFC, 2010. Guide to Human Rights Impact Assessment and Management. p. 53. https://www.unglobalcompact.org/docs/issues_doc/human_rights/GuidetoHRIAM.pdf

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			assessment,[32] and/or hiring independent human rights experts to review the veracity of assessments and provide feedback and recommendations on improving assessment methodology going forward. A broad range of human rights of workers and community members may be affected by mining.[33] These include, but are not limited to: • Right to life • Right to liberty and security • Right to participate in public life • Right of self-determination • Right to an adequate standard of living • Right to health • Right to education • Right to take part in cultural life, benefit from scientific progress, material and moral rights of authors and inventors • Rights of minorities • Right of protection for the child • Right to freedom from war propaganda, and freedom from incitement to racial, religious or national hatred • Right not to be subjected to torture, cruel, inhuman and/or degrading treatment or punishment • Right to equality before the law, equal protection of the law, non-discrimination • Right to access to effective remedies • Right to freedom of movement • Right to freedom of thought, conscience and religion • Right to freedom of opinion, information and expression

[32] ICMM. 2012. Integrating Human Rights Due Diligence Into Corporate Risk Management Processes. p. 26. https://www.icmm.com/website/publications/pdfs/social-and-economic-development/3308.pdf

[33] IBLF and IFC, 2010. Guide to Human Rights Impact Assessment and Management. https://www.unglobalcompact.org/docs/issues_doc/human_rights/GuidetoHRIAM.pdf See also: ICMM. 2012. Integrating Human Rights Due Diligence Into Corporate Risk Management Processes. Section 3. https://www.icmm.com/website/publications/pdfs/social-and-economic-development/3308.pdf

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			• Right to freedom of assembly • Right to freedom of association • Right to form and join trade unions and the right to strike • Right to work • Right to enjoy just and favorable conditions of work • Right not to be subjected to slavery, servitude or forced labor • Right to social security, including social insurance
1.3.2.2. Assessments, which may be scaled to the size of the company and severity of human rights risks and impacts, shall: a. Follow a credible process/methodology;[34] b. Be carried out by competent professionals; and c. Draw on internal and/or external human rights expertise, and consultations with potentially affected rights holders, including men, women, children (or their representatives) and other vulnerable groups, and other relevant stakeholders.	For 1.3.2.2.a: Review the assessment methodology to confirm that it was consistent with a credible risk and impact assessment process (see Explanatory Note). Interview persons with human rights expertise who were consulted during the assessment process to determine if they believed the assessment methodology to be credible. For 1.3.2.2.b: Interview relevant operating company staff and/or review documentation of the relevant professional human rights expertise of those carrying out the assessment. For 1.3.2.2.c: Review lists of stakeholders and persons with human rights expertise consulted during the human rights assessment process, and	For 1.3.2.1 – 1.3.2.4: • Human rights risk/impact assessment methodology and/or process. • Human rights risk and assessment reports. • Human rights risk and impact assessment stakeholder and rights holder consultation report(s), records or documentation.	Explanatory Note for 1.3.2.2: Re: 1.3.2.2.a, although the assessment may be scaled to the size of company and severity of risks and impacts (i.e., fewer risks or less severe impacts will likely require a far less detailed or complex assessment), the company must still demonstrate that it followed a credible risk/impact assessment methodology. A "credible" assessment process/methodology would typically include: scoping or identification of the salient human rights issues, stakeholder consultations; data collection; assessment of the severity of human rights risks and impacts; development of prevention/mitigation measures; and monitoring and evaluation of the effectiveness of implemented measures. This process should be ongoing/updated, as mentioned in 1.3.2.1.[35] "Potentially affected rights holders" include affected community members as described in 1.3.2.2.c, as well as workers, and indigenous peoples and others whose rights may be affected by the mining project.

[34] A "credible" assessment process/methodology would typically include: scoping or identification of the salient human rights, stakeholder consultations; data collection; assessment of the severity of human rights risks and impacts; development of prevention/mitigation measures; and monitoring and evaluation of the effectiveness of implemented measures. This process should be ongoing/updated, as mentioned in 1.3.2.1. For more information see: https://www.humanrights.dk/projects/human-rights-impact-assessment

[35] For more information see: https://www.humanrights.dk/projects/human-rights-impact-assessment

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	review consultation documentation (e.g., meeting minutes). Interview a sample of relevant stakeholders and rights holders to determine if the they were meaningfully engaged as part of the human rights risk and impact assessment consultations (See IRMA Chapter 1.2 for stakeholder engagement requirements, and 1.2.2.2 for more on meaningful engagement.) In particular, outreach should be made to rights holders, women, vulnerable groups and minority groups to confirm that they were engaged in a meaningful manner, and barriers to their participation were addressed.		"Other relevant stakeholders" may include community legal advisors, human rights defenders, representatives of competent authorities, NGOs, including those that specialize in human rights, and community-based organizations. Re: 1.3.2.2.c, "Stakeholder engagement needs to be at the core of a HRIA, and in particular the participation of rights-holders is crucial at all stages of the assessment process. In the planning and scoping phase, the HRIA team will identify the stakeholders who should be engaged in the process. In the data collection and baseline development phase, interviews with rights-holders, duty-bearers and other relevant parties will be one of the main sources of primary data. Perspectives of rights-holders themselves will be used for assessing the severity of impacts in the analysing impacts phase."[36] According to the Danish Institute on Human Rights, in addition to rights holders and duty bearers, there are a number of other relevant parties who should be engaged in the process such as: representatives from civil society, experts or journalists; and/or organizations that hold relevant and important information for the HRIA. It is particularly important to engage human rights actors as part of the HRIA. These could include: NGOs and/or CSOs working on specific human rights issues; intergovernmental agencies such as the Office of the High Commissioner for Human Rights in the specific country, or other agencies working on specific rights issues such as the ILO on labor rights, or UNICEF on children's rights; national human rights institutions; and independent human rights experts. Involving such actors in HRIA can help to ensure

[36] Danish Institute for Human Rights (DIFHR). 2016. Human Rights Impact Assessment: Guidance and Toolbox. Road Test Version. p. 90. https://www.humanrights.dk/sites/humanrights.dk/files/media/dokumenter/business/hria_toolbox/hria_guidance_and_toolbox_final_may22016.pdf_223795_1_1.pdf

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			that essential human rights information and analysis from different perspectives is included in the assessment.[37] Companies should also identify and assess any actual or potential adverse human rights impacts on vulnerable groups that may be caused directly or indirectly, by their own activities or as a result of business relationships. With some vulnerable groups, such as children, consultations may occur with advocates or representatives instead of the vulnerable members themselves. For example, according to UNICEF: "Mining companies will find it necessary to directly consult with children only in limited circumstances. Triangulation with other sources of information from child rights advocates or adult key informants – such as police, company personnel, community leaders and health workers – can often yield sufficient information. However. . . in certain scenarios, only children have the knowledge or facts that derive from their direct experiences. Depending on the issue and need for engagement, business assessments and decisions that are informed by children's opinions can be more relevant, more effective and more sustainable."[38] Finally, it should be noted that there may be challenges to obtaining adequate representation of stakeholder viewpoints and interests in the human rights assessment. For example, women or other vulnerable groups may be included in meetings, but their participation may have been constrained for cultural reasons. Additionally, in some circumstances certain rights holders may not be willing to participate in company-led human rights assessments. The Danish Institute for Human Rights elaborates on potential challenges to conducting effective stakeholder engagement with rights-holders and other

[37] Ibid. p. 109.

[38] UNICEF. 2016. Child Rights and Mining Toolkit. p. 22. https://www.unicef.org/csr/files/FINAL_Child_Rights_and_Mining_Toolkit_060217.pdf

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			stakeholders.[39] When stakeholder participation is limited, companies should be transparent about this, and explain the steps that were taken to try to overcome the limitations.
1.3.2.3. As part of its assessment, the operating company shall document, at minimum: a. The assessment methodology; b. The current human rights context in the country and mining project area; c. Relevant human rights laws and norms; d. A comprehensive list of the human rights risks related to mining project activities and business relationships, and an evaluation of the potential severity of impacts for each identified human rights risk; e. The identification of rights holders, an analysis of the potential differential risks to and impacts on rights holder groups (e.g., women, men, children, the elderly, persons with disabilities, indigenous peoples, ethnic or religious minority groups, and other disadvantaged or vulnerable groups), and a disaggregation of results by rights holder group;	Auditing Note for 1.3.2.3: For this criterion, interview relevant operating company staff and relevant stakeholders, and review documentation, such as the assessment methodology and the assessment itself. For 1.3.2.3.a: Confirm that the assessment methodology has been documented. For 1.3.2.3.b, c: Confirm that there has been consideration of the human rights context in the country, including an understanding of applicable laws and norms. For 1.3.2.3.d and e: Confirm that the assessment includes a comprehensive list of the risks to human rights from the mining project and operating company's business relationships; an evaluation of the potential severity of the impacts; an analysis of the differential risks to/impacts on women, men, children and other relevant vulnerable groups);	For 1.3.2.1 – 1.3.2.4: • Human rights risk/impact assessment methodology and/or process. • Human rights risk and impact assessment report(s) or documentation that includes information required in 1.3.2.3.b – f). • Human rights risk and impact assessment stakeholder and rights holder consultation report(s), records or documentation.	Explanatory Note for 1.3.2.3.e: According to OECD, "All people have human rights and thus all stakeholders as individuals are "rights-holders". However, not all stakeholders will have their human rights put at risk or impacted by an extractive project or its associated activities. It is important to identify human rights risks related to extractive activities among stakeholders and recognize such stakeholders as "rights-holders" in the context of engagement activities. For example, individuals living in a community whose only local water source may be polluted by an extractive operation may be rights-holders. Workers facing discrimination in the workplace are also rights-holders. In addition to individual human rights, certain groups such as indigenous and tribal peoples can have collective rights and consequently the group itself may be considered a rights-holder. Identifying rights-holders is the first step to ensure that human rights are recognized and respected."[40] In particular, the UN Guiding Principles require that companies pay special attention to potential or actual impacts on human rights in relation to individuals from groups or populations that may be at heightened risk of vulnerability and marginalization, and thus, the company may need to consider additional human rights standards and instruments relating to indigenous peoples, women,

[39] Danish Institute for Human Rights (DIFHR). 2016. Human Rights Impact Assessment: Guidance and Toolbox. Road Test Version. pp. 102-104. https://www.humanrights.dk/sites/humanrights.dk/files/media/dokumenter/business/hria_toolbox/hria_guidance_and_toolbox_final_may22016.pdf_223795_1_1.pdf

[40] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* p. 20. Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

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f. Recommendations for preventing, mitigating and remediating identified risks and impacts, giving priority to the most salient human rights issues.	and a disaggregation of data by rights holder group. **For 1.3.2.3.f:** Confirm that the assessment includes recommendations for addressing risks (i.e., preventing, mitigating and remediating impacts). See notes for requirement 1.3.3.3.		national or ethnic, religious and linguistic minorities, children persons with disabilities, and migrant workers and their families. Also, the differential risks or experiences of impacts felt by women versus men.[41]
1.3.2.4. At minimum, stakeholders and rights holders who participated in the assessment process shall have the opportunity to review draft key issues and findings that are relevant to them, and shall be consulted to provide feedback on those findings.	**Auditing Note for 1.3.2.4:** In some cases, the operating company may have made public a draft or final human rights risk and impact assessment report. If this is done, it should be noted (as well as the method by which it was made public, i.e., internet, hard copies, etc.). **For 1.3.2.4:** Review documentation (e.g., stakeholder/rights holder feedback logs) and interview a sample of relevant stakeholders and rights holders to confirm that they had the opportunity to review the draft findings, and provide feedback.	**For 1.3.2.1 – 1.3.2.4:** • Human rights risk and impact assessment process and/or methodology. • Human rights risk and impact assessment reports. • Stakeholder and rights holder consultation report(s), records or documentation. • Reports on stakeholder engagement and levels of engagement achieved. • Documentation of outreach to stakeholders (e.g., letters, print and/or radio advertisements) inviting them to review and provide feedback on draft findings.	**Explanatory Note for 1.3.2.4:** Meaningful participation in the impact assessment process is as important as the outcomes, and rights holders are considered to be active agents in the impact assessment process. A human rights impact assessment should not be just about gathering information, but also an exchange of knowledge between participants throughout the assessment process.[42] Key elements for meaningful stakeholder engagement include ongoing engagement that is two-way, conducted in good faith and is responsive to the views, experiences and expectations being exchanged.[43]
1.3.2.5. The operating company shall demonstrate that steps have been taken to effectively integrate assessment findings at the mine site operational level.	**For 1.3.2.5:** Interview relevant operating company staff to determine how the company integrates the findings across relevant internal functions and processes, e.g., confirm that identification, prevention, mitigation and	**For 1.3.2.5:** • Human rights risk and impact assessment reports. • Records showing integration of assessment findings at the mine site operational level (e.g., memos to relevant personnel, actions plans, monitoring data,	**Explanatory Note for 1.3.2.5:** Unless a system already exists, the company may need to put in place measures that enable mine site operational staff to be aware of, understand the impact of, and be prepared to respond to human rights impacts. This may involve developing new

[41] UN OHCHR. 2014. Frequently Asked Question About the Guiding Principles on Business and Human Rights. p. 13. http://www.ohchr.org/Documents/Publications/FAQ_PrinciplesBussinessHR.pdf

[42] Danish Institute for Human Rights (DIFHR). 2016. Human Rights Impact Assessment: Guidance and Toolbox. Road Test Version. pp. 18 and 96. https://www.humanrights.dk/sites/humanrights.dk/files/media/dokumenter/business/hria_toolbox/hria_guidance_and_toolbox_final_may22016.pdf_223795_1_1.pdf

[43] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* p. 18. Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

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	remediation of adverse human rights impacts is an activity of focus for mine site management, and is recognized at other levels of the company, and that procedures and processes have been revised if necessary based on the assessment findings.	training records). • Records showing implementation of human rights risk and impact assessment findings. • Monitoring and evaluation reports (including of stakeholder attitudes and perceptions) on effectiveness of implemented findings including mitigation measures.	processes and systems or making changes to existing ones, such as: • Procedures to inform relevant operational staff on the findings of human rights assessments • Cross-functional groups to liaise on human rights challenges • Cross-functional communications prior to decisions/actions • Staff training or guidance related to relevant human rights issues, policies, mitigation/remediation management plans and processes, and stakeholder and worker grievance mechanisms. Such training and guidance may need to be updated over time to reflect changes in policies, plans and practices. • Rules or incentives for staff to report on human rights issues • A position such as human rights coordinator to oversee human rights matters including effectiveness of due diligence, etc.[44] • Systems for monitoring and evaluating the effectiveness of efforts being implemented to address human rights issues at the operational level
1.3.3. Prevention, Mitigation and Remediation of Human Rights Impacts 1.3.3.1. Mining project stakeholders shall have access to and be informed about a rights-compatible grievance mechanism and other mechanisms through which	**For 1.3.3.1:** Interview relevant operating company staff to determine how the company has communicated to stakeholders the existence of the operational-level complaints and grievance mechanism (see IRMA Chapter 1.4) and/or other means to raise concerns about human rights impacts related to company activities. Interview	**For 1.3.3.1:** • Grievance mechanism policies/procedure. • Records of lodged/investigated grievances where applicable. • Documentation of communication of the grievance mechanism to stakeholders. (e.g., correspondence, meeting minutes, advertisements, etc.) • Evidence of grievance mechanism that is publicly	**Explanatory Note for 1.3.3.1:** The operational-level grievance mechanism developed as per IRMA Chapter 1.4 may be used as the mechanism to receive all types of complaints, including those related to human rights, or a separate mechanism may be created to handle only human rights complaints and grievances. If a separate mechanism is developed, it shall be done in a manner that is consistent with Chapter 1.4.

[44] Office of the High Commissioner for Human Rights (OHCHR). 2012. The Corporate Responsibility to Respect Human Rights - An Interpretive Guide. p. 52. https://www.ohchr.org/Documents/Publications/HR.PUB.12.2_En.pdf and IBLF and IFC, 2010. Guide to Human Rights Impact Assessment and Management. pp. 53 and 54. https://www.unglobalcompact.org/docs/issues_doc/human_rights/GuidetoHRIAM.pdf

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they can raise concerns and seek recourse for grievances related to human rights.[45]	a sample of rights holders to confirm that they are aware of the existence of the operational-level mechanism and/or other means to raise concerns about human rights risks and impacts related to company activities.	available e.g., on websites, public notice boards etc.	Also, there may be other mechanisms that are not operated by the company through which stakeholders or rights holders can seek recourse (e.g., administrative, judicial and non-judicial remedies, indigenous peoples' traditional or customary dispute resolution processes, etc.). These alternative options should be mentioned to stakeholders or rights holders who lodge human-rights-related grievances with the company. A worker-specific grievance mechanism required in IRMA Chapter 3.1, however, if a special mechanism is developed for human rights related issues, it should also be accessible to workers seeking remedy for grievances specifically in relation to perceived infringements of their human rights (Note: core labor rights are considered human rights).
1.3.3.2. Responding to human rights risks related to the mining project: a. If the operating company determines that it is at risk of causing adverse human rights impacts through its mining-related activities, it shall prioritize preventing impacts from occurring, and if this is not possible, design strategies to mitigate the human rights risks. Mitigation plans shall be developed in consultation with potentially affected rights holder(s).	For 1.3.3.2: Interview relevant operating company staff to ensure that they understand the appropriate response to human rights risks related to the mining project (i.e., potential impacts on human rights from the mining project itself, or the potential that the company could contribute to or be linked to human rights risks from others' activities). Interview a sample of potentially affected rights holders to confirm they were informed of risks to their human	For 1.3.3.2: • Human rights risk and impact assessment reports. • Human rights due diligence reports. • Documented mitigation procedures. • Documented mitigation action plan. • Documented mitigation records. • Documentation of communications with affected rights holders (e.g., meeting minutes, correspondence, etc.) • Documentation of communications with other relevant parties/business relationships (e.g., meeting minutes, correspondence, etc.) regarding their human	Explanatory Note for 1.3.3.2: The "prevention of adverse human rights impact" refers to actions taken to ensure such impact does not occur. "Mitigation of human rights risks" refers to actions taken to reduce the likelihood of a certain adverse impact occurring.[46] Leverage is an advantage that gives power to influence. In the context of Chapter 1.3, it refers to the ability to effect change in the wrongful practices of the party that is causing or contributing to an adverse human rights impact. For more information on leverage see OHCHR (2012).[47] Additional information on causing, contributing to and being linked to human rights risks and impacts can be

[45] The operational-level grievance mechanism developed as per IRMA Chapter 1.4 may be used as the mechanism to receive all types of complaints, including those related to human rights, or a separate mechanism may be created to handle only human rights complaints and grievances. If a separate mechanism is developed, it shall be done in a manner that is consistent with Chapter 1.4. Also, there may be other mechanisms that are not operated by the company through with stakeholders or rights holders can seek recourse (e.g., administrative, judicial and non-judicial remedies), and these options should be mentioned to stakeholders who lodge human rights related grievances with the company.

[46] UN OHCHR. 2012. *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*. p. 7. www.ohchr.org/EN/Issues/Business/Pages/Tools.aspx

[47] Ibid. pp. 48-52.

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b. If the operating company determines that it is at risk of contributing to adverse human rights impacts through its mining-related activities, it shall take action to prevent or mitigate its contribution, and use its leverage to influence other contributing parties to prevent or mitigate their contributions to the human rights risks. c. If the operating company determines that it is at risk of being linked to adverse human rights impacts through its business relationships, it shall use its leverage to influence responsible parties to prevent or mitigate their risks to human rights from their activities.	rights from the mining project, and were offered means to ensure that they had the capacity to understand their rights and remedies; that the risks identified by the company's human rights assessment process (or through other means) were satisfactorily prevented or reduced as a result of mitigation; and that mitigation plans were developed through a consultative process. Review any company documentation on prevention and mitigation plans. Interview relevant company staff to confirm they undertook actions to use leverage to mitigate human rights risks that they could contribute to or be linked to (e.g., they engaged with responsible parties to convince them to prevent or mitigate the human rights risks related to their activities).	rights risks.	found in Debevoise and Plimpton (2017) and OHCHR (2013, 2014).[48]
	Auditing Note for 1.3.3.3: Interview relevant operating company staff and affected rights holders, and documentation, if any. For 1.3.3.3.a: Determine if any actual human rights impacts were identified. If so, confirm that the activities causing impacts were stopped or changed, and that actions were taken mitigate the impact. Confirm that remediation for	For 1.3.3.3: • Human rights risk and impact assessment reports. • Human rights due diligence reports. • Documented mitigation and/or remediation procedures. • Documented mitigation and/or remediation action plan. • Documented mitigation and/or remediation records. • Documentation of communications with affected	Explanatory Note for 1.3.3.3: According to the OHCHR (2012, p. 15) there are three basic ways in which a company can be involved in an adverse impact on human rights: (a) It may cause the impact through its own activities; (b) It may contribute to the impact through its own activities—either directly or through some outside entity (government, business or other); (c) It may neither cause nor contribute to the impact, but be involved because the impact is caused by an entity with which it has a business relationship and is linked to its own operations, products or services. Each of the three scenarios has

[48] Debevoise and Plimpton. 2017. Practical Definitions of Cause, Contribute, and Directly Linked to Inform Business Respect for Human Rights. (Discussion Draft). https://business-humanrights.org/sites/default/files/documents/Debevoise-Enodo-Practical-Meaning-of-Involvement-Draft-2017-02-09.pdf; UNOHCHR. 2013. Letter to Chair of the OECD Working Party on Responsible Business Conduct. pp. 2-4. http://www.ohchr.org/Documents/Issues/Business/LetterOECD.pdf; and UN OHCHR. 2014. Frequently Asked Question About the Guiding Principles on Business and Human Rights. p. 29, 31, 32. http://www.ohchr.org/Documents/Publications/FAQ_PrinciplesBussinessHR.pdf.

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1.3.3.3. (Critical Requirement) Responding to actual human rights impacts related to the mining project: a. If the operating company determines that it has caused an actual human rights impact, the company shall: i. Cease or change the activity responsible for the impact; and ii. In a timely manner, develop mitigation strategies and remediation in collaboration with affected rights holders. If mutually acceptable remedies cannot be found through dialogue, the operating company shall attempt to reach agreement through an independent, third-party mediator or another means mutually acceptable to affected rights holders; b. If the operating company determines that it has contributed to an actual human rights impact, the company shall cease or change any activities that are contributing to the impact, mitigate and remediate impacts to the extent of its contribution, use its leverage to influence other contributing parties to cease or	impacts occurred. Also, confirm that remediation provided for actual human rights impacts were developed with affected rights holders in a collaborative, timely and culturally appropriate manner, and that remedies were agreed to in principle and accepted by them in practice. **For 1.3.3.3.b:** Determine if the company was found to be contributing to adverse human rights impacts. If so, confirm it took the steps needed to cease their contribution to those impacts and used their leverage to mitigate impacts to which they contributed, and remediate their impacts either directly or in cooperation with others (e.g., courts, government, other responsible parties or third parties). **For 1.3.3.3.c:** Determine if the company was found to be linked to adverse human rights impacts (e.g., through a business relationship). If so, confirm it undertook actions to use their leverage to mitigate impacts that they were linked to **For 1.3.3.3.d:** Determine if any human rights impacts related to the company	rights holders (e.g., meeting minutes, correspondence, etc.). • Documentation of communications with other relevant parties/business relationships (e.g., meeting minutes, correspondence, etc.) regarding their human rights impacts. • Documentation of communications with host countries or others involved in mitigation or remediation of company-related human rights impacts.	different implications for the nature of a business responsibilities. For more information see OHCHR (2012) and Debevoise and Plimpton (2017).[49] These implications are outlined in the UN Guiding Principles on Business and Human Rights, Principle 19 (Ruggie, 2011; see also OHCHR, 2012, pp. 15 and 18) and requirement 1.3.3.3 is meant to align with the responsibilities outlined in the UNGPs.[50] The "prevention of adverse human rights impact" refers to actions taken to ensure such impact does not occur. "Mitigation of adverse human rights impact" refers to actions taken to reduce its extent, with any residual impact then requiring remediation. "Remediation and remedy" refer to both the processes of providing remedy for an adverse human rights impact and the substantive outcomes that can counteract, or make good, the adverse impact. These outcomes may take a range of forms, such as apologies, restitution, rehabilitation, financial or non-financial compensation, and punitive sanctions (whether criminal or administrative, such as fines), as well as the prevention of harm through, for example, injunctions or guarantees of non-repetition.[51] Companies may see value in creating a policy on redress/compensation with a compensation scale that is based on the nature, extent, severity of the human rights impacts.

[49] Ibid. pp. 15-18; and Debevoise and Plimpton. 2017. Practical Definitions of Cause, Contribute, and Directly Linked to Inform Business Respect for Human Rights. (Discussion Draft). https://business-humanrights.org/sites/default/files/documents/Debevoise-Enodo-Practical-Meaning-of-Involvement-Draft-2017-02-09.pdf

[50] UN OHCHR. 2012. *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*. www.ohchr.org/EN/Issues/Business/Pages/Tools.aspx; Ruggie, J. 2011. Guiding Principles on Business and Human Rights. Report of the Special Representative of the Secretary General on the issue of human rights and transnational corporations and other business enterprises, John Ruggie. (A/HRC/17/31). https://www.ohchr.org/documents/issues/business/A.HRC.17.31.pdf

[51] UN OHCHR. 2012. *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*. p. 7. www.ohchr.org/EN/Issues/Business/Pages/Tools.aspx

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change their activities, and mitigate and remediate the remaining impact; c. If the operating company determines that it is linked to an actual human rights impact through a business relationship the company shall use its leverage to prevent or mitigate the impact from continuing or recurring; and d. The operating company shall cooperate with other legitimate processes such as judicial or State-based investigations or proceedings related to human rights impacts that the operating company caused, contributed to, or was directly linked to through its business relationships.	were being addressed or had been addressed through judicial or State-based processes, and if so, confirm that the operating company was cooperating or cooperated with those processes.		Explanatory Note for 1.3.3.3.d: "Cooperating with other legitimate processes such as judicial or State-based proceedings" could include human rights related investigations or processes being carried out by host country government departments or agencies such as an ombudsman office or labor office, national human rights institutions, National Contact Points for OECD members and adherents of the OECD Declaration on International Investment and Multinational Enterprises, local or traditional mechanisms used by indigenous or other communities, host country or international courts, other State-administered or statutory body empowered to take on the role of adjudicating appropriate remedies when there has been the infringement of human rights.[52]
1.3.4. Monitoring 1.3.4.1. The operating company shall monitor whether salient human rights risks and impacts are being effectively addressed. Monitoring shall include qualitative and quantitative indicators, and draw on feedback from internal and external sources, including affected rights holders.	For 1.3.4.1: Interview relevant operating company staff about the monitoring program. Review indicators of salient impacts being monitored, and any data from the monitoring program. Confirm that the company incorporated feedback from internal and external sources, including relevant stakeholders and/or affected rights holders, in the monitoring.	For 1.3.4.1: • Human rights risk and impact monitoring procedure. • Human rights risk and impact monitoring reports. • Human rights risk and impact assessment reports. • Human rights due diligence reports. • Documentation of consultations or communications with affected rights holders and external sources (e.g., meeting minutes, correspondence, etc.), and company responses.	Explanatory Note for 1.3.4.1: A company's salient human rights issues are those human rights that stand out because they are at risk of the most severe negative impact through the company's activities or business relationships. This concept of salience uses the lens of risk to people, not the business, as the starting point, while recognizing that where risks to people's human rights are greatest, there is strong convergence with risk to the business. The emphasis of salience lies with those impacts that are: • Most severe: based on how grave and how widespread the impact would be and how hard it would be to put right the resulting harm. • Potential: meaning those impacts that have some

[52] For more information see: UN OHCHR, 2012. *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide.* pp. 64 -66. www.ohchr.org/EN/Issues/Business/Pages/Tools.aspx and OHCHR. 2014. Frequently Asked Questions About the Guiding Principles on Business and Human Rights. pp. 12, 14, 34 and 35. http://www.ohchr.org/Documents/Publications/FAQ_PrinciplesBussinessHR.pdf

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			likelihood of occurring in the future. • Negative: placing the focus on the avoidance of harm to human rights rather than unrelated initiatives to support or promote human rights. • Impacts on human rights: placing the focus on risk to people, rather than on risk to the business. Salience therefore focuses the company's resources on finding information that is necessary for its own ability to manage risks to human rights and related risks to the business. In this way, it helps companies report on the human rights information that shareholders, investors, governments, customers, consumers, media, civil society organizations and directly affected people want to see.[53]
1.3.4.2. External monitoring of an operating company's human rights due diligence shall occur if the company's due diligence efforts repeatedly fail to prevent, mitigate or remediate actual human rights impacts; or if its due diligence activities failed to prevent the company from unknowingly or unintentionally causing, contributing to or being linked to any serious human rights abuse.[54] Additionally: a. The company shall fund the external monitoring; and b. The form of such monitoring, and selection of external monitors, shall	For 1.3.4.2: Determine, through interviews with relevant operating company staff and stakeholders and/or rights holders, review of grievance mechanism findings, review of monitoring results, and other sources of information, if the company has been implicated in the repeated infringements of human rights, or serious human rights abuses. If so, confirm that external monitoring of the company's human rights due diligence has occurred; that a collaborative process was undertaken to develop the external monitoring program; and that the affected rights holders had the capacity needed to	For 1.3.4.2: • All of the above (for 1.3.4.1) • Documentation of communications with those carrying out external monitoring (e.g., meeting minutes, correspondence, etc.), and company responses.	Explanatory Note for 1.3.4.2: External monitoring may also be referred to as independent monitoring. It would involve a review of the due diligence system and its implementation to determine why the company's system failed to prevent, mitigate or remediate human rights impacts. The external monitoring would also be expected to develop recommendations on steps to take to improve the effectiveness of a company's due diligence efforts to prevent future impacts. NOTE: This requirement does not apply to cases where a company has knowingly or intentionally caused, contributed to or been linked to serious human rights abuses. (See Notes section at the end of Chapter 1.3 for more on serious human rights abuses). Serious human rights abuses include:[55]

[53] For more information see: UN Guiding Principles Reporting Framework website. "Salient Human Rights Issues." https://www.ungpreporting.org/resources/salient-human-rights-issues/

[54] This requirement does not apply if a company has knowingly or intentionally caused, contributed to or been linked to serious human rights abuses. (See Notes section at the end of Chapter 1.3 for more on serious human rights abuses).

[55] OECD. 2016. Due Diligence Guidance on Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. 3rd Ed. http://www.oecd.org/daf/inv/mne/OECD-Due-Diligence-Guidance-Minerals-Edition3.pdf

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be determined in collaboration with affected rights holders.	engage in that process as per IRMA Chapter 1.2.		i) any forms of torture, cruel, inhuman and degrading treatment; ii) any forms of forced or compulsory labour, which means work or service which is exacted from any person under the menace of penalty and for which said person has not offered himself voluntarily; iii) the worst forms of child labour (as per ILO Convention 182); iv) other gross human rights violations and abuses such as widespread sexual violence; v) war crimes or other serious violations of international humanitarian law, crimes against humanity or genocide.
1.3.5. Reporting 1.3.5.1. The operating company or its corporate owner shall periodically report publicly on the effectiveness of its human rights due diligence activities. At minimum, reporting shall include the methods used to determine the salient human rights issues, a list of salient risks and impacts that were identified, and actions taken by the operating company to prevent, mitigate and/or remediate the human rights risks and impacts.	For 1.3.5.1: Determine, through interviews with the operating company, whether it or its corporate owner has carried out human rights due diligence reporting related to the mining project. Review operating company website and published material to determine if the operating company has made progress reports publicly available. Review reports to confirm that they include information on human rights risks and actual human rights impacts that have been identified in relation to the mining project, and account for how the operating company has prevented, mitigated and/or remediated those impacts.	For 1.3.5.1: • Publicly available human rights due diligence reports (or relevant sections of other reports that contain information on the effectiveness of the company's human rights due diligence activities). • Documentation of meetings or communications with stakeholders and rights holders (e.g., meeting minutes, correspondence, etc.) where the company reported on the effectiveness of its human rights due diligence activities.	Explanatory Note for 1.3.5.1 and 1.3.5.2: According to the UN Guiding Principles on Business and Human Rights, "The responsibility to respect human rights requires that business enterprises have in place policies and processes through which they can both know and show that they respect human rights in practice. Showing involves communication, providing a measure of transparency and accountability to individuals or groups who may be impacted and to other relevant stakeholders, including investors. Communication can take a variety of forms, including in-person meetings, online dialogues, consultation with affected stakeholders, and formal public reports. Reporting should cover topics and indicators concerning how

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			enterprises identify and address adverse impacts on human rights."[56] Formal reporting by enterprises is expected where risks of severe human rights impacts exist, whether this is due to the nature of the business operations or operating contexts. The UN Office of the High Commissioner for Human Rights (OHCHR) elaborates that, "As Guiding Principle 21 makes clear, enterprises whose operations or operating contexts pose a risk of severe human rights impact should report formally on how they address it. . . There may even be reasons for some enterprises with lesser human rights risk profiles to include information on their human rights performance in regular, formal public reports. For instance, the internal process of writing a report can help to embed within an enterprise an understanding of human rights issues and of the importance that respecting human rights holds for the business itself. The additional transparency that reporting of this kind provides can help protect the enterprise's reputation and build wider trust in its efforts to respect human rights."[57] Formal reporting is itself evolving, from traditional annual reports and corporate responsibility/sustainability reports, to include online updates and integrated financial and non-financial reports. See UNGP Reporting Framework for some examples of public reporting.[58]

[56] UN Guiding Principles, Commentary for Principle 21. (Ruggie, J. 2011. Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework. March 21, 2011. A/HRC/17/31. www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf)

[57] For more information see: UN OHCHR, 2012. *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide.* p. 59. www.ohchr.org/EN/Issues/Business/Pages/Tools.aspx

[58] UN Guiding Principles Reporting Framework: https://www.ungpreporting.org/

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			Re: "periodically report," the OHCHR suggests that formal reports may be produced annually or more frequently or when a particular impact arises or both.[59]
1.3.5.2. If relevant, the operating company shall publish a report on external monitoring findings and recommendations to improve the operating company's human rights due diligence, and the operating company shall report to relevant stakeholders and rights holders on its plans to improve its due diligence activities as a result of external monitoring recommendations.	For 1.3.5.2: The requirement is relevant only if external monitoring has taken place. If relevant, confirm, through review of documents or company website that a report on external monitoring findings and recommendations has been published; and confirm through review of documents (e.g., meeting minutes) and/or interviews with operating company staff and stakeholders/rights holders that the company has communicated to rights holders and stakeholders a plan to improve its due diligence based on the external monitoring recommendations.	For 1.3.5.2: • Publicly available human rights due diligence reports. • Published report on external monitoring findings and recommendations. • Documented improvement plans for due diligence activities. • Documentation of meetings or communications with stakeholders and rights holders (e.g., meeting minutes, correspondence, etc.) where the company reported on plans to improve human rights due diligence activities based on external monitoring results.	
1.3.5.3. Public reporting referred to in 1.3.5.1 and 1.3.5.2 may exclude information that is politically sensitive, confidential business information, or that may compromise safety or place any individual at risk of further victimization.	For 1.3.5.3: Interview operating company to determine if some information has not been made fully available in the public reports. Determine the nature of that information, and confirm that those who should be made aware of information (e.g., those who face specific risks to human rights and/or safety as identified in the assessment) have been provided the sensitive information through other means (e.g., in-person meetings).	For 1.3.5.3: • Publicly available human rights due diligence reports (or relevant sections of other reports that contain information on the effectiveness of the company's human rights due diligence activities). • Published report on external monitoring findings and recommendations. • Documentation of materials that have been excluded from the public report (including rationale for excluding the information).	Explanatory Note for 1.3.5.3: Requirement 1.3.5.1 requires operating companies to report on the methods used to determine the salient human rights issues, a list of salient risks and impacts that were identified, and actions taken by the operating company to prevent, mitigate and/or remediate the human rights risks and impacts. However, there may be cases where it is not appropriate to release certain information publicly. Principle 21 of the UN Guiding Principles states that, "In order to account for how they address their human rights impacts, business enterprises should be prepared to communicate externally, particularly when concerns are raised by or on behalf of affected stakeholders. Business enterprises

[59] For more information see: UN OHCHR, 2012. *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide.* p. 60. www.ohchr.org/EN/Issues/Business/Pages/Tools.aspx

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			whose operations or operating contexts pose risks of severe human rights impacts should report formally on how they address them. In all instances, communications should: . . .(c) In turn not pose risks to affected stakeholders, personnel or to legitimate requirements of commercial confidentiality." Elsewhere in the UNGPs, it is stated that "Any stipulation of what would constitute adequate communication should take into account risks that it may pose to the safety and security of individuals and facilities; legitimate requirements of commercial confidentiality; and variations in companies' size and structures."[60]

NOTES

This chapter is based on the framework for corporate responsibility established in the UN *Guiding Principles on Business and Human Rights*, and includes best practice requirements to increase transparency regarding human rights impacts, and the ability of rights holders to participate, in a meaningful way, in decisions that affect their lives.

This chapter does not specifically address cases where operating companies knowingly contribute to serious human rights abuses. However, IRMA has created a Policy on Association to provide a means for IRMA to exclude companies from IRMA participation if those companies are directly or indirectly involved in activities that violate IRMA's core principles and values. It is likely that knowingly or intentionally causing or contributing to serious human rights abuses would be grounds for IRMA to exclude an operating company or its corporate owner from participating, or terminate a relationship with a company that has an IRMA certified mine. In the current draft policy, the decision of whether or not to deny or withdraw IRMA certification, and any terms and conditions that might allow a company to re-associate with IRMA, will be made by the IRMA Steering Committee. The IRMA Policy on Association will not be put into effect until after the IRMA Launch Phase. IRMA welcomes comments on its draft policy, available at: www.responsiblemining.net/images/uploads/IRMA_Policy_On_Association_Draft_v1.0.pdf.

In Chapter 1.3, criteria 1.3.4, the decision to initiate external monitoring may be made by an operating company that has recognized (e.g., through its human rights due diligence processes, complaints filed through its operational-level grievance mechanism, observations made by a third party, or some other means) its repeated failure to prevent, mitigate or remediate human rights impacts, or that its due diligence has failed to prevent it from causing, contributing to, or being linked to serious human rights abuses. External monitoring may also be suggested as a corrective action, if an IRMA auditor discovers during a certification audit that the operating company's due diligence has failed to prevent any of the situations listed above.

[60] Ruggie, J. 2011. UN Guiding Principles on Business and Human Rights. Commentary for Principle 3. A/HRC/17/31. www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf

Cross References to Other Chapters	
CHAPTER	ISSUES
1.2—Community and Stakeholder Engagement	Engagement with stakeholders and rights holders in Chapter 1.3 must conform with the requirements of Chapter 1.2. In particular, criterion 1.2.3 is important to ensure that affected rights holders have the capacity to fully understand their rights and participate effectively in the assessment and development of prevention/mitigation plans, monitoring, and remedies for impacts on their human rights. And 1.2.3 ensures that communications and information are in culturally appropriate formats and languages that are accessible to affected communities and stakeholders, and are provided in a timely manner.
1.4— Complaints and Grievance Mechanism and Access to Remedy	As mentioned in 1.3.3.1, the operating company shall ensure that stakeholders have access to a mechanism for raising human rights concerns. Any operational-level grievance mechanism developed as per Chapter 1.4 is required to be rights-compatible, and should be appropriate for raising human-rights-related complaints. It may be deemed necessary, however, to create a separate mechanism for determining appropriate remedies for infringements of human rights. If a separate mechanism is created, it is expected to adhere to the requirements of Chapter 1.4.
2.1—Environmental and Social Impact Assessment and Management	As long as the assessment of human rights risks and impacts meets the requirements in Criterion 1.3.4, it may be conducted as stand-alone assessment or integrated into a larger impact assessment process (e.g., the Environmental and Social Impact Assessment mentioned in Chapter 2.1).
2.2—Free, Prior and Informed Consent	Indigenous peoples are rights holders, and mining developments pose risks to their individual and collective human rights. The requirements in Chapter 2.2 are meant to facilitate a rights-compatible relationship between indigenous peoples and mining companies. See requirement 2.2.1.1 on the company's policy commitment to respect indigenous peoples' rights; and requirements 2.2.3.2.a, b and c, related to engagement with indigenous peoples in the assessment of potential impacts on indigenous peoples' rights from mining-related activities.
2.4—Resettlement	Even where mining project proponents have obtained legal rights over land, displaced households and affected communities have human rights under international law that must be fully respected and fulfilled by project proponents and contractors. Human rights risks related to resettlement may be assessed as per requirement 1.3.2.1 in Chapter 1.3, or assessed as part of the Resettlement Risk and Impact Assessment Process in Chapter 2.4.
3.1—Fair Labor and Terms of Work	Even though there is a worker grievance mechanism required as per Chapter 3.1, the grievance mechanism in Chapter 1.3 may also be used by workers seeking remedy specifically in relation to perceived infringements of their human rights (e.g., core labor rights are considered human rights). Incidents of child labor or forced labor associated with a mining project are addressed in Chapter 3.1, but should also be assessed as per requirement 1.3.2.1 in Chapter 1.3). Similarly, the determination of whether or not there is a high risk of child labor in the supply chain should occur as part of the operating company's human rights due diligence in Chapter 1.3. If child labor in the supply chain is identified as being a salient risk during the human rights impact assessment, the company will be required to carry out the remaining due diligence as per Chapter 1.3, and also the requirements in 3.1.7.6. Similarly, if forced labor in the supply chain is identified as a risk, the company should carry out due diligence as per Chapter 1.3, and also the requirements in 3.1.8.2.
3.2—Occupational Health and Safety	Workers have the right to health, and so during the human rights assessment companies should include an assessment of the potential that workers and management-level employees may be exposed to unacceptable health impacts. The occupational health and safety risk assessment in Chapter 3.2 will likely feed into this assessment.
3.4—Mining in Conflict-Affected or High-Risk Areas	There is often a high risk for infringement of human rights at mines operating in or sourcing minerals from conflict-affected or high-risk areas. If risks are identified during the conflict screening or risk assessment, the information may feed into the human rights risk and impact assessment. Strategies developed to mitigate human rights risks and impacts identified in the conflict risk assessment must conform with relevant human rights due diligence requirements in Criteria 1.3.3.
3.5—Security Arrangements	Human rights risks related to mine security may be assessed as per requirement 3.5.2.1 in Chapter 3.5, and/or assessed during the human rights risk and impact assessment in Chapter 1.3. If assessed as per Chapter 3.5, the information from the security risk assessment should feed into the human rights risk and impact assessment. Strategies developed to mitigate human rights risks and impacts related to security arrangements must conform with the relevant human rights due diligence requirements in Criteria 1.3.3.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Actual Human Rights Impact

An adverse impact that has already occurred or is occurring.

Adverse Human Rights Impact

When an action removes or reduces the ability of an individual to enjoy his or her human rights.

Business Relationships

Relationships a business enterprise has with business partners, entities in a value chain, and any other non-State or State entity directly linked to business operations, products or services. They include indirect business relationships in its value chain, beyond the first tier, and minority as well as majority shareholding positions in joint ventures.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Confidential Business Information

Material that contains trade secrets or commercial or financial information that has been claimed as confidential by its source. The information must be secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; it must have commercial value because it is secret; and it must have been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Corporate Owner(s)

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which mining-project-related complaints or grievances, including business-related human rights abuses stakeholder complaints, and/or labor grievances, can be raised and remedy can be sought.

Human Rights Defenders

Any person or group of persons working to promote human rights and contributing to the effective elimination of all violations of human rights and fundamental freedoms of peoples and individuals. Defenders can be of any gender, of varying ages, from any part of the world and from all sorts of professional or other backgrounds, i.e., not only found within NGOs and intergovernmental organizations but might also, in some instances, be government officials, civil servants or members of the private sector and individuals working within their local communities.

Human Rights Risks

Human rights risks are understood to be the business enterprise's potential adverse human rights impacts. (May also be referred to as potential human rights impacts).

Indigenous Peoples

An official definition of "indigenous" has not been adopted by the United Nations system due to the diversity of the world's indigenous peoples. Instead, a modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Inform

The provision of information to inform stakeholders of a proposal, activity or decision. The information provided may be designed to help stakeholders in understanding an issue, alternatives, solutions or the decision-making process. Information flows are one-way. Information can flow either from the company to stakeholders or vice versa.

Leverage

Leverage is an advantage that gives power to influence. In the context of Chapter 1.3, it refers to the ability to effect change in the wrongful practices of the party that is causing or contributing to an adverse human rights impact.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Mitigation (including in relation to Human Rights Impacts)

Refers to actions taken to reduce the likelihood of a certain adverse impact occurring. The mitigation of adverse human rights impact refers to actions taken to reduce its extent, with any residual impact then requiring remediation.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Potential Human Rights Impact

A potential human rights impact is an adverse impact that may occur but has not yet done so. (Also referred to as a human rights risk).

Remediation/Remedy (including in relation to Human Rights Impacts):

Remediation and remedy refer to both the processes of providing remedy for an adverse (human rights) impact and the substantive outcomes that can counteract, or make good, the adverse impact. These outcomes may take a range of forms, such as apologies, restitution, rehabilitation, financial or non-financial compensation, and punitive sanctions (whether criminal or administrative, such as fines), as well as the prevention of further harm through, for example, injunctions or guarantees of non-repetition.

Rights-Compatible

In reference to grievance mechanism, means ensuring that outcomes and remedies accord with internationally recognized human rights.

Rights Holder

Rights holders are individuals or social groups that have particular entitlements in relation to specific duty bearers (e.g., State or non-state actors that have a particular obligation or responsibility to respect, promote and realize human rights and abstain from human rights violations). In general terms, all human beings are rights-holders under the Universal Declaration of Human Rights. In particular contexts, there are often specific social groups whose human rights are not fully realized, respected or protected.

Salient Human Rights

Those human rights that are at risk of the most severe negative impacts through a company's activities or business relationships. They therefore vary from company to company.

Serious Human Rights Abuses

i) any forms of torture, cruel, inhuman and degrading treatment; ii) any forms of forced or compulsory labour, which means work or service which is exacted from any person under the menace of penalty and for which said person has not offered himself voluntarily; iii) the worst forms of child labour (as per ILO Convention 182); iv) other gross human rights violations and abuses such as widespread sexual violence; v) war crimes or other serious violations of international humanitarian law, crimes against humanity or genocide.

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

Worker

All non-management personnel.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 1.4—Complaints and Grievance Mechanism and Access to Remedy

BACKGROUND

Mining and other large development projects inevitably raise concerns and complaints from community members and stakeholders affected by these projects. It is now expected practice for mining companies to have in place site-level processes (often referred to as "operational-level grievance mechanisms") for systematically receiving, tracking, resolving and communicating with local communities and stakeholders, including workers, about their complaints or grievances. Grievance mechanisms should not be considered a substitute for community and stakeholder engagement processes that allow for airing of concerns. The two are complementary and should be mutually reinforcing.[61]

Having accessible and trusted procedures in place to receive complaints can lead to the quick resolution of many stakeholder concerns before they escalate into serious grievances or conflicts. Stakeholders are more likely to trust complaints and grievance procedures if they have some say in their design.

Operational-level complaint and grievance processes are just one option for individuals to seek justice or remediation for damages that they believe have occurred as a result of company activities. For example, traditional authorities may have conflict or dispute resolution systems in place; countries may have legal frameworks, such as court systems, to provide recourse to aggrieved parties; workers may have access to corporate-level whistle-blower procedures; and remedies may be sought through national or international human rights bodies, labor tribunals or other non-judicial mechanisms. Operational-level grievance mechanisms should neither be used to undermine the role of legitimate trade unions in addressing labor-related disputes, nor preclude any stakeholder from accessing judicial or other non-judicial grievance mechanisms.[62]

TERMS USED IN THIS CHAPTER

Accessible ■ Affected Community ■ Competent Authority ■ Contractor ■ Consultation ■ Equitable ■ Grievance ■ Grievance Mechanism ■ Inform ■ Indigenous Peoples ■ Human Rights Defenders ■ Legitimate ■ Mining Project ■ Mining-Related Activities ■ Operating Company ■ Predictable ■ Remediation/Remedy ■ Rights Holder ■ Rights-Compatible ■ Stakeholder ■ Source of Continuous Learning ■ Transparent ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To provide accessible and effective means for affected communities and individuals to raise and resolve mine-related complaints and grievances at the mine operational level, while not limiting their ability to seek remedy through other mechanisms.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant for all mines, as all have workers and most have external stakeholders who must be provided with an effective means of raising complaints and grievances with the company, and if the grievances are not adequately addressed through the operational-level grievance mechanism, who have the right to access remedy through other channels.

CRITICAL REQUIREMENTS IN THIS CHAPTER

Stakeholders have access to operational-level mechanisms that allows them to raise and seek resolution or remedy for complaints and grievances that may occur in relation to the mining operation (1.4.1.1).

[61] IFC. 2009. Good Practice Note: Addressing Grievances from Project-Affected Communities. p. 6. www.ifc.org/wps/wcm/connect/cbe7b18048855348ae6cfe6a6515bb18/IFC+Grievance+Mechanisms.pdf?MOD=AJPERES&CACHEID=cbe7b18048855348ae6cfe6a6515bb18

[62] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. A/HRC/17/31. Commentary for Principle 29. Available at: www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf

Complaints, Grievances and Access to Remedy Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.4.1. Access to Operational-Level Complaints and Grievance Mechanism 1.4.1.1. (Critical Requirement) The operating company shall ensure that stakeholders, including affected community members and rights holders (hereafter referred to collectively as "stakeholders") have access to an operational-level mechanism that allows them to raise and seek resolution or remedy for the range of complaints and grievances that may occur in relation to the company and its mining-related activities.[63]	**For 1.4.1.1:** Confirm with operating company that an operational-level complaints and grievance mechanism is in place. There may be more than one method made available to report complaints, such as free telephone hotlines, suggestion boxes, on-line complaints filing, regular access to a community liaison personnel, etc. Review any relevant policies, procedures or information about the complaints and grievance mechanism(s).	**For 1.4.1.1:** • Grievance policies, procedures or information about the grievance mechanism. • Documentation of communication of the grievance mechanism to stakeholders. • Documentation of training of relevant personnel on the grievance mechanism. • Documentation of any survey or review carried out to evaluate the effectiveness of the grievance mechanism.	**Explanatory Note for 1.4.1.1:** Grievance mechanisms are explicitly stated as requirements with regard to workers (Chapter 3.1), human rights (Chapter 1.3), mine security (Chapter 3.5), stakeholder engagement (Chapter 1.2) and resettlement (Chapter 2.4). However, even when not explicitly stated in a chapter, it is expected that access to the operational-level grievance mechanism and other remedies will be provided throughout the project's life to grievances related to any issues of stakeholder concern with the mining project. Grievance is defined as "A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities." Grievances may also be voiced by a stakeholder or advocate on behalf of another person, or on behalf of the natural environment. The words grievance and complaint are sometimes used interchangeably, but not always. Some suggest that a complaint is an isolated or event-based concern, while a grievance is a more complex or accumulated sense of wrong,

[63] Grievance mechanisms are explicitly stated as requirements with regard to workers (Chapter 3.1), human rights (Chapter 1.3), mine security (Chapter 3.5), stakeholder engagement (Chapter 1.2) and resettlement (Chapter 2.4). However, even when not explicitly stated in a chapter, it is expected that access to the operational-level grievance mechanism and other remedies will be provided throughout the project's life to grievances related to any issues of stakeholder concern with the mining project.

It is possible that one grievance mechanism may be suitable to address all types of grievances raised in relation to the mining project, including workers, although typically labor grievances are dealt with through a separate mechanism established through collective bargaining agreements or human resources policies. The development of workers' grievance mechanism is addressed in Chapter 3.1.

It is also possible that more than one mechanism or approach to addressing complaints and grievances may be deemed necessary to meet the needs of affected communities and stakeholders. If a company decides to create multiple grievance mechanisms, all of them shall meet the requirements of this chapter.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			or that complaints can be addressed through informal means, while grievances need a formal process. Others see the relationship in reverse.[64] For the purposes of the IRMA Standard, the words grievance and complaint will be used interchangeably. The United Nations Guiding Principles on Business and Human Rights have identified that business enterprises should establish or participate in effective operational-level grievance mechanisms for individuals and communities who may be adversely impacted by their activities.[65] Grievance mechanisms are explicitly stated as requirements with regard to workers (Chapter 3.1), human rights (Chapter 1.3), mine security (Chapter 3.5), stakeholder engagement (Chapter 1.2) and resettlement (Chapter 2.4). However, even when not explicitly stated in a chapter, it is expected that access to the operational-level grievance mechanism and other remedies will be provided throughout the mining project's life to grievances related to any issues of stakeholder concern with the project. It is possible that one grievance mechanism may be suitable to address all types of grievances raised in relation to the mining project, including workers, although typically labor grievances are dealt with through a separate mechanism established through collective bargaining agreements or human resources policies. The development of workers' grievance mechanism is addressed in Chapter 3.1. It is also possible that more than one mechanism or approach to addressing complaints and grievances may be deemed necessary to meet the needs of affected communities and stakeholders. If a company decides to

[64] John F. Kennedy School of Government, Harvard Univ. 2008. Rights-Compatible Grievance Mechanisms: A Guidance Tool for Companies and Their Stakeholders. p. 12. https://sites.hks.harvard.edu/m-rcbg/CSRI/publications/Workingpaper_41_Rights-Compatible%20Grievance%20Mechanisms_May2008FNL.pdf

[65] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. Principle 29. http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			create multiple grievance mechanisms all of them must meet the requirements of this chapter.
1.4.2. Development of Complaints and Grievance Procedures 1.4.2.1. The operating company shall consult with stakeholders on the design of culturally appropriate complaints and grievance procedures that address, at minimum: a. The effectiveness criteria outlined in Principle 31 of the United Nations *Guiding Principles on Business and Human Rights*,[66] which include the need for the mechanism to be: (a) Legitimate, (b) Accessible, (c) Predictable, (d) Equitable, (e) Transparent, (f) Rights-compatible, (g) A source of continuous learning, and (h) Based on engagement and dialogue; b. How complaints and grievances will be filed, acknowledged, investigated, and resolved, including general timeframes for each phase; c. How confidentiality of a complainant's identity will be respected, if requested;	**For 1.4.2.1:** Interview operating company and review documentation (e.g., meeting minutes, correspondence) to confirm that stakeholders were consulted in the design the operational-level grievance mechanism and associated procedures. Interview stakeholders, including marginalized and vulnerable groups or their advocates, to determine if the resultant mechanism and procedures are culturally appropriate and accessible (i.e., barriers to its use have been addressed). **For 1.4.2.1.a:** Interview the operating company regarding how the company believes it is meeting the effectiveness criteria. Information related to expectations and examples of how companies may meet the effectiveness criteria will be provided in IRMA Detailed Explanatory Notes for Chapter 1.4. **For 1.4.2.1.b, c and d:** Review procedures and interview the operating company to confirm that procedures are in place for the filing, investigation and resolution of complaints, with timeframes; and also procedures to protect confidentiality, and to accommodate requests for filing of	**For 1.4.2.1:** • Grievance mechanism policy, procedure and records. • Documentation of any survey or review carried out to evaluate the effectiveness of the grievance mechanism. • Grievance mechanism policy clause(s) on how potential conflicts of interest will be addressed. • Grievance register or equivalent showing how the complaints and grievances are filed, acknowledged, investigated, and resolved, including general timeframes for each phase. • Copies of grievances that have been lodged to check if how they are handled follow the set procedures. • Complaints and grievance tracking and recording system (e.g. electronic tracking and recording system). • Documentation of consultation with stakeholders (e.g. meeting minutes, attendance registers, videos of the meetings), including marginalized and vulnerable groups or their advocates • Human rights impact assessment.	**Explanatory Note for 1.4.2.1:** Measures of whether or not a mechanism meets the effectiveness criteria might include: (a) Legitimate: The mechanism has been co-designed by stakeholders and is trusted by them (and there are no unresolved complaints that the mechanism is unfair or biased); (b) Accessible: The mechanism is known to all stakeholder groups for whose use it is intended, it is physical accessible, available during times of day that work for all stakeholders, and the mechanism provides various means of filing complaints and does so in formats in languages that work for affected stakeholders; (c) Predictable: There are known procedures and timelines/deadlines for receiving responses from the company when complaints are filed, etc. (d) Equitable: Complainants are provided with resources to understand the grievance procedures/processes and participate in an informed manner; (e) Transparent: Company provides sufficient information about the complaints received, how they were handled, and their outcomes; (f) Rights-Compatible: The mechanism can handle human rights related complaints, allows for confidentiality, and can result in suspension of certain mining project activities if there is a risk of imminent human rights abuses related to those activities;

[66] The *Guiding Principles on Business and Human Rights* have identified that access to remedy for grievances is fundamental to ensuring respect and protection of human rights. (Ruggie, J. 2011. Guiding Principles on Business and Human Rights. A/HRC/17/31. Available at: www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf)

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
d. The ability to file anonymous complaints, if deemed necessary by stakeholders; e. The provision of assistance for those who may face barriers to using the operational-level grievance mechanism, including women, children, and marginalized or vulnerable groups; f. Options for recourse if an initial process does not result in satisfactory resolution or if the mechanism is inadequate or inappropriate for handling serious human rights grievances; and g. How complaints and grievances and their resolutions will be tracked and recorded.	anonymous complaints (if deemed necessary by stakeholders). For 1.4.2.1.e: Confirm that there are procedures or processes in place that remove barriers to filing complaints and seeking remedy. For example, regular meetings with subgroups of the population to create safe spaces to raise concerns and complaints; meeting regularly with children's representatives; providing free telephone hotlines in different languages; etc. For 1.4.2.1.f: Confirm that there are procedures in place for appealing decisions, or seeking alternative methods of dispute resolution (e.g., through third-party mediation) if the initial process for resolving complaints is unsuccessful. Confirm that there are procedures in place for addressing allegations of serious human rights abuses (e.g., alerting appropriate competent authorities, facilitating a complainant's access to independent legal advice such as public defenders or legal NGOs, etc.).		(g) Source of continuous learning: There are scheduled reviews of the mechanism that allow for input from stakeholders; (h) Based on engagement/dialogue: Stakeholders are consulted in the design and performance of mechanism, and dialogue is a primary means to try to address and resolve grievances. For more on designing grievance mechanisms and the UNGP effectiveness criteria, see: • Good Practice Note: Addressing Grievances from Project-Affected Communities.[67] • UN Guiding Principles on Business and Human Rights.[68] • Doing Business with Respect for Human Rights.[69] • Rights-Compatible Grievance Mechanisms: A Guidance Tool for Companies and Their Stakeholders[70] For information on how to make operational-level grievance mechanisms sensitive to the needs of children, see: • Operational-level Grievance Mechanisms Fit for Children.[71]
1.4.2.2. The operating company shall ensure that all complaints and	For 1.4.2.2: Interview relevant operating company staff to confirm that procedures	For 1.4.2.2:	Explanatory Note for 1.4.2.2: In this case, "publicly available" means that procedures should readily accessible on the

[67] IFC. 2009. Good Practice Note: Addressing Grievances from Project-Affected Communities. www.ifc.org/wps/wcm/connect/cbe7b18048855348ae6cfe6a6515bb18/IFC+Grievance+Mechanisms.pdf?MOD=AJPERES&CACHEID=cbe7b18048855348ae6cfe6a6515bb18

[68] Ibid. 33-35.

[69] Global Compact Network Netherlands, Oxfam and Shift. "Doing Business With Respect for Human Rights." See, in particular, Chapter 3.8. https://www.businessrespecthumanrights.org/en/page/349/remediation-and-grievance-mechanisms

[70] John F. Kennedy School of Government, Harvard Univ. 2008. Rights-Compatible Grievance Mechanisms: A Guidance Tool for Companies and Their Stakeholders. https://www.unglobalcompact.org/library/57

[71] UNICEF. 2018. Discussion Paper: Operational-level Grievance Mechanisms Fit for Children. https://www.unicef.org/csr/css/DISCUSSION_PAPER_GRIEVANCES_final.pdf

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grievance procedures are documented and made publicly available.	are documented, and that they are publicly available.	• Documented grievance procedures. • Grievance procedures that are publicly available (e.g., on websites, notice boards etc.).	company's website, and/or be available in hard copy at a public facility (e.g., a public library, government office, etc.) in affected communities, and/or at the operating company's premises. As per Chapter 1.2, requirement 1.2.4.3 requires that communications with stakeholders, including procedures and information shared with them, be in formats (e.g., written materials/video/in person presentations, electronic/hard copy) and languages that are culturally appropriate and understood by stakeholders. Reasonable efforts should be made to make the grievance procedures publicly available in a manner or manners, if need be, that meet the needs of all stakeholders and affected communities. Provision(s) should be made to avail the complaints and grievance procedures to stakeholders to vulnerable groups such as those who are not able to read, persons with disabilities, and others who may not have ready access to the information.
1.4.3. Access to Other Remedy Mechanisms 1.4.3.1. No remedy provided by an operational-level grievance mechanism shall require aggrieved parties to waive their right to seek recourse from the company for the same complaint through other available mechanisms, including administrative, non-judicial or judicial remedies.	**For 1.4.3.1:** Interview relevant operating company staff to ensure that acceptance of remedy through the operational-level mechanism did not require the claimants to waive their rights to seek remedy on the same complaint through other non-judicial or judicial mechanisms. If this practice is alleged, review any relevant documentation and/or interview operating company, affected stakeholders and other relevant parties (e.g., legal advisors, human rights defenders).	**For 1.4.3.1:** • Grievance mechanism procedures. • Employee new hire documentation. • Documentation of grievances filed, handled and resolved. • Documentation of remedies provided or complaint resolution agreements.	Explanatory Note for 1.4.3.1: Companies sometime include waiver clauses in agreements to resolve complaints or, in the case of employees, in requiring them to sign binding arbitration agreements upon hire that restrict their ability to seek judicial remedies in case of a legitimate grievance. The Commentary on Principle 29 of the UN Guiding Principles on Business and Human Rights says that operational level grievance mechanisms "should not be used to preclude access to judicial or other non-judicial mechanisms."[72] The Office of the UN High Commissioner for Human Rights has also written that, "the presumption should be that as far as possible, no waiver should be imposed on any claims

[72] Ruggie. 2011. UN Guiding Principles on Business and Human Rights. http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			settled through a non-judicial grievance mechanism. Nonetheless, and as there is no prohibition per se on legal waivers in current international standards and practice, situations may arise where business enterprises wish to ensure that, for reasons of predictability and finality, a legal waiver be required from claimants at the end of a remediation process. In such instances, the legal waiver should be as narrowly construed as possible, and preserve the right of claimants to seek judicial recourse for any criminal claims."[73] Despite there being no current prohibition on legal waivers in international law, at this time IRMA will not certify mines that use such waivers.
1.4.4. Monitoring and Evaluation 1.4.4.1. Complaints and grievances and their outcomes and remedies shall be documented.	**For 1.4.4.1:** Review documentation and review procedures (if any) related complaints and grievances outcomes and their remedies.	**For 1.4.4.1:** • Grievance procedures. • Documentation of grievances filed, handled and resolved. • Documentation of remedies provided or complaint resolution agreements.	Explanatory Note for 1.4.4.1: Ideally, there will also be procedures in place that outline how complaints and grievance outcomes and remedies are documented, and that designated personnel are aware of these procedures.
1.4.4.2. The operating company shall monitor and evaluate the performance of the operational-level complaints and grievance mechanism over time to determine: a. If changes need to be made to improve its effectiveness as per 1.4.2.1.a; b. If changes in company activities can be implemented to prevent	**For 1.4.4.2.a and b:** Determine how the company integrates information from its monitoring and stakeholder feedback to assess, and if necessary, improve the effectiveness of the grievance mechanism and its own activities. Review records of grievances received and resolved, and other documentation such as stakeholder surveys or consultations seeking feedback on the mechanism. If there have been concerns	**For 1.4.4.2:** • Grievance procedures. • Grievance monitoring and evaluation procedure. • Results of monitoring and evaluation. • Documentation of internal communication of results and any subsequent improvements. • Documentation of remedies provided. • Documentation of any survey or review carried out to evaluate the effectiveness of the grievance mechanism.	Explanatory Note for 1.4.4.2.a and b: Monitoring and evaluation should include a periodic review of the actual handling of grievances as compared to the company's grievance procedures (e.g., were all grievances documented, were they responded to in a timely manner, were remedies provided in a rights-compatible manner). Monitoring and evaluation by the operating company could include surveys of local stakeholders that include questions related to the effectiveness and appropriateness of the grievance mechanism.

[73] Office of the High Commissioner for Human Rights. 2013. Re: Allegations regarding the Porgera Joint Venture remedy framework. http://www.ohchr.org/Documents/Issues/Business/LetterPorgera.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
or mitigate similar grievances in the future; and c. If outcomes and remedies provided through the mechanism accord with internationally recognized human rights.	or problems with the mechanism identified through stakeholder feedback, especially particular trends (e.g., specific types of grievances, or grievances from particular stakeholder groups) determine if the company and stakeholders have been able to resolve these issues (e.g., by making changes to the mechanism or procedures). For 1.4.4.2.c: Confirm through interviews and document review that the company reviews grievances to ensure that outcomes and remedies accord with internationally recognized human rights.		Also, a review and analysis of grievance data may help to identify trends in types of grievances (E.g., a cluster of noise complaints near a particular area of the mine site), which in turm may inform where a company might want to focus mitigation and stakeholder engagement efforts. Explanatory Note for 1.4.4.2.c: The Corporate Social Responsibility Initiative has produced information to help companies and stakeholders understand why grievance mechanisms should be rights-compatible and more information on why and how remedies can accord with international human rights.[74]
1.4.4.3. Stakeholders shall be provided with clearly communicated opportunities to submit feedback on the performance of the complaints and grievance mechanism.	For 1.4.4.3: Confirm with relevant operating company staff that stakeholders were provided opportunities to contribute feedback on the performance of the mechanism (including its procedures).	For 1.4.4.3: • Grievance procedures. • Documentation of communications with stakeholders (e.g., meeting minutes, correspondence, etc.) related to opportunities to provide of feedback on the grievance mechanism. • Documentation of stakeholder feedback on the performance of the grievance mechanism, and company responses. • Documentation of any survey or review carried out to evaluate the effectiveness of the grievance mechanism. • Documentation of how stakeholder feedback has been used to make improvements.	
1.4.5. Communications	For 1.4.5: Interview relevant operating company staff, and review any materials	For 1.4.5.1: • Grievance mechanism procedures.	Explanatory Note for 1.4.5.1: Reasonable step should include outreach to stakeholders using a variety of strategies

[74] Corporate Social Responsibility Initiative (CSRI). 2008. Rights-Compatible Grievance Mechanisms - A Guidance Tool for Companies and Their Stakeholders. pp. 7 to 9, 26, and 35 to 37. https://sites.hks.harvard.edu/m-rcbg/CSRI/publications/Workingpaper_41_Rights-Compatible%20Grievance%20Mechanisms_May2008FNL.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.4.5.1. The operating company shall take reasonable steps to inform all stakeholders of the existence of the operational-level complaints and grievance mechanism, its scope, and its procedures.	used to inform or educate affected communities and stakeholders of the operational-level grievance mechanism and procedures. Interview stakeholders, including marginalized and vulnerable groups or their advocates, to determine their level of knowledge related to the grievance mechanism. Review documentation such as stakeholder surveys that include questions on stakeholder knowledge of a grievance mechanism. For 1.4.5.1: Interview a sample of stakeholders to confirm that they were made aware of the existence of the grievance mechanism and the scope of concerns/grievances that it is meant to handle (e.g., does it include human rights related complaints; those related to resettlement, if relevant; etc.); they received information on procedures in formats and languages that were accessible and understandable to them, and in a timely and culturally appropriate manner as per the communications requirements in IRMA Chapter 1.2; they were informed of any procedures to protect confidentiality and remove barriers to their access to using the grievance mechanism.	• Documentation of communications with stakeholders (e.g., meeting minutes, correspondence, etc.) and other outreach (e.g., advertisements, public notices, etc.) to inform them of the grievance mechanism. • Documentation of any survey or review carried out to evaluate the effectiveness of the grievance mechanism.	such as: including information on the complaints and grievance mechanism in company materials that are distributed in the community, at public meetings, on the radio, on the mining project web site, etc., as well as informing key community leaders about the mechanism so that they can inform other community members. Additionally, provision(s) should be made to avail the complaints and grievance procedures to stakeholders who are not able to read and to vulnerable groups such as persons with disabilities. As per IRMA Chapter 1.2, communications must be in formats and languages that are culturally appropriate, accessible and understandable to affected stakeholders. See criterion 1.2.4 for more details.
1.4.5.2. The operating company shall neither state nor imply that	For 1.4.5.2: Interview a sample of stakeholders to confirm that they were	For 1.4.5.2: • Grievance mechanism procedures.	Explanatory Note for 1.4.5.2: There may be other mechanisms that are not operated by the company through

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
participation in an operational level grievance mechanism precludes the stakeholder from seeking redress through administrative, judicial or other non-judicial remedies.	made aware of the right to use alternative mechanisms for resolving grievances.	• Documentation of communication of grievance mechanism to stakeholders.	which stakeholders or rights holders can seek recourse (e.g., administrative, judicial and non-judicial remedies, indigenous peoples' traditional or customary dispute resolution processes, etc.). These alternative options should be mentioned to stakeholders, in particular those who lodge human-rights-related grievances with the company. See also the Explanatory Note for 1.4.3.1.
1.4.5.3. The operating company shall inform relevant personnel who interact with stakeholders of the proper procedures for handling stakeholder complaints and grievances, and ensure that personnel directly involved in the operational-level mechanism receive instruction on the respectful handling of all complaints and grievances, including those that may appear frivolous.	For 1.4.5.3: Interview relevant operating company staff to confirm that procedures are in place for handling any complaints, including those that may be brought to their attention through channels that are outside of the operational-level mechanism, and that staff and contractors are aware of these procedures; and that they have been adequately trained and/or informed of the respectful handling of complaints or grievances.	For 1.4.5.3: • Grievance procedures. • Personnel training materials. • Documentation of complaints and grievances filed by stakeholders. • Documentation of company responses to grievances. • Documentation of any survey or review carried out to evaluate the effectiveness of the grievance mechanism.	Explanatory Note for 1.4.5.3: Relevant personnel would include both company personnel and contractors to whom a stakeholder might want to express a concern or complaint about the mining project (E.g., community liaison personnel, management staff who give public presentations, administrative office staff who answer phones, etc.). As per Chapter 1.1, requirement 1.1.4.1. "The operating company shall demonstrate that it takes appropriate steps to ensure compliance with the IRMA Standard by contractors engaged in activities relevant to the mining project." So if there are contractors that may interact with mining project stakeholders, they should also be informed of the operating company's grievance procedures for handling stakeholder complaints.
1.4.6. Reporting 1.4.6.1. Periodically, the operating company shall report to stakeholders on grievances received and responses provided. This shall be done in a manner that protects the confidentiality and safety of those filing grievances.	For 1.4.6.1: Interview relevant operating company staff to determine how they report to stakeholders on the grievances received through the operational-level grievance mechanism, and how they protect confidentiality/safety of those filing grievances. Review any documentation related to the company's reporting. Confirm with stakeholders that they are aware of the grievance reporting.	For 1.4.6.1: • Grievance mechanism procedures (confidentiality clauses). • Documentation of grievances filed, handled and resolved. • Documentation of reporting to stakeholders on grievances received and responses provided (e.g., meeting minutes, correspondence, etc.). • Documents showing that the reporting of grievances received, and responses provided is being done within	Explanatory Note for 1.4.6.1: The period (time frame) for reporting to stakeholders on grievances received and responses provided should be defined when designing the grievance mechanism (1.4.2.1) and should be included in the grievance procedures (1.4.2.2).

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
		the set time frames.	

NOTES

This chapter uses as its basis the effectiveness criteria UN Guiding Principles on Business and Human Rights, i.e., that a grievance mechanism be: (a) Legitimate, (b) Accessible, (c) Predictable, (d) Equitable, (e) Transparent, (f) Rights-compatible, (g) A source of continuous learning, and (h) Based on engagement and dialogue.[75]

This chapter does not pertain to grievances related to IRMA certification. IRMA is in the process of developing its own grievance mechanism, which will enable stakeholders to raise concerns about issues pertaining to IRMA certification of a particular mining project, as well as the IRMA certification system more generally.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.2—Community and Stakeholder Engagement	Engagement with stakeholders in the design and monitoring of the grievance mechanism shall conform to the requirements in Chapter 1.2 Community and Stakeholder Engagement. In particular, during the design of the mechanism (requirement 1.4.2.1) attention should be paid to conforming with Chapter 1.2, Criterion 1.2.3. Strengthening Capacity (i.e., ensuring those participating have the capacity to do so in a meaningful way); and during any communications with stakeholders, including reporting, the company shall adhere to the communications requirements in 1.2.4.
Multiple chapters that mention grievance mechanisms	Grievance mechanisms are explicitly stated as requirements with regard to workers (Chapter 3.1), human rights (Chapter 1.3), mine security (Chapter 3.5), stakeholder engagement (Chapter 1.2) and resettlement (Chapter 2.4). However, even when not explicitly stated in a chapter, it is expected that access to the operational-level grievance mechanism and other remedies will be provided throughout the project's life to grievances related to any issues of stakeholder concern with the mining project. It is possible that one grievance mechanism may be suitable to address all types of grievances raised in relation to the mining project, including workers, although typically labor grievances are dealt with through a separate mechanism established through collective bargaining agreements or human resources policies. Or more than one mechanism or approach to addressing complaints and grievances may be deemed necessary to meet the needs of affected communities and stakeholders. If a company decides to create multiple grievance mechanisms, all of them shall meet the requirements of this chapter.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Accessible

Means being known to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access.

Affected Community

A community that is subject to risks or impacts from a project.

Competent Authority

The government department or other authority having power to issue and enforce regulations, orders or other instructions having the force of law in respect of the subject matter of the provision concerned.

[75] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. A/HRC/17/31. See Principle 31. Available at: www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf)

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Contractor

An individual, company, or other legal entity that carries out duties subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Equitable

Means seeking to ensure that aggrieved parties have reasonable access to sources of information, advice and expertise necessary to engage in a grievance process on fair, informed and respectful terms.

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which mining-project-related complaints or grievances, including business-related human rights abuses stakeholder complaints, and/or labor grievances, can be raised and remedy can be sought.

Human Rights Defenders

Any person or group of persons working to promote human rights and contributing to the effective elimination of all violations of human rights and fundamental freedoms of peoples and individuals. Defenders can be of any gender, of varying ages, from any part of the world and from all sorts of professional or other backgrounds, i.e., not only found within NGOs and intergovernmental organizations but might also, in some instances, be government officials, civil servants or members of the private sector and individuals working within their local communities.

Indigenous Peoples

An official definition of "indigenous" has not been adopted by the United Nations system due to the diversity of the world's indigenous peoples. Instead, a modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Inform

The provision of information to inform stakeholders of a proposal, activity or decision. The information provided may be designed to help stakeholders in understanding an issue, alternatives, solutions or the decision-making process. Information flows are one-way. Information can flow either from the company to stakeholders or vice versa.

Legitimate

Means enabling trust from the stakeholder groups for whose use they are intended, and being accountable for the fair conduct of grievance processes.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Predictable

Means providing a clear and known procedure with an indicative time frame for each stage, and clarity on the types of process and outcome available and means of monitoring implementation.

Remediation/Remedy (including in relation to human rights impacts):

Remediation and remedy refer to both the processes of providing remedy for an (adverse human rights) impact and the substantive outcomes that can counteract, or make good, the adverse impact. These outcomes may take a range of forms, such as apologies, restitution, rehabilitation, financial or non-financial compensation, and punitive sanctions (whether criminal or administrative, such as fines), as well as the prevention of harm through, for example, injunctions or guarantees of non-repetition.

Rights Holder

Rights holders are individuals or social groups that have particular entitlements in relation to specific duty bearers (e.g., State or non-state actors that have a particular obligation or responsibility to respect, promote and realize human rights and abstain from human rights violations). In general terms, all human beings are rights-holders under the Universal Declaration of Human Rights. In particular contexts, there are often specific social groups whose human rights are not fully realized, respected or protected.

Rights-Compatible

Means ensuring that outcomes and remedies accord with internationally recognized human rights.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Source of Continuous Learning

Means drawing on relevant measures to identify lessons for improving the mechanism and preventing future grievances and harms.

Transparent

Means keeping parties to a grievance informed about its progress, and providing sufficient information about the mechanism's performance to build confidence in its effectiveness and meet any public interest at stake.

Worker

All non-management personnel.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 1.5—Revenue and Payments Transparency

BACKGROUND

Revenues derived from the extraction of a country's mineral resources can make a major contribution to funding public services and other valuable government activities. However, where citizens have limited knowledge of revenues paid by natural resource companies the chances of theft or inappropriate usage of revenues from extractives companies grows. Increased transparency of material payments to and revenues received by the host country government is an essential step toward addressing this matter.

The Extractive Industries Transparency Initiative (EITI) is a global coalition of governments, companies and civil society working together to improve openness and accountable management of revenues from natural resources, allowing citizens to see for themselves how much their government is receiving from their country's natural resources. The EITI is complemented and extended by mandatory transparency regimes enacted into law in the European Union and other jurisdictions. The IRMA Standard is intended to support, without duplicating, the work of the EITI and mandatory transparency regimes.

TERMS USED IN THIS CHAPTER

Beneficial Owner ■ Confidential Business Information ■ Contractors ■ Corporate Owner(s) ■ Grievance ■ Grievance Mechanism ■ Host Country Law ■ Indigenous Peoples ■ In Kind Payments ■ International Accounting Standards ■ Material Payments ■ Mining Project ■ Operating Company ■ Stakeholder ■ Worker ■ Workers' Representatives ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To increase transparency of mining related payments and provide communities and the general public with the information they need to understand and assess the fairness of financial arrangements related to mining operations.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is applicable to all mines applying for IRMA certification.

The requirements apply to compliance at the time of assessment, and on an ongoing basis thereafter. The information provided does not have to be backdated to cover activity prior to the application, with the exception of requirement 1.5.3.1. In relation to this requirement the terms for mineral exploration, development and production for the project must be made freely and publicly accessible for the whole period of project development up to the time of application and thereafter.

CRITICAL REQUIREMENTS IN THIS CHAPTER

The operating company has developed, documented and implemented policies and procedures that prohibit bribery and other forms of corruption by employees and contractors (1.5.5.1).

Revenue and Payments Transparency Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.5.1. Disclosure of Country-Level Payments	**For 1.5.1.1:** Interview operating company and review operating company documentation to confirm compliance	**For 1.5.1:** • Documentation of revenue and payments reporting and disclosure for	**Explanatory Note for 1.5.1:** The criterion requires that an operating company demonstrate how it meets the requirements specified in the

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.5.1.1. The operating company shall comply with 1.5.1.2 and 1.5.1.3, and/or demonstrate how it complies with equivalent reporting and disclosure requirements of the European Union Accounting Directive (2013/34/EU) and the European Union Transparency Directive (2013/50/EU), or an equivalent mandatory transparency regime.[76]	with EU or equivalent transparency regime, or the IRMA requirements. Sources of relevant information may include information published on operating company or corporate owner and/or relevant government website(s).	EU or other mandatory transparency regime. • Voluntary public reporting of revenue and payments that meets EU or other mandatory transparency regime requirements (e.g., in a sustainability report, financial report, Extractive Industry Transparency Initiative (EITI) report filed with a national government).	referenced legislation (EU or equivalent mandatory transparency regime) whether or not that legislation is legally applicable. As per IRMA Chapter 1.1, if a host country law pertains to mandatory transparency of payments or other information covered in Chapter 1.5, the company is required to abide by that law. • If the mandatory transparency scheme is essentially equivalent to the IRMA Standard requirements (e.g., EU, Norway, Canada) then the company will only need to meet host country law. • If IRMA requirements are more stringent than a host country's mandatory transparency regime (e.g., the host country does not require reporting on a project level, etc.), the company is required to also meet the IRMA requirements, as long as such compliance would not require the operating company to break host country law. The onus is on the operating company that is applying for IRMA certification to demonstrate to the certification body compliance with 1.5.1 and/or how it meets the relevant requirements of the implementing legislation for the EU Accounting and Transparency Directives or equivalent national legislation (e.g. Canadian, UK or Norwegian rules on corporate payments transparency). A simple statement of compliance, or statement that it has not been found guilty of non-compliance would not be sufficient.
1.5.1.2. On a yearly basis, the operating company shall publish a report that discloses all material payments made by itself and its corporate owner to the government of the country in which the mining project is located. The report shall be	For 1.5.1.2: Confirm that the report has been made public within the 12 months of the company's financial year. The information may be made publicly available on the company and/or appropriate government website(s).	For 1.5.1: • Documentation of revenue and payments reporting and disclosure for EU or other mandatory transparency regime. Voluntary public reporting of revenue and payments that meets EU or other	Explanatory Note for 1.5.1.2: If the operating company is a subsidiary of a larger corporation, and the mining project is located in a country that is implementing EITI or its own mandatory transparency regime, it is likely that country-level reporting is already being carried out by the operating company's parent company/corporate owner (not the operating company itself). If this is the case, then the operating company may offer its corporate

[76] The European Union Accounting Directive 2013/34/EU is available at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32013L0034&qid=1524171176636 and the European Union Transparency Directive 2013/50/EU is available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1415872329209&uri=CELEX:32013L0050.

Equivalent transparency regimes include, for example: Government of Canada. 2015. Extractive Sector Transparency Measures Act. http://laws-lois.justice.gc.ca/eng/acts/E-22.7/page-1.html; Ministry of Finance. 2013. Regulations on country-by-country reporting. Available at: http://www.publishwhatyoupay.no/en/node/16414; and UK Government .2014. The Reports on Payments to Governments Regulations 2014. http://www.legislation.gov.uk/uksi/2014/3209/pdfs/uksi_20143209_en.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
made public within 12 months after the end of each financial year.[77]		mandatory transparency regime requirements (e.g., in a sustainability report, financial report, Extractive Industry Transparency Initiative (EITI) report filed with a national government).	owner country-level reporting as evidence of compliance with this requirement. The information may be made publicly available on the company and/or appropriate government website(s).
1.5.1.3. The types of payment disclosed shall include as a minimum, as applicable: a. The host government's production entitlement; b. National state-owned enterprise production entitlement; c. Profits taxes; d. Royalties; e. Dividends; f. Bonuses, such as signature, discovery and production bonuses; g. Licence fees, rental fees, entry fees and other considerations for licences and/or concessions; h. Payments for infrastructure improvements; and i. Any other significant payments and material benefits to government, including in kind payments.[78]	For 1.5.1.3: Interview operating company and review company documentation to confirm compliance with EU or equivalent transparency regime, or the IRMA requirements. Confirm that disclosures include, at minimum, the information in 1.5.1.3.a-i.	For 1.5.1: • Documentation of revenue and payments reporting and disclosure for EU or other mandatory transparency regime. • Voluntary public reporting of revenue and payments that meets EU or other mandatory transparency regime requirements (e.g., in a sustainability report, financial report, Extractive Industry Transparency Initiative (EITI) report filed with a national government).	Explanatory Note for 1.5.1.3: Requirement 1.5.1.3 is meant to align with EITI Requirement 4 in the EITI Standard.[79] There is overlap between this requirement and other IRMA chapters: • Information gathered to fulfill requirements in IRMA Chapter 3.4 (e.g., 3.4.2.2.b, 3.5.3.1) may feed into the reporting requirements in 1.5.1.3 regarding payments to governments. • Similarly, the security risk assessment in IRMA Chapter 3.5 may reveal information related to payments made to public security forces at the mine site or along transportation routes that will need to be disclosed as country-level payments to governments. Re: 1.5.3.1.g, "other considerations for licences and/or concessions" includes facilitation payments. Facilitation payments have been defined as: "A payment made to a government official to facilitate approval of some type of business transaction or activity. In some countries, small facilitation payments are considered unofficial fees rather than bribes, but most countries do not make this distinction."[80] In some countries facilitation payments are illegal, and if operating in these countries mines must refrain from making such payments (as per IRMA's Chapter 1.1 on legal compliance) Where legal, at minimum mining companies should disclose these payments. (See for example ICMM's new performance expectations[81]). Some organizations like Transparency International advocate for cessation

[77] The information may be made publicly available on the company and/or appropriate government website(s).

[78] An example of "other significant payments" is transportation revenue. According to EITI Standard, Section 4.4, transportation revenue may include revenue from taxes, tariffs or other relevant payments related to transport of mined commodities). Social expenditures made by companies may be an example of material payments and/or benefits to governments (see EITI requirement 6.1).

[79] The Extractive Industries Transparency Initiative (EITI). EITI Standard. 2016. Requirement 4. "Revenue Collection." https://eiti.org/document/standard#r4

[80] Business Dictionary. "Facilitation payment." http://www.businessdictionary.com/definition/facilitation-payment.html

[81] International Council on Mining and Metals. 2018. Performance Expectations. https://www.icmm.com/website/publications/pdfs/commitments/181126_performance-expectations.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			of all such payments.[82] For information on whether or not facilitation payments are legal, see, for example, the country profiles in the GAN Business Anti-Corruption Portal.[83] Re: 1.5.3.1.h, according to EITI, the exploration, extraction, transformation, and transport of mineral resources often requires large scale and long-term investments. In some cases, resource rich countries with limited access to capital and credit are considering "package deals" to develop their infrastructure in exchange for their natural resources. The infrastructure projects may include railways, roads, ports, power plants, schools and hospitals. These agreements are interchangeably called: "infrastructure provisions", "barter agreements", "minerals for infrastructure".[84] Re: 1.5.1.3.i, an example of "other significant payments" is transportation revenue. According to EITI Standard, Section 4.4, transportation revenue may include revenue from taxes, tariffs or other relevant payments related to transport of mined commodities. [85] Social expenditures made by companies may be an example of "material payments and/or benefits" to governments. According to EITI, social expenditures are contributions made by extractive companies to regional or local governments, communities, NGOs or other third parties in the areas where they operate. These contributions are in addition to taxes levied by central, regional and local governments. Social expenditures can take multiple forms, and may involve cash payments such as donations, grants or other types of cash transfers, the transfer of assets such as the construction of roads or schools, or the provision of services like training and health care. In some cases, these social expenditures are based on legal or contractual obligations. In other cases, companies make voluntary social contributions.

[82] Transparency International website. "Facilitation Payments." https://www.transparency.org/glossary/term/facilitation_payments

[83] GAN website. Business Anti-Corruption Portal. Country Profiles. https://www.ganintegrity.com/portal/country-profiles/

[84] The Extractive Industries Transparency Initiative (EITI). 2015. Guidance note 15 on infrastructure provisions and barter arrangements. https://eiti.org/document/guidance-note-on-infrastructure-provisions-barter-arrangements

[85] The Extractive Industries Transparency Initiative (EITI). Glossary. https://eiti.org/glossary. See also, EITI Standard. 2016. Requirement 4.4 "Transportation Revenues." https://eiti.org/document/standard#r4-4

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			These transactions can also be called "corporate social responsibility", "social payments", or "social investments". [86] "In-kind payments" are payments made to a government (e.g. royalty) in the form of the actual commodity (minerals) instead of cash. In many resource-rich countries, payments by companies to the government for rights to extract resources happen in-kind, meaning through physical transfers of oil, gas and minerals, rather than transfers of money.[87]
1.5.1.4. At minimum, this information shall be broken down by recipient government body (where applicable), by project (where applicable), and by payment type.	For 1.5.1.4: Confirm that disclosures are broken down by payments to government bodies, project and payment type. If they are not broken down, confirm that this is because it was either not required by the equivalent mandatory transparency regime, or because there was no reason to break down the numbers (e.g., payments were only made to one government body, or the company only had one project, etc.).	For 1.5.1: • Documentation of revenue and payments reporting and disclosure for EU or other mandatory transparency regime. • Voluntary public reporting of revenue and payments that meets EU or other mandatory transparency regime requirements (e.g., in a sustainability report, financial report, Extractive Industry Transparency Initiative (EITI) report filed with a national government).	Explanatory Note for 1.5.1.4: This requirement applies to information reported in 1.5.1.1 and 1.5.1.2. Recipient government bodies may be national or subnational. Where transfers occur between national and subnational government entities, the end-receiving subnational agency should be listed. If there is more than one mining project in the country, payments should be disaggregated by mining project. Payment types are listed in 1.5.1.3 (or delineated in EU or other mandatory transparency regimes).
1.5.2. Disclosure of Project-Level Payments 1.5.2.1. The operating company shall demonstrate its compliance with the reporting requirements specified in Chapter 10 of the European Union Directive 2013/34/EU or an	For 1.5.2.1 and 1.5.2.2: Review company documentation. Sources of relevant information may include information published on operating company or corporate owner and/or relevant government website(s).	For 1.5.2: • Documentation of project-level revenue and payments reporting and disclosure for EU or other mandatory transparency regime. • Extractive Industry Transparency Initiative (EITI) report filed with a	Explanatory Note for 1.5.2.1: For the purposes of this requirement, at the present time it appears that Canada is the only country that has a mandatory transparency regime (law) with project-level payment disclosures that are equivalent to EU's 2013 Accounting Directive.[89] Additionally, jurisdictions that are members of the EU and have implemented the EU Directives would qualify as being equivalent. (This includes the UK)

[86] The Extractive Industries Transparency Initiative (EITI). EITI Standard. 2016. Requirement 6.1. " Social expenditures by extractive companies." https://eiti.org/document/standard#r6-1

[87] The Extractive Industries Transparency Initiative (EITI). Glossary. https://eiti.org/glossary. See also, Guidance on the sale of the state's share of production or other revenues collected in kind (4.2), including commodity trading. https://eiti.org/guide/in-kind

[89] European Commission. 2018. Review of Country-by-country Reporting Requirements for Extractive and Logging Industries. p. 51. https://ec.europa.eu/info/sites/info/files/business_economy_euro/company_reporting_and_auditing/documents/181126-country-by-country-reporting-extractive-logging-industries-study_en.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
equivalent mandatory transparency regime,[88] and/or shall comply with the requirements listed under 1.5.2.2 below.		national government that contains project-level reporting. • Other public reporting (e.g., in a sustainability report, financial report) of project-level revenues and payments.	Some countries that are implementing EITI may also be considered as equivalent. For example, as of May 2017 Indonesia, Philippines and Trinidad and Tobago were three EITI implementing countries that were found to include project-level reporting consistent with the EU definition.[90] As a result, at the present time, if companies are voluntarily participating in the EITI programs in Indonesia, Philippines and Trinidad and Tobago, and are meeting the EITI project-level reporting requirements, then that will be viewed as equivalent to the project-level reporting requirements of EU.[91] IRMA participants and stakeholders are welcome to provide input to IRMA if they believe there are other mandatory transparency regimes or EITI country programs that are essentially equivalent to the EU requirements for project-level reporting. The operating company is expected to demonstrate how it meets the requirements specified in the referenced legislation whether or not that legislation is legally applicable. The onus is on the operating company that is applying for IRMA certification to demonstrate to the certification body compliance with Chapter 10 of the EU Accounting Directive or equivalent national legislation (e.g. Canadian, UK).[92] A simple statement of compliance, or statement that it has not been found guilty of non-compliance would not be sufficient.

[88] The European Union Accounting Directive 2013/34/EU is available at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32013L0034&qid=1524171176636.

Equivalent transparency regimes include, for example: Government of Canada. 2015. Extractive Sector Transparency Measures Act. http://laws-lois.justice.gc.ca/eng/acts/E-22.7/page-1.html; Ministry of Finance. 2013. Regulations on country-by-country reporting. Available at: http://www.publishwhatyoupay.no/en/node/16414; and UK Government .2014. The Reports on Payments to Governments Regulations 2014. http://www.legislation.gov.uk/uksi/2014/3209/pdfs/uksi_20143209_en.pdf

[90] Extractive Industries Transparency Initiative (EITI). May 2017. Project-Level Reporting Practices in the EITI. https://eiti.org/document/projectlevel-reporting-practices-in-eiti

[91] See EITI Sept. 2017 for reporting templates for these three countries. (EITI. Sept. 2017. Guidance Note 29 on Project-Level Reporting, Including Reporting Templates. https://eiti.org/GN29)

[92] The European Union Accounting Directive 2013/34/EU is available at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32013L0034&qid=1524171176636.

Equivalent transparency regimes include, for example: Government of Canada. 2015. Extractive Sector Transparency Measures Act. http://laws-lois.justice.gc.ca/eng/acts/E-22.7/page-1.html; and UK Government .2014. The Reports on Payments to Governments Regulations 2014. http://www.legislation.gov.uk/uksi/2014/3209/pdfs/uksi_20143209_en.pdf and 2015. Reports on Payments to Governments (Amendment) Regulations. http://www.legislation.gov.uk/uksi/2015/1928/contents/made

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.5.2.2. The operating company shall ensure that the following information at the mining project level is reported on an annual basis and is readily accessible to the public: a. Mine production, disaggregated by product type and volume; b. Revenues from sales, disaggregated by product type; c. Material payments and other material benefits to government as listed in paragraph 1.5.1.3, disaggregated according to the receiving government entity (e.g. national, regional, local entity; name of government department); d. Social expenditures, including the names and functions of beneficiaries; e. Taxes, tariffs or other relevant payments related to transportation of minerals; f. Payments to politicians' campaigns, political parties or related organizations; and g. Fines or other similar penalties that have been issued in relation to the project.	**For 1.5.2.1 and 1.5.2.2:** Review company documentation. Sources of relevant information may include information published on operating company or corporate owner and/or relevant government website(s).	**For 1.5.2:** • Documentation of project-level revenue and payments reporting and disclosure for EU or other mandatory transparency regime. • Extractive Industry Transparency Initiative (EITI) report filed with a national government that contains project-level reporting. • Other public reporting (e.g., in a sustainability report, financial report) of project-level revenues and payments.	Explanatory Note for 1.5.2.2: This requirement is meant to align with reporting provisions in the EITI Standard and be consistent with the EU Directive. **Threshold of application:** The EU Accounting Directive does not currently require companies to include in their reports projects for which no single payment or series of related payments reached the €100,000 reporting threshold within a financial year. So €100,000 (or its equivalent in the currency of the host country) shall apply to 1.5.2.2 also. In other words, if a mining project does not make payments to governments in excess of €100,000, this requirement is not relevant. Payments include those that are made in money or in kind to national, regional and local governments, and state-owned organizations. Mines may, of course, opt to disclose payments even if the total payments do not add up to €100,000. **Types of payments:** EITI Guidance states that: "In addition to company (and government) reporting of payments (receipts) on a project-by-project basis, the EITI Standard has a number of provisions that include the phrase: "commensurate with the reporting of other payments and revenue streams (EITI Standard requirement 4.7)," which implies project-level disclosures. This concerns reporting of the sale of the state's share of production or other revenues collected in kind (requirement 4.2), infrastructure provisions and barter arrangements (requirement 4.3), transportation revenues (requirement 4.4), social expenditures by extractive companies (requirement 6.1), and quasi-fiscal expenditures by SOEs (requirement 6.2).[93] See also Explanatory note for 1.5.1.3 for more details on what should be included in reporting on payments to governments, social expenditures, etc. "Readily accessible to the public" means information should be available to all interested parties without them having to make a special request for the information. For example, it should be available on a company website, or on a government website that is linked to from company materials.

[93] Extractive Industries Transparency Initiative (EITI). Sept. 2017. Guidance Note 29 on Project-Level Reporting, Including Reporting Templates. https://eiti.org/GN29

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			Explanatory Note for 1.5.2.2.c: If relevant, due diligence related to operating in conflict-affected or high-risk areas (see IRMA Chapter 3.4, requirements 3.4.2.2.b, 3.5.3.1) may feed into the reporting requirements 1.5.2.2 regarding project-level payments to governments. Similarly, the security risk assessment in IRMA Chapter 3.5 may reveal information related to payments made to public security forces at the mine site or along transportation routes that will need to be disclosed as project-level payments to governments. Explanatory Note for 1.5.2.2.d: Social expenditures include in-kind expenditures. Reporting of social expenditures does not include expenditures agreed upon with affected indigenous peoples' governing bodies (e.g., "impact and benefit" or similar agreements reached through the process of Free, Prior and Informed Consent (see IRMA Chapter 2.2). Those expenditures may be reported if agreed by the indigenous peoples.
1.5.2.3. The operating company shall publish annual accounts, following international accounting standards.	For 1.5.2.3: Review annual accounts. Confirm that they have been completed following international accounting standards.	For 1.5.2: • Documentation of project-level revenue and payments reporting and disclosure for EU or other mandatory transparency regime. • Extractive Industry Transparency Initiative (EITI) report filed with a national government that contains project-level reporting. • Other public reporting (e.g., in a sustainability report, financial report) of project-level revenues and payments.	Explanatory Note for 1.5.2.3: The most widely used international accounting standards are probably the International Financial Reporting Standards (IFRS) developed by the International Accounting Standards Board (IASB) and International Federation of Accountants.[94] More than 90 countries now require the financial statements of publicly traded companies to be prepared in accordance with the IASB's International Financial Reporting Standards.[95] Some countries have their own national accounting standards, and at least in some cases efforts are being made to harmonize these with the IASB's standards.[96]

[94] Financial Accounting Standards Board (FASB) website: "Comparability in International Accounting Standards." https://www.fasb.org/jsp/FASB/Page/BridgePage&cid=1176166128698

[95] Georgetown Law website: "International Accounting and Auditing Standards." http://guides.ll.georgetown.edu/accounting/international-standards

[96] International Financial Reporting Standards website. https://www.ifrs.org/

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.5.3. Support for the Extractive Industries Transparency Initiative (EITI) 1.5.3.1. If the mining project is located in a country without a mandated transparency regime, the operating company shall demonstrate support for the EITI by publishing a clear public statement endorsing the EITI Principles on its external website.	**For 1.5.3.1:** If relevant, review copy of public statement.	**For 1.5.3.1:** Public statement endorsing the EITI principles.	**Explanatory Note for 1.5.3.1:** This requirement is relevant if the company is located in a country without a mandated transparency regime, and EITI is not active in that country at the time. The intent of this requirement is that responsible mining companies should be generally supportive of efforts that will lead to increased revenue and payments transparency in countries that have not yet adopted mandatory transparency regimes. Support for the Extractives Industries Transparency Initiative's (EITI) Principles is a clear way to demonstrate that the operating company is in support of increased transparency.
1.5.3.2. If the mining project is located in a country without a mandated transparency regime and the EITI is active in that country, the operating company shall: a. Commit to engage constructively with and support implementation of the EITI consistent with the multi-stakeholder process adopted in its country of operation; and b. Provide links on its external website to completed and up-to-date Company Forms for its operation, if the EITI implementing country has completed at least one validation.	**For 1.5.3.2:** If relevant: • Interview company to determine level of engagement with the EITI in the country of operation • Confirm that there are personnel with strategic and communications responsibility related to the EITI • Review company forms to ensure that they are up to date and publicly available	**For 1.5.3.2:** • Public statement endorsing EITI principles. • Documentation of Supporting Company Form submitted to EITI. • Documentation of involvement with country-level EITI activities.	**Explanatory Note for 1.5.3.2:** This requirement is relevant if the company is located in a country without a mandated transparency regime, and EITI is not active in that country at the time. The intent of this requirement is that responsible mining companies should be supportive of specific efforts that will lead to increased revenue and payments transparency in host countries that have not yet adopted mandatory transparency regimes. Engagement with the Extractive Industries Transparency Initiative (EITI) is a clear way to demonstrate that the operating company is committed to the practice of revenue and payments transparency. Additionally, according to EITI, "Extractive companies operating in countries implementing the EITI benefit from enhanced relations with stakeholders and local communities, better risk management, improved company reputation and the opportunity to demonstrate industry leadership."[97] Supporting Company Forms can be found on the EITI website.[98]

[97] Extractive Industries Transparency Initiative (EITI) website: "Company Support of EITI" https://eiti.org/company-support-of-eiti

[98] Extractive Industries Transparency Initiative (EITI) website: "EITI Supporting Company Form." https://eiti.org/files/document/eiti-supporting-company-form

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
1.5.4. Operating Company Transparency 1.5.4.1. The material terms for mineral exploration, development and production agreed between the operating company and government entities shall be freely and publicly accessible, with the exception of confidential business information,[99] in the national language(s) of the country in which the mining project is located. a. Where these terms are negotiated, rather than governed by law, the company shall make the relevant agreements, licences or contracts freely and publicly accessible. b. Where these terms are governed by law, free, public access to the relevant statutory documentation is deemed sufficient to meet the IRMA requirement.	**For 1.5.4.1:** Confirm public availability of relevant agreements and contracts, e.g., concession agreements, licensing agreements, production sharing agreements, service agreements.	**For 1.5.4.1:** • Publicly accessible documentation on material terms or full contract (e.g., on company or government website; in publicly available company documents). • Stakeholder requests for contracts, and company responses.	Explanatory Note for 1.5.4.1: It has become the norm among EITI-implementing countries to disclose the contracts and licenses that lay out the terms for resource exploitation.[100] However, as per IRMA Chapter 1.1, if host country law prohibits certain actions, such as publishing contracts, companies are not expected to contravene host country law (i.e., will not be expected to publish the information). Companies may choose to use platforms such as the Resource Contracts website, as long as those platforms allow free and public access to the contract information.[101] "Material terms" include any contract, concession, production-sharing agreement or other agreement granted by, or entered into by, the government which provides the terms attached to the exploitation (exploration, development or production) of mineral resources or any license, lease, title or permit by which a government confers on the company rights to exploit mineral resources. Confidential business information that is not material to the terms for mineral exploration, development and production may be excluded or redacted from the publicly accessible documentation as necessary.
c. 1.5.4.2. The beneficial ownership of the operating company shall be publicly accessible.	**For 1.5.4.2:** Review publicly available information on beneficial ownership (e.g., a company register: showing company name, proof of incorporation, legal form and status, address of the registered office, basic regulating powers (e.g.,	**For 1.5.4.2:** • Public disclosure of beneficial ownership. • Relevant host country legislation prohibiting such disclosure.	Explanatory Note for 1.5.4.2: Beneficial ownership describes the 'natural' person(s) who, directly or indirectly, ultimately own(s) or control(s) a corporate entity, a license or other property.

[99] Confidential business information that is not material to the terms for mineral exploration, development and production may be excluded or redacted from the publicly accessible documentation as necessary.

[100] Extractive Industry Transparency Initiative (EITI). 2017. Past the Tipping Point? Contract Disclosure within EITI. https://eiti.org/document/past-tipping-point-contract-disclosure-within-eiti

[101] Resource Contracts website: "A Directory of Petroleum & Mineral Contracts." http://www.resourcecontracts.org/

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	memorandum and articles of association), list of directors; a register of shareholders or members: containing the number of shares held by each shareholder and categories of shares, including the nature of the associated voting rights).		In the case of joint ventures, each entity within the venture should disclose its beneficial owner(s), unless it is publicly listed or is a wholly-owned subsidiary of a publicly listed company. According to EITI: "The identity of the real owners – the 'beneficial owners' – of the companies that have obtained rights to extract minerals is often unknown, which can affect other sectors and often helps to feed corruption and tax evasion. People who live in resource-rich countries are at particular risk of losing out as extractive assets are too often misallocated for corrupt reasons. By 2020, all EITI countries have to ensure that companies that apply for or hold a participating interest in a mining license or contract in their country disclose their beneficial owners."[102]
1.5.5. Anti-Corruption Measures 1.5.5.1. (Critical Requirement) The operating company shall develop, document and implement policies and procedures that prohibit bribery and other forms of corruption by employees and contractors.	**For 1.5.5.1:** Review documentation to confirm that the company has anti-corruption policies and procedures. Confirm that the policies apply to both employees and contractors. Confirm that the policies have been implemented. Review grievance mechanism complaints (see IRMA Chapter 1.4 for stakeholder grievances, and also Chapter 3.1 for worker grievances), as there may be complaints made related to financial matters, bribery, corruption, etc. in the records. Also, interview workers' representatives to determine if there have been complaints related to bribery/corruption. Absence of significant claims of bribery/ corruption in relation to the mining project shall be supporting evidence to demonstrate that the	**For 1.5.5.1 and 1.5.5.2:** • Corporate code of conduct or ethics. • Anti-corruption/anti-bribery policies and procedures. • Reporting mechanisms (e.g. ethics hotline etc.). • Employee/contractor anti-corruption/anti-bribery training materials. • Employee/contractor anti-corruption/anti-bribery training records. • Contractor agreements/contracts that include anti-corruption/anti-bribery provisions. • Stakeholder requests for contracts, and company responses.	Explanatory Note for 1.5.5.1: "Bribery" is the offering, promising, giving, accepting or soliciting of an advantage as an inducement for an action which is illegal or a breach of trust. "Corruption" is the abuse of entrusted power for private gain. Companies should develop and implement an anti-bribery program as an expression of broader ethical values and corporate responsibility. Anti-bribery programs are also part of a comprehensive risk management strategy in light of the advent of stricter domestic and foreign bribery laws and increasing enforcement, the imposition of record fines and the threat of criminal penalties for company directors and employees. Furthermore, pressures are mounting from socially responsible investment funds and indices, which are applying anti-bribery criteria to their screening procedures. As regulators and stakeholders become less tolerant of lapses, responsible companies increasingly understand that they must undertake continuous efforts to ensure that they identify and mitigate the risks of bribery effectively. For guidance on the components of a comprehensive anti-bribery program, see: • Transparency International. 2013. Business Principles for Countering

[102] Extractive Industries Transparency Initiative (EITI) website: "Beneficial Ownership." https://eiti.org/beneficial-ownership

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	measures have been effectively implemented.		Bribery.[103] • UN Global Compact. 2011. Business Against Bribery: A Framework for Action. 2011.[104]
1.5.5.2. Procedures shall include: a. A requirement to internally report and record any undue pecuniary or other advantage given to, or received from, public officials or the employees of business partners, directly or through third parties; and b. Disciplinary actions to be taken if cases of bribery or corruption are discovered.	For 1.5.5.2: Review documented policies and procedures related to anti-corruption. For 1.5.5.2.a: Review procedures to confirm that there is a requirement to internally report pecuniary or other advantages offered and/or received from public officials or the employees of business partners, directly or through third parties. Confirm with workers that they know this requirement exists. For 1.5.5.2.b: Review procedures to confirm that they include information on the disciplinary actions to be taken if bribery or corruption are discovered. Interview operating company to determine if any cases have occurred, and if they have, confirm through record review that the disciplinary actions were followed.	For 1.5.5.1 and 1.5.5.2: • Corporate code of conduct or ethics. • Anti-corruption/anti-bribery policies and procedures. • Reporting mechanisms (e.g. ethics hotline etc.). • Employee/contractor anti-corruption/anti-bribery training materials. • Employee/contractor anti-corruption/anti-bribery training records. • Contractor agreements/contracts that include anti-corruption/anti-bribery provisions. • Stakeholder requests for contracts, and company responses.	Explanatory Note for 1.5.5.2: A "pecuniary advantage" or benefit is anything that has a monetary value such as money, property, commercial interests or anything else the primary significance of which is economic gain. Re: 1.5.5.2.a, when developing procedures, particular attention should be paid to the conduct of third parties acting on behalf of or as agents of the company. Re: 1.5.5.2.b, disciplinary actions typically include actions up to and including termination of employment or contract, and reporting of those persons to relevant regulatory and criminal authorities.
1.5.5.3. Relevant employees and contractors shall be trained in the application of the operating company's policy and procedures.	For 1.5.5.3: Interview employees and contractors to confirm that the policies and procedures have been implemented in practice, and that the employees/contractors understand the	For 1.5.5.3: • Employee/contractor anti-corruption/anti-bribery training materials. • Employee/contractor anti-corruption/anti-bribery training records.	

[103] https://www.transparency.org/whatwedo/publication/business_principles_for_countering_bribery

[104] E.g., p. 12. https://www.unglobalcompact.org/library/162

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	material. Review training materials and any records of trainings.	• Contractor agreements/contracts that include anti-corruption/anti-bribery provisions.	

NOTES

The EITI maintains the EITI Standard. The EITI scheme applies specifically to countries. Countries implement the EITI Standard to ensure full disclosure of taxes and other payments made by producing oil, gas and mining companies. These payments are disclosed in an annual EITI Report (to see all EITI Reports, go to: eiti.org/countries/reports). This report allows citizens to see for themselves how much their government is receiving from their country's natural resources.

This chapter of the IRMA Standard is based on EITI requirements, but is designed for application to operating companies reporting on the mine site that is up for certification. Requirement 1.5.1.2 of the IRMA chapter aims to complement EITI's scheme by requiring operating companies to report corporate-level information about payments made by the operating company or its corporate owner in the country where the mining project is located, allowing country and corporate reporting to be compared. As an alternative, to avoid duplication, it allows operating companies to show how their compliance with specific national or regional regulatory regimes provides an equivalent level of transparency.

Since IRMA certifies mine sites, most of the criteria apply specifically to the mining project level, and the chapter includes requirements related to project-level reporting of payments, accounts, mine development agreements, and anti-corruption measures.

As for all aspects of the IRMA Standard, documentation or records that are required to demonstrate conformity with this chapter of the IRMA Standard do not have to be prepared exclusively or specifically for that purpose. Documentation or records that have been prepared to meet a company's legal obligations, or to meet a company's voluntary commitments (e.g. to meet standards other than IRMA's) may also be submitted to demonstrate conformity with the requirements of the IRMA Standard. For example, with particular reference to Criteria 1.5.1 and 1.5.3, documentation prepared in order to comply with Norwegian or Canadian legislation on corporate payments transparency may be used to demonstrate compliance.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if a host country law pertains to mandatory transparency of payments or other information, the company is required to abide by that law. If the mandatory transparency scheme is essentially equivalent to IRMA's requirements (e.g., EU, Norway, Canada) then the company will only need to meet host country law. If IRMA requirements are more stringent than a host country's mandatory transparency regime (e.g., the host country does not require reporting on a project level), the company is required to also meet the IRMA requirements, as long as such compliance would not require the operating company to break host country law. If host country law prohibits certain actions, such as publishing contracts (1.5.3.1), companies are not expected to break the law.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Chapter 1.4 has a provision (1.4.2.1) that stakeholders be involved in designing a grievance mechanism. If it is important to stakeholders, the mechanism could allow for the anonymous filing of complaints, for example, in relation to financial matters, bribery, corruption, etc. Even if it does not, the company may receive complaints related to financial matter, corruption or bribery through this mechanism.
2.2—Free, Prior and Informed Consent	Reporting of social expenditures in 1.5.2.2.d does not include expenditures agreed upon with affected indigenous peoples' governing bodies (e.g., "impact and benefit" or similar agreements reached through the process of Free, Prior and Informed Consent - See Chapter 2.2). Those expenditures may be reported if agreed by the indigenous peoples.

Cross References to Other Chapters	
3.1—Fair Labor and Terms of Work	Chapter 3.1 has a provision for a grievance mechanism (3.1.5), which enables workers to file complaints anonymously, for example, in relation to financial matters, bribery, corruption, etc. without facing retribution from the company.
3.4—Mining in Conflict-Affected or High-Risk Areas	Information gathered to fulfill requirements in Chapter 3.4 (e.g., 3.4.2.2.b, 3.4.3.1) may feed into the reporting requirements in Chapter 1.5. (e.g., requirements 1.5.1.3. and 1.5.3.2.) regarding payments to governments.
3.5—Security Arrangements	The security risk assessment in Chapter 3.5 may reveal information related to payments made to public security forces at the mine site or along transportation routes that will need to be disclosed as country or project-level payments to governments.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Beneficial Owner

The natural person(s) who ultimately owns or controls a company and/or on whose behalf a company is owned. It includes those persons who exercise ultimate effective control over a legal person or arrangement. Reference to "ultimately owns or controls" and "ultimate effective control" refer to situations in which ownership/control is exercised through a chain of ownership or by means of control other than direct control.

Certification Body

Also known as a conformity assessment body, is an entity that performs auditing and conformity assessment services to determine if specified requirements are fulfilled (in this case conformity with the IRMA *Standard for Responsible Mining*).

Confidential Business Information

Material that contains trade secrets or commercial or financial information that has been claimed as confidential by its source. The information must be secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; it must have commercial value because it is secret; and it must have been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.

Contractor

An individual, company, or other legal entity that carries out duties subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Corporate Owner(s)

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which mining-project-related complaints or grievances, including business-related human rights abuses stakeholder complaints, and/or labor grievances, can be raised and remedy can be sought.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Indigenous Peoples

An official definition of "indigenous" has not been adopted by the United Nations system due to the diversity of the world's indigenous peoples. Instead, a modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

In Kind Payments

Payments made to a government (e.g. royalty) in the form of the actual commodity (oil, gas, or minerals) instead of cash

International Accounting Standards

Several accounting standards are commonly recognized as an international accounting standard; for example, the International Financial Reporting Standards (IFRS), which are set by the International Accounting Standards Board (IASB).

Material Payments

If not defined in a mandatory transparency regime or through an EITI country-specific multi-stakeholder process, material payments are those that exceed US$100,000 (or its equivalent in other currencies). Payments may occur as a single installment or be the aggregate of a series of related payments that are made in the same fiscal/financial year. Material payments may be monetary or in kind.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Stakeholder

A person or group or people who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Worker

All non-management personnel.

Workers' Representatives

A worker chosen to facilitate communication with senior management on matters related to working conditions, occupational health and safety or other workers' concerns. This is undertaken by the recognized trade union(s) in unionized facilities and, elsewhere, by a worker elected by non-management personnel for that purpose.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

The IRMA Standard:

Requirements

Planning and Managing for Positive Legacies

Chapter 2.1—Environmental and Social Impact Assessment and Management

[flag] **Issue in brief:** While there is agreement among IRMA sectors that environmental and social impact assessment (ESIA) and management systems are essential for the responsible management of large scale mining projects, there is not agreement on the particular methodology that must be followed. Most countries have their own ESIA processes, and there are also globally recognized environmental and social management standards such as the International Finance Corporation's Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts, and the ISO 14001 Standard for Environmental Management Systems, which some companies, especially larger corporations, follow.

The current version of the IRMA chapter has drawn upon national approaches and international standards to come up with criteria that reflect commonly applied best practices.

A suggestion has been made that IRMA consider adopting the IFC Performance Standard that covers this topic area, with the argument that this is a well-known and stringent standard. However, not all companies are familiar with IFC requirements, and it is unclear if all of the requirements in the IFC Performance Standard need to be included in the IRMA chapter, or if there may be certain practices that are not required by IFC that IRMA stakeholders would like to see included by IRMA.

During the Launch Phase, IRMA will encourage companies to self-assess and be scored against the current IRMA chapter requirements. We will also explore whether there are companies that would prefer to score against the IFC Performance Standard, and if so, we will carry out an alignment exercise in 2018 to determine if there are significant differences between the IRMA chapter and the requirements in the IFC Performance Standard, and based on our learnings revise this chapter prior to offering certification in 2019.

BACKGROUND

In almost all jurisdictions, mining companies are required to conduct environmental impact assessments (EIA) or environmental and social impact assessments (ESIA) prior to mine development, and some also require them prior to exploration. ESIA enable regulators and other stakeholders to participate in the identification and review of predicted impacts and mitigation measures for a mining proposal before it is finalized or approved.

When developing mitigtion strategies the use of a mitigation hierarchy to avoid, or where avoidance is not possible, minimize or compensate for impacts to workers, communities and the environment is widely considered a best practice approach to managing environmental and social risks and impacts.[105]

[105] International Finance Corporation (IFC). 2012. *IFC Performance Standards on Environmental and Social Sustainability*. Guidance Note 1: Assessment and Management of Environmental and Social Risks and Impacts. GN62, pp. 20, 21. http://www.ifc.org/wps/wcm/connect/e280ef804a0256609709ffd1a5d13d27/GN_English_2012_Full-Document.pdf?MOD=AJPERES

Impact prevention and mitigation strategies developed during the ESIA process are typically integrated into a comprehensive, documented environmental and social management plan, and an environmental and social management system (ESMS) is developed and implemented to ensure that mine site personnel remain responsive to issues as they arise, and that they continue to effectively monitor and mitigate risks and reduce impacts on the environment, workers and neighboring communities throughout the mine life cycle.

The importance of stakeholder involvement in the identification and management of environmental and social issues is increasingly recognized, as it improves the quality of the impact assessments, and helps to build community support for a project by involving local stakeholders in decisions related to mitigation and management of risk and impacts.

TERMS USED IN THIS CHAPTER

Accessible ■ Affected Community ■ Artisanal and Small-Scale Mining (ASM) ■ Background Water Quality ■ Baseline ■ Biodiversity ■ Competent Professionals ■ Consultation ■ Corporate Owner ■ Cumulative Impacts ■ Direct/Indirect Impacts ■ Ecosystem Services ■ Existing Mine ■ Human Rights Risks ■ Indigenous Peoples ■ Inform ■ Mining Project ■ Mitigation ■ Mitigation Hierarchy ■ New Mine ■ Operating Company ■ Post-Closure ■ Protected Areas ■ Resettlement ■ Rights Holder ■ Stakeholder ■ Threatened Species ■ Worker ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To proactively anticipate and assess environmental and social impacts; manage them in accordance with the mitigation hierarchy; and monitor and adapt environmental and social management systems in a manner that protects affected communities, workers and the environment throughout the entire mine lifecycle.

SCOPE OF APPLICATION

New versus Existing Mines: ESIAs are typically undertaken to predict potential impacts from a proposed mining project, and often are mandated by host country regulatory agencies. For IRMA's purposes, existing mines that did not carry out an ESIA prior to the mine development will not be expected to subsequently carry out such an assessment. But they will be expected to demonstrate that an environmental and social management plan (or its equivalent) and monitoring programs are in place to detect impacts.

Additionally, criterion 2.1.5 requires the collection of baseline data. At existing mines, if baseline data were not collected at the appropriate time, the applicant should still attempt to collate data to provide the best possible picture of baseline conditions in order to better understand the magnitude of impacts caused by the mining project. In some IRMA chapters, existing mines are required to estimate or approximate baseline conditions. For example, in Chapter 4.2 companies are expected to establish background water quality conditions even when project baseline water quality data were not collected (See Chapter 4.2, requirement 4.2.1.1).

CRITICAL REQUIREMENTS IN THIS CHAPTER

The operating company has carried out a process to identify potential impacts (social and environmental) of the mining project (2.1.3.1).

Environmental and Social Impact Assessment and Management Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
2.1.1. General Requirements 2.1.1.1. An Environmental and Social Impact Assessment (ESIA), appropriate to the nature and scale of the proposed mining project and	**For 2.1.1.1:** Review ESIA report and associated records, and interview operating company to confirm that the level of detail in the ESIA is consistent with the nature and scale of the project and the level of	**For 2.1.1.1:** • ESIA documents (e.g., draft and final reports and supplemental materials).	**Explanatory Note for 2.1.1.1:** Environmental and Social Impact Assessments (ESIA) are typically undertaken to predict potential impacts and risks from a proposed mining project, and often are mandated by host country regulatory agencies. For IRMA's purposes, existing mines that did not carry out an ESIA prior to the mine development will not be expected

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
commensurate with the level of its environmental and social risks and impacts, shall be completed prior to the commencement of any site-disturbing operations associated with the project.	environmental and social risks related to the project.		to subsequently carry out such an assessment. But they will be expected to demonstrate that an environmental and social management plan (or its equivalent) and monitoring programs are in place to detect impacts and risks (see criteria 2.1.7 - 2.1.8) and also meet relevant requirements in 2.1.9 and 2.1.10. The intent of including "appropriate to the nature and scale of the proposed mining project" is that if the project is large and complex, or located in a challenging geography or climate, or in a location likely to create social conflict, etc., it would be expected to have a very detailed ESIA. Similarly, if the potential environmental and social risks related to a project are serious (e.g., a tailings dam failure could destroy critical habitat or endanger communities, or the mine could be associated with security and human rights risks for communities or workers, etc.) then that mine would be expected to have a much more detailed assessment on those particular issues. An ESIA that meets the requirements of this chapter is a critical step in informing interested and affected stakeholders and rights holders including, where applicable, indigenous peoples about a proposed mining project and its potential impacts, prior to decision-making. The fact that an effective ESIA has been designed and implemented does not imply that a mining project should necessarily proceed. With effective engagement of stakeholders, however, it should provide a sound basis for consideration as to whether a project should or should not move forward.
2.1.1.2. To enable a reasonable estimation of potential impacts related to the mining project, the ESIA process shall commence only after the project design has been sufficiently developed. Should the proposal be significantly revised a new assessment process shall be undertaken.	For 2.1.1.2: Confirm that the proposal that is reviewed is reasonably close to the project that is to be implemented. If there are significant changes to the project then ensure that the ESIA process was restarted - from a reasonably appropriate point given the changes in the design.	For 2.1.1.2: • ESIA documents (e.g., methodology, draft and final reports and supplemental materials). • Project design documents (original and any updated documents). • Mine plans (original and any updated documents).	Explanatory Note for 2.1.1.2: This is an unavoidably subjective requirement but employs a “reasonable” standard to allow for this discretion. The intent is related to 2.1.1.1, i.e., the assessment should not take place until the nature and scale of the project and its risks are known and can be assessed. The foundational basis for this requirement is that an ESIA is meaningless unless it assesses a representative mine plan. As such, the assessment should not take place until the nature and scale of the project and its risks are sufficiently known such that their assessment can be representative, accurate, and complete.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			The requirement also recognizes that mine plans may change or evolve over time. If changes to mine plan are significant enough to create the potential for new or increased environmental or social impacts, then a new (or supplemental) assessment process should be undertaken when such changes occur.
2.1.1.3. The ESIA shall be carried out in accordance with publicly available, documented procedures.	For 2.1.1.3: Confirm that ESIA procedures are documented and publicly available.	For 2.1.1.3: • ESIA documents (e.g., draft and final reports and supplemental materials). • Documentation of ESIA procedures/methodologies. • Schedule and description of ESIA public review process, which may be contained in ESIA documentation or in other materials (prepared by the operating company, or regulatory agency). • Link to websites where information is published (or records of past links that may no longer be active, or locations where information was publicly available, if ESIA was carried out too far in the past).	Explanatory Note for 2.1.1.3: The ESIA should be based on clearly established procedures to ensure that: • The ESIA's process is understandable by participants (e.g., procedures for participating in the ESIA process are available in local languages, prior to the beginning of the ESIA process; there are announcements in media providing information on how to access information about ESIA process, etc.); and • The ESIA's results are meaningful and that the sources of information and conclusions are clear.
2.1.2. Provision of Preliminary Information 2.1.2.1. Prior to the implementation of the ESIA process the operating company shall ensure that there has been wide, public announcement of the project proposal and the associated ESIA process, and that reasonable and culturally appropriate efforts have been made	For 2.1.2.1: Interview operating company and review documentation (e.g., media articles or advertising spots, records of public for a, open houses, meetings with community groups, etc.) related to communications to inform affected and interested stakeholders and about the project proposal to confirm that reasonable efforts have been made to inform stakeholders about the project. Confirm, as	For 2.1.2.1: • Documentation providing a description of the mining project proposal, preliminary analysis of potential impacts and mitigation options, and ESIA team contact information. • Schedule and description of ESIA review process, which may be contained in ESIA documentation or in other materials (prepared by the operating	Explanatory Note for 2.1.2.1: "reasonable. . . efforts" to inform stakeholders about the proposed project implies that the company's outreach, such as advertising of informational meetings and dissemination of project information, is done in a manner likely to reach a broad-base of potentially affected stakeholders. For example, informational meetings should be held during times of year and times of day that are appropriate to reach a broad-base of members of affected communities (e.g., not held during harvest season or hunting season when large segments of affected communities might be unable to attend meetings; or not held during hours when many would be at work).

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to inform potentially affected and interested stakeholders in potentially affected communities about the proposed project.	well, that the outreach has been culturally appropriate.	company, or regulatory agency). • Records of outreach to stakeholders related to the project proposal and ESIA review process. • Records may include meeting minutes or notes, letters, mailed brochures, paid media spots, posters, correspondence with community members and local governments, etc. • Records demonstrating that efforts are made to follow any community consultation protocols and engage with appropriate indigenous peoples or local community representatives.	Similarly, written/paper postings on flyers, posters, or mail; newspaper ads, radio or other media; and all other forms of information dissemination should be culturally appropriate and attentive to the needs of stakeholders potentially impacted by or interested in the mine. As per IRMA Chapter 1.2, "culturally appropriate" communications include interactions and conveyance of information using methods, languages, terminology and formats that are respectful of cultural differences; and can be easily understood by the affected communities and stakeholders. As per requirement 1.2.1.3, stakeholders can help to define for the company what is considered culturally appropriate. Some indigenous peoples have developed community consultation protocols or policies that outline how external actors (governments, companies, NGOs, researchers) are expected to engage with them in the context of activities that could impact their land or natural resources. In the absence of any formal protocols, operating companies could consult with external experts or others for suggestions of how to initiate engagement, and whom to engage in indigenous peoples' communities.
2.1.2.2. Prior to the implementation of the ESIA process the operating company shall prepare a report and publish it on the operating company's external website, in the official national language(s) of the country in which the mining project is proposed to take place. The report shall provide: a. A general description of the proposed project, including details on the proposed location, and nature and duration of the project and related activities;	For 2.1.2.2: Review publicly available information (e.g., preliminary ESIA project report on external website) to confirm that requirements 2.1.2.1.a to 2.1.2.2.d have been included in the report.	For 2.1.2.2: • Documentation providing a description of the mining project proposal, preliminary analysis of potential impacts and mitigation options, and ESIA team contact information. • Schedule and description of ESIA review process, which may be contained in ESIA documentation or in other materials (prepared by the operating company, or regulatory agency). • Link to websites where information is currently published, or records of past links that may no longer be active • Locations where information is publicly available (if ESIA was carried out prior	Explanatory Note for 2.1.2.2: The documents may be posted on a government or corporate owner's website, as long as there is a link from the operating company/mine site website. In locations where internet is not widely available or used by key stakeholders, e.g., affected communities, hard copies should be accessible to the public either at a location within the community (e.g., library, government office) or the mine site office.

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b. The preliminary identification of potential significant environmental and social impacts, and proposed actions to mitigate any negative impacts; c. A description of the main steps of the ESIA process that will be carried out, the estimated timeline and the range of opportunities for stakeholder participation in the process; and d. Contact details for the person or team responsible for management of the ESIA.		to wide-scale internet use, or in locations with limited electronic forms of communication such as rural parts of developing countries).	
2.1.3. Scoping 2.1.3.1. (Critical Requirement) The operating company shall carry out a scoping process to identify all potentially significant social and environmental impacts of the mining project to be assessed in the ESIA.	**For 2.1.3.1:** Review documentation to confirm that scoping occurred.	**For 2.1.3.1:** • ESIA scoping documentation.	**Explanatory Note for 2.1.3.1:** "scoping" refers to the early, open and interactive process of determining the major issues and impacts that will be important in decision-making on the proposal, and need to be addressed in an ESIA. Sufficient scoping is essential to help inform and establish the foundation for the ESIA. For more information on scoping see, for example, IAIA.[106]
2.1.3.2. During scoping, the operating company shall identify stakeholders and rights holders (hereafter, collectively referred to as "stakeholders") who may be interested in and/or affected by the proposed project.	**For 2.1.3.2:** Interview interested and affected stakeholders and rights holders to confirm that they were consulted during ESIA scoping, and interview company and review documentation to confirm that stakeholder identification conformed to the requirements in Chapter 1.2 –Community and Stakeholder Engagement. Review records of preliminary identification of	**For 2.1.3.2:** • Records of stakeholder analysis, mapping and/or engagement plan (see also Chapter 1.2, criterion 1.2.1).	**Explanatory Note for 2.1.3.2:** For more information on stakeholders, see Explanatory Note for 2.1.9.1, below. Reasonable efforts should be taken to identify stakeholders who may have an interest in or be affected by the proposed mining project. "Reasonable effort" implies that the company's stakeholder identification mapping or other processes include research, consultations with key stakeholders or community representatives and other outreach efforts that will likely lead

[106] International Association for Impact Assessment. 2019. "Scoping". https://www.iaia.org/uploads/pdf/Fastips_18%20Scoping.pdf

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	interested and affected stakeholders and rights holders.		to the identification of a broad-base of potentially interested and affected stakeholders.
2.1.3.3. Scoping shall include the consideration of: a. Social impacts (including potential impacts on communities and workers) and environmental impacts (including potential impacts on wildlife, air, water and soils) during all stages of the project lifecycle, from pre-construction through post-closure;[107] b. Direct, indirect and cumulative impacts; and c. Potential impacts of extreme events.	For 2.1.3.3: Review scoping documentation and confirm that scoping included the breadth of issues in 2.1.3.3. See also the Notes at the end of the chapter for additional guidance on the types of impacts that should be considered during scoping In particular, for 2.1.3.3.a, confirm that impacts on wildlife have been thoroughly scoped, as this is the only chapter in the IRMA standard that addresses general impacts on wildlife. This scoping should have considered the potential risks to wildlife populations (and the ecosystems that support them) posed by: • Mining-related noise and vibration (e.g., from machinery, traffic, blasting) • Roads and traffic • Loss of, changes to or fragmentation of habitat and availability of food sources • Changes in water quality, quantity or the accessibility of water • Creation of new water sources that may contain contaminants that are hazardous to wildlife (e.g., pit lakes, tailings impoundments) • Dust and air pollution from traffic, machinery or mine processes • Spills of chemicals or processing water	For 2.1.3.3, 2.1.3.4: • ESIA scoping documentation.	Explanatory Note for 2.1.3.3: The chapter does not list all of the issues and impacts that are likely to be significant, as these will vary greatly depending on the scale, nature, duration and location of the particular project. It is the responsibility of the operating company, in consultation with interested and affected stakeholders, to ensure that all the relevant issues and impacts are identified and considered. Issues/impacts to be considered may include (but are not limited to) the following: • Social and socio-economic impacts, for example: effects of mining activities such as construction, road building, traffic, noise, air and water pollution, waste and chemical management, land disturbance and use, security arrangements, and resettlement, if relevant, on housing, infrastructure, social services, poverty levels, community physical and mental health and safety, local economies, livelihoods, ecosystem services, employment, population movements. Many of these social issues are addressed in more detail in various IRMA chapters (e.g., involuntary resettlement in Chapter 2.4, community health and safety in Chapter 3.3; noise in Chapter 4.4, access to water in Chapter 4.2; and ecosystem services in Chapter 4.6). • Differential and/or specific impacts on women, children, minority groups and vulnerable groups; • Socio-political risks, including potential infringement of human rights, conflict and political instability that may be caused or contributed to by the mine (see also Chapters 1.3, 3.4 and 3.5); • Potential impacts on indigenous peoples (see also Chapter 2.2) and/or other vulnerable individuals or groups (e.g., women, ethnic minorities, youth and elderly, etc.), including impacts on culture and cultural heritage (see also Chapter 3.7); • Impacts on artisanal and small-scale mining entities and their

[107] See the Notes section at the end of the chapter for a more detailed list of the types of issues that should be included in the scoping process.

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	• Hunting or poaching due to increases in human populations or increased access to wildlife		communities (see also Chapter 3.6); • Labor and working conditions (see also Chapters 3.1 and 3.2); • Environmental impacts, for example: effects of surface disturbance, traffic, noise, waste generation, air quality, water use and quality, and spills on wildlife, plants, ecosystems and overall biodiversity, including threatened and protected species, ecosystem services and protected areas such as World Heritage Sites; trans-boundary effects (e.g. air pollution, use of international waterways); and greenhouse gas emissions and contributions to climate change. **NOTE:** Chapter 2.1 is the primary location in the IRMA Standard where potential impacts on wildlife, in general are addressed. Potential impacts on threatened or protected species of wildlife (and plants and ecosystems) are considered more thoroughly in Chapter 4.2. Other environmental issues are also covered to some extent in other IRMA chapters, such as impacts on water quality and quantity, which are addressed in Chapter 4.2; impacts on air quality/climate, which are addressed in Chapters 4.3 and 4.5; impacts on soil and vegetation, which are addressed to some extent in Chapters 2.6 and 4.1. Similarly, many of the social issues are also covered in more detail in various IRMA chapters (e.g., impacts related to resettlement in 2.4; impacts on human rights in 1.3; on indigenous peoples' rights in 2.2; on economic opportunities in 2.3; on workers' rights, health and safety in 3.1 and 3.2; on community health and safety in 3.3; on safety and human rights related to conflict areas in 3.4 or security arrangements in 3.5; on cultural heritage in 3.7; on access to water in 4.2; on ecosystem services in 4.6). See Cross References to Other Chapters table near the end of this chapter for more information. Additionally, other issues may also be raised during scoping that are not otherwise covered in detail by IRMA. This underscores the importance of not only the ESIA scoping process but the operating company's educating stakeholders and general public about the ESIA process and the importance of their participation.

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			Re: 2.1.3.3.b, see definitions of direct/indirect impacts and cumulative impacts. Re: 2.1.3.3.c, extreme events may include, for example, those related to weather (e.g., unusually high or low precipitation, high or low temperatures, hurricanes, tornadoes, etc.), earthquakes and tsunamis, and their aftermath (e.g., flooding, inundation, heatwaves, drought). Extreme events may also be social/economic/political in nature (e.g., social unrest or economic impacts caused by unexpected, sudden or violent changes in political regimes). The ESIA should predict the likelihood of such events, and evaluate the potential impacts that the events may have on mining operations and facilities, and subsequent risks posed to workers, communities and the environment.
2.1.3.4. Scoping shall result in the identification of: a. Potentially significant environmental and social impacts of the proposed project; b. Alternative project designs to avoid significant adverse impacts; c. Other actions to mitigate identified adverse impacts; and d. Additional information and data needed to understand and assess the potential impacts.	**For 2.1.3.4:** Review scoping documentation and confirm that scoping resulted in the identification of the issues in 2.1.3.4.	**For 2.1.3.3, 2.1.3.4:** • ESIA scoping documentation.	
2.1.4. ESIA Data Collection 2.1.4.1. Baseline data describing the prevailing environmental, social, economic and political environment shall be collected at an appropriate level of detail to allow the	**For 2.1.4.1:** Review ESIA and baseline data. Confirm through interviews with operating company and relevant stakeholders that baseline data collected and presented are sufficiently accurate and complete to be able to develop a holistic understanding of environmental, social, economic and political issues and their interactions and to	**For 2.1.4.1, 2.1.4.2:** • ESIA documents (e.g., draft and final reports and supplemental materials). • Studies containing baseline data (summary data or raw data) that feed into the ESIA.	**Explanatory Note for 2.1.4.1:** New mines are required to have baseline data. It is acknowledged that existing mines cannot turn back the clock to collect pre-project baseline data. As a result, for the purposes of this chapter existing mines will not be expected to meet requirement 2.1.4.1. In some IRMA chapters, however, existing mines are required to estimate or approximate baseline conditions. For example, in Chapter 4.2 companies are expected to establish background water quality conditions even when

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assessment of the potential impacts of the proposed mining project.	carry out an effective analysis of potential impacts. Relevant stakeholders may include NGOs, government officials, and stakeholders who have participated in the ESIA process (see Criteria 2.1.9).		project baseline water quality data were not collected (See Chapter 4.2, requirement 4.2.1.1). Similarly, in Chapter 4.6 baseline biodiversity conditions must be established for existing mines (see requirement 4.6.3.1).
2.1.4.2. Additional studies shall be carried out as necessary to fulfill the information needs of the ESIA.	**For 2.1.4.2:** Review ESIA and related studies. Also, review ESIA and scoping documents. (These information requirements should have been determined during scoping, and identified in the final Scoping document for the ESIA). Note that additional studies may also be necessary if information gaps are identified during the actual ESIA process (i.e., not identified in Scoping). Interview operating company and relevant stakeholders to confirm that studies necessary for carrying out a comprehensive and credible ESIA have been carried out.	**For 2.1.4.1, 2.1.4.2:** • ESIA documents (e.g., draft and final reports and supplemental materials). • Studies containing baseline data (summary data or raw data) that feed into the ESIA.	**Explanatory Note for 2.1.4.2:** Additional data or information may be needed to better understand the potential impacts that the mining project might have on social or environmental values.
2.1.5. ESIA Impact Analysis 2.1.5.1. The operating company shall: a. Predict in greater detail the characteristics[108] of the potentially significant environmental and social impacts identified during scoping;	**For 2.1.5.1.a, b, c and d:** Review ESIA and any other documentation related to impact analysis. **For 2.1.5.1.a:** Confirm that the nature, timing, magnitude, duration, reversibility and extent of potential impacts. **For 2.1.5.1.b:** Confirm that an evaluation has taken place to establish the "significance" of the identified potential impacts. (See IRMA Explanatory Note for	**For 2.1.5.1:** • ESIA documents (e.g., draft and final reports and supplemental materials). • Documentation providing analyses of potential impacts, project design options to avoid impacts, and to evaluate mitigation options and residual impacts.	**Explanatory Note for 2.1.5:** The goal is a rigorous and robust analysis to identify/predict the significant impacts and determine if and how those impacts can be avoided, minimized, and mitigated. **Explanatory Note for 2.1.5.1.a:** "characteristics" of impacts will vary, but may include: nature (positive, negative, direct, indirect, cumulative); magnitude (severe, moderate, low); extent/location (area/volume covered, distribution); timing (during construction, operation, closure and reclamation; immediate, delayed, rate of change); duration (short or long term; intermittent or continuous); reversibility/irreversibility; likelihood

[108] Characteristics of impacts will vary, but may include: nature (positive, negative, direct, indirect, cumulative); magnitude (severe, moderate, low); extent/location (area/volume covered, distribution); timing (during construction, operation, closure and reclamation; immediate, delayed, rate of change); duration (short or long term; intermittent or continuous); reversibility/irreversibility; likelihood (probability, uncertainty or confidence in the prediction); and extent (local, regional, global).

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b. Determine the significance of the predicted impacts; c. Evaluate options to mitigate predicted significant adverse impacts in line with the mitigation hierarchy, prioritizing the avoidance of impacts through consideration of alternative project designs; and d. Determine the relative importance of residual impacts (i.e., impacts that cannot be mitigated) and whether significant residual adverse impacts can be addressed to the satisfaction of affected or relevant stakeholders.	2.1.5 for more details on "significance" of impacts). **For 2.1.5.1.d:** Confirm that the company has assessed whether there are options for addressing residual impacts that will be acceptable to affected or relevant stakeholders.		(probability, uncertainty or confidence in the prediction); and extent (local, regional, global). **Explanatory Note for 2.1.5.1.b:** There is no single, accepted methodology for determining the significance of predicted impacts. Any methods used for determining significance should be documented. There are three broad approaches typically used in significance determination: technical, collaborative and reasoned argumentation. Combinations of these three approaches have the potential to counterbalance many of the deficiencies of any individual approach.[109] These approaches typically include an evaluation of the scale of potential impacts (magnitude or intensity/severity, duration, geographic extent), the values and sensitivities of resources and communities that may be affected, the probability of the impact occurring, the reversibility of impacts, acceptability of the impacts to stakeholders, the potential consequences, and others.[110] When there is the potential for community conflict related to mining projects, it is recommended that potentially affected stakeholders be involved in the determination of significance. The decision to use or not use their input should be documented and the results of that input should be attributed as part of the final analysis. **Explanatory Note for 2.1.5.1.c:** This requirement references the "mitigation hierarchy" which prioritizes avoidance, and if that is not possible minimization of impacts. To the extent possible, impacted systems should be restored/rehabilitated (or with social impacts, mitigated). And if there are still remaining (residual) impacts, then those should be compensated for by means that are agreeable to affected individuals/communities or relevant stakeholders as per 2.1.5.1.d.

[109] Lawrence, D. 2005. Significance Criteria and Determination in Sustainability-Based Environmental Impact Assessment. Final Report to the Mackenzie Gas Project Joint Review Panel. https://www.ceaa-acee.gc.ca/155701CE-docs/David_Lawrence-eng.pdf

[110] See, for example, Marttunen et al. 2013. Impact Significance Determination in Environmental Impact Assessment – Literature Review. https://jyx.jyu.fi/bitstream/handle/123456789/49484/IMPACTSIGNIFICANCEDETERMINATION_29_06_2013.pdf?sequence=1; SLR Env. Consulting. 2017. Method for Impact Prediction, Significance Determination and the Application of the Mitigation Hierarchy. https://slrconsulting.com/media/files/documents/Appendix_5-Method_for_impact_prediction_and_assessment.pdf and IAIA. 2016. Assessing Significance in Impact Assessment Projects. https://www.iaia.org/uploads/pdf/Fastips_14%20Significance_1.pdf

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			If there are residual impacts on biodiversity, in particular, then the goals of No Net Loss and preferably Net Gain should be considered, and offsets managed according to IRMA Chapter 4.6. For social impacts, and other environmental impacts, it may be difficult to assess residual impacts in these terms. In such cases, compensation for impacts may be considered if agreed to by affected communities/individuals. The requirement also references the consideration of alternatives to project design as a means of avoiding or minimizing potential impacts. For more on the consideration of alternatives, see IAIA.[111] Explanatory Note for 2.1.5.1.d: "addressed to the satisfaction of . . . relevant stakeholders" refers to situations where there are direct impacts on humans, but also situation where there may not be any human stakeholders who will be directly affected. For example, in the case of mining-related impacts on ecosystems, relevant stakeholders may include people that depend on the adequate functioning of potentially impacted ecosystems for food, medicines, cultural purposes, etc. (and thus could be directly impacted by impacts on the environment), as well as stakeholders who have an interest in protecting affected ecosystems, such as a governmental agency or academic scientists, environmental NGOs and local communities.
2.1.6. ESIA Report 2.1.6.1. The operating company shall prepare an ESIA report that includes, at minimum:[112] a. A description of the proposed mining project; b. Detailed description of the direct, indirect and cumulative	For 2.1.6.1: Review ESIA report to confirm that it includes the elements listed in the requirement. In many countries, the information contained in government-mandated reports will be specified in legislation. Companies will be expected to publish a supplementary report if information required by regulatory agencies	For 2.1.6.1: • ESIA documents (e.g., draft and final reports and supplemental materials) that contain a description of the mining project proposal, description of potential significant adverse impacts (including direct, indirect and cumulative impacts), alternatives considered to avoid, minimize,	Explanatory Note for 2.1.6.1: For more information on international theory and practice of environmental (and social) impact assessment, including other elements typically contained in an ESIA report, see, for example, guidance prepared by the International Institute for Sustainable Development, and the resources available through the International Association for Impact Assessment.[113] Re: 2.1.6.1.b, see glossary definitions of direct/indirect impacts and cumulative impacts.

[111] International Association for Impact Assessment. 2015. Alternatives in Project EIA. https://www.iaia.org/uploads/pdf/FasTips_11_AlternativesinProjectEIA.pdf

[112] The UN University has developed guidance on international theory and practice of environmental (and social) impact assessment and has outlined other elements typically contained in an ESIA report. See: eia.unu.edu/course/index.html%3Fpage_id=114.html

[113] International Institute for Sustainable Development. EIA: 7 Steps. http://www.iisd.org/learning/eia/eia-7-steps/ and International Association for Impact Assessment. "Resources." https://www.iaia.org/resources.php

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impacts likely to result from the project, and identification of significant adverse impacts; c. Description of the alternatives considered to avoid and mitigate significant adverse impacts in line with the mitigation hierarchy, and the recommended measures to avoid or mitigate those impacts; d. A review of the public consultation process, the views and concerns expressed by stakeholders and how the concerns were taken into account; and e. Names and affiliations of ESIA authors and others involved in technical studies.	does not cover all of the information requirements in this chapter. For 2.1.6.1.b: Detailed descriptions should include the predicted characteristics analyzed in 2.1.6.1.a.	restore/rehabilitate and compensate for impacts, summary of public consultation comments and responses, and information on ESIA team and consultants that carried out the studies and analyses feeding into the ESIA.	Re: 2.1.6.1.d, "a review" means that the report should include an explanation/overview of the public consultation process that took place. It is not a requirement for an external review of the effectiveness of the process.
2.1.7. Environmental and Social Management System (ESMS) 2.1.7.1. The operating company shall develop and maintain a system to manage environmental and social risks and impacts throughout the life of the mine.	For 2.1.7.1: Review documentation to confirm that an environmental and social management system (or its equivalent) is in place and being implemented to methodically manage environmental and social risks and impacts throughout the mine life. Interview relevant company personnel to confirm that they are aware of their respective roles and responsibilities related to the ESMS.	For 2.1.7.1: • Documentation of the environmental and social management system and its implementation. • Documentation outlining the roles of company personnel in the development and implementation of the ESMS.	Explanatory Note for 2.1.7.1: An Environmental and Social Management System (EMS) is a set of processes and practices that enable a project to manage social and environmental risks in a manner that reduces impacts, and leads to continual improvement in performance. These systems also tend to increase the operating efficiency of organizations or projects, reduce costs and improve compliance with regulatory requirements.[114] There are typically five main stages of an Environmental (and Social) Management System: 1) Commitment; 2) Planning; 3) Implementation; 4) Evaluation; and 5) Review. This is often referred to as the Plan-Do-Check-Act methodology, and is the framework adopted by the International Organization for Standardization (ISO) for the ISO 14001 standard.

[114] US Environmental Protection Agency (USEPA) website: "Environmental Management Systems." https://www.epa.gov/ems

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			Mines can use the Plan-Do-Check-Act system or an alternative framework, as long as the system promotes both reduced impacts and continual improvement in performance.
2.1.7.2. An environmental and social management plan (or its equivalent) shall be developed that, at minimum: a. Outlines the specific mitigation actions that will be carried out to address significant environmental and social impacts identified during and subsequent to the ESIA process; b. Assigns personnel responsible for implementation of various elements of the plan; and c. Includes estimates for the resources needed to implement the plan.	For 2.1.7.2: Review the environmental and social management plan (or its equivalent).	For 2.1.7.2: • Documentation of mitigation actions to be implemented, responsible personnel, and estimated resources needed to carry out the planned actions in an environmental and social management plan or its equivalent.	Explanatory Note for 2.1.7.2: A management plan completed for one IRMA chapter can satisfy the requirements for a management plan completed for another IRMA chapter, as long as the material requirements for each respective chapter are met. According to IFC, environmental and social management programs are centered on action plans and improved procedures to avoid, minimize or compensate for risks and impacts that have been identified. IFC provides guidance that whatever actions you decide to take, think of them as a continual improvement process - you will need to set targets, set deadlines, measure the results, and adjust the plans if necessary. You need to assign responsibilities and start to involve the right internal people and departments. As you develop your Action Plans, these are the key questions that you need to think about:[115] • What – environmental and social risks you want to address • How – related actions and procedures to be implemented to address the risk • Why – reasons (objectives) for the actions and procedures, and the expected results (targets) • When – timeframe and deadlines • Who – responsible people
2.1.7.3. The environmental and social management plan shall be implemented, and revised or updated as necessary based on	For 2.1.7.3: Review documentation and/or interview company to confirm that the plan is updated occasionally based on the information gained from monitoring, or if there are changes in the operation, etc.	For 2.1.7.3: • Environmental and social management plan or its equivalent (original and updated versions).	Explanatory Note for 2.1.7.3: Implementation, revision, and updating will necessarily be fluid to ensure that they are modified as information becomes available to suggest that modification is appropriate. For example, revisions or updates may be necessary if monitoring indicates that effects are greater than predicted, or if there is a change in mining activities or a mine expansion that changes the scope or magnitude of potential or actual impacts.

[115] International Finance Corporation (IFC). 2015. Environmental and Social Management System Implementation Handbook. p. 27. https://www.ifc.org/wps/wcm/connect/22dc7500483774689335f7299ede9589/ESMS+Handbook+General+v2.1.pdf?MOD=AJPERES

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monitoring results or other information.[116]			Information may come from any source and modifications to plans should include the same process and stakeholder participation that occurred during the development of the original plan.
2.1.8. Environmental and Social Impact Monitoring 2.1.8.1. As part of the ESMS, the operating company shall establish a program to monitor: a. The significant environmental and social impacts identified during or after the ESIA process; and b. The effectiveness of mitigation measures implemented to address environmental and social impacts.	**For 2.1.8.1:** Review documentation, including ESIA and materials related to the monitoring program. Confirm that monitoring program has identified indicators for key environmental and social impacts or risks identified during (or after the ESIA and/or other impact assessment processes), and that these indicators are being monitored. Review documentation and/or interview company to confirm that monitoring data are reviewed on a regular basis to evaluate whether or not mitigation strategies are being effective. If monitoring indicates that positive performance is not occurring on certain indicators, confirm that the company has plans in place to adapt mitigation measures accordingly.	**For 2.1.8.1:** • Documentation of monitoring program (objectives, indicators, monitoring schedules, etc.). • Monitoring records (summaries of data, raw data).	**Explanatory note for 2.1.8.1:** The breadth and depth of the monitoring program and mitigation measures should be consistent with the breadth and scope of the environmental and social impacts identified during or after the ESIA process.
2.1.8.2. The monitoring program shall be designed and carried out by competent professionals.	**For 2.1.8.2:** Review credentials of the professionals (operating company and contractors) responsible for planning and carrying out monitoring.	**For 2.1.8.2:** • Documentation of qualifications of operating company staff or contractors responsible for ESMS monitoring (e.g., curriculum vitae (CV), resumes, biographies, certificates of training, and/or documents demonstrating professional experience with	**Explanatory note for 2.1.8.2:** IRMA's definition of competent professionals is: "In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional."

[116] E.g., if monitoring indicates that effects are greater than predicted; or if there is a change in mining activities that warrants an update.

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		appropriate monitoring tasks.	All mine staff/contractors participating in the design or implementation of the monitoring program should be competent professionals. In this chapter, competent professionals should be trained in environmental and social monitoring in the ESIA and/or mining contexts. They will have been sufficiently instructed/educated to ensure their ability to understand and perform monitoring tasks at a level commensurate with modern social and ecological sciences. Indicators of sufficient training include, but are not limited to, qualification to perform their tasks, explain their outcomes, troubleshoot problems, defend results, and otherwise perform in the environmental and social monitoring area with independent comprehension and skill. Additionally, although not specified in the requirement, it is strongly recommended that laboratories used to process environmental and health-related samples should be accredited to relevant ISO standards, or, at minimum, accredited through national body. (This is a requirement for laboratories processing water samples. See Chapter 4.2—Water Management, requirement 4.2.4.1)
2.1.8.3. If requested by relevant stakeholders, the operating company shall facilitate the independent monitoring of key impact indicators where this would not interfere with the safe operation of the project.[117]	For 2.1.8.3: Interview stakeholders to confirm that independent experts have been afforded access to the mine site to carry out independent monitoring, and if deemed necessary, that funding has been provided to enable affected stakeholders to hire experts.	For 2.1.8.3: • Documentation of stakeholder requests for independent monitoring. • Operating company correspondence(s) responding to requests for independent monitoring that explains what independent monitoring occurred or would occur - and/or explanation(s) why requested independent monitoring was not completed. • Results and reporting from independent monitoring. • Correspondence(s) or other evidence	Explanatory note for 2.1.8.3: Independent monitoring could include, for example, allowing independent experts to have access to sites to carry out their own monitoring related to social or environmental indicators, or participation in the operating company's monitoring activities (ability to take split samples, etc.). It should also include provision of access to relevant company records/data, reports and/or documentation. Many affected communities will not have access to or the resources to hire independent experts. If requested by relevant stakeholders (e.g., in particular those who may be directly affected), companies may also facilitate independent monitoring by providing funding to stakeholders to hire experts. Such costs might include field labor, an independent expert, and sample analysis using an independent laboratory, if desired by the community. Costs related to community participation may also need to be

[117] For example, by allowing independent experts to have access to sites for monitoring social or environmental indicators, and by allowing access to relevant company records, reports or documentation. If requested by relevant stakeholders (e.g., in particular those who may be directly affected), companies may also facilitate independent monitoring by providing funding to stakeholders to hire experts.

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		demonstrating that results of independent monitoring were transmitted to the requesting stakeholders, posted on the operating company's external website, etc.	covered by the operating company. If funding is requested, then a mutually acceptable agreement for covering costs should be developed. The operating company should document such requests and resolution of those requests.
2.1.9. Stakeholder Consultation and Participation in ESIA and Environmental and Social Monitoring 2.1.9.1. As part of the ESIA process, the operating company shall provide for timely and effective stakeholder and rights holder (hereafter collectively referred to as stakeholder) consultation, review and comment on: a. The issues and impacts to be considered in the proposed scope of the ESIA (see 2.1.3); b. Methodologies for the collection of environmental and social baseline data (see 2.1.4); c. The findings of environmental and social studies relevant to the conclusions and recommendations of the ESIA (see 2.1.5.1.a and b); d. Options and proposals to mitigate the potential impacts of the project (see 2.1.5.1.c); e. Provisional conclusions and recommendations of the ESIA,	**For 2.1.9.1:** Interview the operating company team or person(s) responsible for ESIA, and review documentation related to stakeholder and outreach during all of the relevant stages. Review documentation related to stakeholder/rights holder engagement in the ESIA process to confirm that stakeholders were consulted and provided the opportunity to review and comment on information as required in 2.1.9.1.a through f.	**For 2.1.9.1:** • Documented plan for stakeholder consultations on the required elements in 2.1.9.1. • Documentation of actions, such as public postings (posters, signs, handbills), letters, emails, website information, public meetings, and other outreach designed to inform stakeholders about both the process and opportunity for stakeholder consultation and participation. • Documentation of stakeholder participation, reviews and comments on the scope of the ESIA. • Documentation of stakeholder participation, review and comments on data collection methodologies for baseline data • Documentation of stakeholder review and comments on ESIA conclusions and recommendations, and findings of studies • Documentation of stakeholder review and comment on mitigation options.	**Explanatory note for 2.1.9.1:** According to OECD, "All people have human rights and thus all stakeholders as individuals are "rights-holders". However, not all stakeholders will have their human rights put at risk or impacted by an extractive project or its associated activities. . . individuals living in a community whose only local water source may be polluted by an extractive operation may be rights-holders. Workers facing discrimination in the workplace are also rights-holders. In addition to individual human rights, certain groups such as indigenous and tribal peoples can have collective rights and consequently the group itself may be considered a rights-holder."[118] For the purposes of this chapter, we are referring to rights holders and stakeholders collectively as stakeholders. However, when rights holders have been identified (e.g., see IRMA Chapter 1.3, requirement 1.3.2.3.e) particular effort should be made to include them in stakeholder engagement processes. "timely and effective stakeholder consultation" means that sufficient time is given ahead of time for stakeholders to review draft or final materials, comment on them, and get feedback on comments from the company. The time required to review various components of the ESIA process will vary based on the capacity of the stakeholders. To ensure that enough time is provided and that consultation is as effective as possible, the operating company should check in with stakeholders, and provide more time if necessary. As per Chapter 1.2, requirement 1.2.3.1, stakeholders from affected communities may request that companies take steps such as capacity

[118] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* p. 20. Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

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prior to finalization (see 2.1.6.1); and f. The final conclusions and recommendations of the ESIA (see 2.1.6.1).		• Documentation of stakeholder review and comment on final ESIA conclusions and recommendations. • Documentation of operating company responses to stakeholder participation and input.	building to facilitate effective stakeholder engagement in the ESIA, or subsequent development of management plans and monitoring efforts. Stakeholders may not be interested in participating in these activities. In such cases, the operating company should be able to produce evidence good faith efforts were made to provide stakeholders with opportunities to fully participate.
2.1.9.2. The operating company shall encourage and facilitate stakeholder participation, where possible, in the collection of data for the ESIA, and in the development of options to mitigate the potential impacts of the project during and subsequent to the ESIA process.[119]	For 2.1.9.2: Interview the operating company and review documentation (e.g., stakeholder outreach communications, letters, presentations) and interview relevant stakeholders (e.g., those involved in committees established as per Chapter 1.2, requirement 1.2.2.3) to confirm that efforts have been made to involve stakeholders in data collection related to the ESIA and afterward.	For 2.1.9.2: • Documented plan for stakeholder consultations related to data collection for the ESIA, and the development of mitigation options. • Documentation of actions, such as public postings (posters, signs, handbills), letters, emails, website information, public meetings, and other outreach designed to inform stakeholders about both the process and opportunity for stakeholder participation in collection of data and development of mitigation options. • Documentation of stakeholder reviews and comments about data collection or mitigation options. • Documentation of operating company responses to stakeholder participation and input. • Documentation of stakeholder participation in data collection and in the development of mitigation options	Explanatory Note for 2.1.9.2: "where possible," means that efforts should be made to engage stakeholders whenever there are some who may be impacted by the mining project. It is recognized, however, that stakeholders may not be interested in participating in the collection of data for the ESIA, or in the development of strategies to mitigate predicted impacts. In such cases, the operating company should be able to produce evidence that good faith efforts that were made to encourage stakeholders to participate (e.g., opportunities were available and outreach occurred). Facilitation of participation may include the provision of information and explanations in local languages, using materials and approaches designed to be accessible to local communities (see also Chapter 2.8, Criteria 2.8.3), and providing capacity building or training on data collection methods, etc. In both the collection of data and development and implementation of mitigation strategies, efforts should be made to include participation by relevant stakeholders, including those who may be directly affected by particular social or environmental impacts, and also competent professionals (e.g., those working on behalf of affected communities or government agencies) who have expertise in the areas of concern. For example, for environmental issues, consultations with government agencies that the environment and natural resources, as well as non-government biologists, hydrologists, geologists or other appropriate scientists should be included when mitigation strategies are being developed and reviewed. Outreach efforts should be documented.

[119] Facilitation of participation may include the provision of information and explanations in local languages, using materials and approaches designed to be accessible to local communities, and providing capacity building or training on methods. See also Chapter 2.8, Criteria 2.8.3.

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2.1.9.3. The operating company shall provide for timely and effective stakeholder consultation, review and comment on the scope and design of the environmental and social monitoring program.	For 2.1.9.3 and 2.1.9.4: Interview the operating company and review documentation (e.g., stakeholder outreach communications, letters, presentations) and interview relevant stakeholders to confirm that stakeholders were provided with the opportunity to provide input on the scope and design of the monitoring program; and that stakeholders were encouraged to participate in the monitoring program (e.g., either as observers, or enabled to carry out independent monitoring with their own experts, etc.).	For 2.1.9.3: • Documented plan for stakeholder consultations on the scope and design of the environmental and social monitoring program. • Documentation of actions, such as public postings (posters, signs, handbills), mailings, website information, public meetings, and other outreach designed to inform stakeholders about the opportunity to review and comment on the scope and design of the environmental and social monitoring program • Documentation of stakeholder consultation, review and comment on the scope and design of the environmental and social monitoring program. • Documentation of operating company responses to stakeholder participation and input.	Explanatory Note for 2.1.9.3: "timely and effective stakeholder consultation" means that sufficient time is given ahead of time for stakeholders to review draft or final materials, comment on them, and get feedback on comments from the company. The time required to review various components of the ESIA process will vary based on the capacity of the stakeholders. To ensure that enough time is provided and that consultation is as effective as possible, the operating company should check in with stakeholders, and provide more time if necessary. Stakeholders may not be interested in participating in these activities. In such cases, the operating company should be able to produce evidence that good faith efforts that were made to provide stakeholders with opportunities to fully participate.
2.1.9.4. The operating company shall encourage and facilitate stakeholder participation, where possible, in the implementation of the environmental and social monitoring program.[120]	For 2.1.9.3 and 2.1.9.4: Interview the operating company and review documentation (e.g., stakeholder outreach communications, letters, presentations) and interview relevant stakeholders to confirm that stakeholders were provided with the opportunity to provide input on	For 2.1.9.4: • Documented plan for stakeholder participation in the environmental and social monitoring program. • Documentation of actions, such as public postings (posters, signs,	Explanatory Note for 2.1.9.4: For monitoring programs, efforts should be made to include participation by relevant stakeholders, in particular those who may be directly affected by social or environmental impacts, and, if requested as per 2.1.8.3, independent experts working on behalf of affected communities.

[120] Facilitation of participation may include the provision of information and explanations in local languages, using materials and approaches designed to be accessible to local communities, and providing capacity building or training on methods. See also Chapter 2.8, Criteria 2.8.3.

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	the implementation of the monitoring program; and that stakeholders were encouraged to participate in the monitoring program (e.g., either as observers, or enabled to carry out independent monitoring with their own experts, etc.).	handbills), letters, emails, website information, public meetings, and other outreach designed to inform stakeholders about the opportunity for stakeholder participation in the environmental and social monitoring program. • Documentation of stakeholder participation in the implementation of the environmental and social monitoring program.	"where possible," means that efforts should be made to engage stakeholders whenever there are some who may be impacted by the mining project. It is recognized, however, that stakeholders may not be interested in providing input on how a company might improve the implementation of the mine's environmental and social monitoring program. In such cases, the operating company should be able to produce evidence that good faith efforts that were made to encourage stakeholders to participate (e.g., opportunities were available and outreach occurred). Facilitation of participation may include, for example, provision of: • information and explanations in local languages, using materials and approaches designed to be accessible to local communities (See also Chapter 2.8, Criteria 2.8.3) • capacity building or training on monitoring methods • community access to the mine site to participate in company monitoring activities or community-based independent monitoring activities • funding to enable community participation. If funding is requested, then a mutually acceptable agreement for covering costs should be developed.
2.1.9.5. The operating company shall record all stakeholder comments received in relation to ESIA scoping; implementation; ESIA findings, conclusions and recommendations; and the environmental and social monitoring program. The company shall record how it responded to stakeholder comments.	For 2.1.9.5: Review documentation (e.g., records of comments and responses) related to stakeholder input during various stages of the ESIA.	For 2.1.9.5: • Documentation of stakeholder reviews and comments. • Documentation of operating company responses to stakeholder input.	

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2.1.10. Environmental and Social Disclosures and Reporting[121] 2.1.10.1. The ESIA report and any supporting data and analyses shall be made publicly available. Detailed assessments of some issues and impacts may be reported as stand-alone documents, but the ESIA report shall review and present the results of the full analysis in an integrated manner.	**For 2.1.10.1:** Confirm public availability of ESIA reports and associated documentation and records.	**For 2.1.10.1:** • ESIA documents (e.g., draft and final reports and supplemental materials). • Evidence that, at minimum, the final ESIA report and supplemental data are publicly available (e.g., links to website, locations of public facilities where copies are available, etc.).	**Explanatory Note for 2.1.10:** See also IRMA Chapter 2.8 for requirements related to Communications and Access to Information (2.8.4), which apply to a company's communications for this and all other IRMA chapters. In particular, requirement 1.2.4.3 requires that communications be carried out and information be provided to stakeholders in a timely manner, and be in formats and languages that are culturally appropriate and accessible to affected communities and stakeholders.
2.1.10.2. The operating company shall make publicly available an anonymized version of the ESIA record of stakeholder comments and its own responses, including how each comment was taken into account.	**For 2.1.10.2:** Confirm accessibility of public record of anonymized stakeholder comments and operating company responses.	**For 2.1.10.2:** • Documentation of all stakeholder comments received (with names/sources removed so as to be anonymous) and company responses (including how stakeholder comments were taken into account). • Evidence that anonymized stakeholder comment data and company responses are publicly available (e.g., links to website, locations of public facilities where copies are available, etc.).	**Explanatory Note for 2.1.10.2:** The operating company's responses to comments should be sufficiently robust so that the commenter and all stakeholders can understand the response and why/how/if the comment influenced the ESIA process or its results. Where multiple commenters raise the same issue the mine may summarize these into a cumulative discussion - so long as doing so does not eliminate distinctive points/issues. Although the public version of comments should be anonymized, the company should maintain records of commenters and their comments (not anonymous) in case there is the need to demonstrate veracity of the submission or its content.
2.1.10.3. The environmental and social management plan shall be made available to stakeholders upon request.	**For 2.1.10.3:** Confirm, through review of any policies or interviews with relevant company personnel, that environmental and social management plans are made available to stakeholders if requested.	**For 2.1.10.3:** • Documentation of stakeholder requests for the environmental and social management plan and documentation of the company having provided the plan in response. • Records of stakeholder complaints or	

[121] See Chapter 2.8 for requirements related to Communications and Access to Information (2.8.4).

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		grievances, related to failure of company to provide requested information, and any company follow-up to such complaints.	
2.1.10.4. Summary reports of the findings of the environmental and social monitoring program shall be made publicly available at least annually, and all data and methodologies related to the monitoring program shall be publicly available.	For 2.1.10.4: If relevant, confirm public availability of summary reports and other information and data from the monitoring program.	For 2.1.10.4: • Documentation that at least annually summary reports of findings of the environmental and social monitoring program(s) were made public (e.g., links to website, locations of public facilities where copies are available, etc.). • Documentation that all data and methodologies related to the monitoring program are publicly available (e.g., links to website, locations of public facilities where copies are available, etc.).	Explanatory Note for 2.1.10.4: This includes summaries, methodologies and data for any and all environmental and social monitoring completed by the operating company and its contractors. For the purposes of this requirement, publicly available means that data are available on the internet (e.g., via the operating company/mine's website), at a public location (such as a library, government office, community center, etc.), or upon request from the operating company.
2.1.10.5. The existence of publicly available ESIA and ESMS information, and the means of accessing it, shall be publicized by appropriate means.[122]	For 2.1.10.5: Interview stakeholders to confirm that they are aware of how to access ESIA-related information.	For 2.1.10.5: • Records of outreach (e.g., posters, signs, handbills, mailings, website information, public meetings, correspondence, and other appropriate modes of outreach) designed to inform stakeholders of availability of ESIA and ESMS information.	Explanatory Note for 2.1.10.5: "Appropriate means" refers to the need to publish information in formats and languages that are culturally appropriate, accessible and understandable to affected stakeholders as per Chapter 1.2. Existing mines are not expected to publicize the existence of a publicly available ESIA, but they are expected to inform stakeholders of ESMS information.

NOTES

Many jurisdictions have legal requirements for undertaking ESIA. Similarly, ESIA are often mandated by organizations that provide funding for projects (e.g., International Finance Corporation (IFC)/World Bank). The requirements of Chapter 2.1 align with the good practice requirements described by IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts.

[122] E.g., local radio, leaflets, local meetings.

Where documents and records produced in satisfaction of legal or other organization's requirements also meet the requirements of the IRMA standard the operating company is not required to duplicate these. A company may choose to develop summaries and explanations of such documents and records in order to facilitate the IRMA audit process and thereby reduce its cost.

An ESIA that meets the requirements of this chapter is a critical step in informing interested and affected stakeholders and rights holders including, where applicable, indigenous peoples about a proposed mining project and its potential impacts, prior to decision-making. The fact that an effective ESIA has been designed and implemented does not imply that a mining project should necessarily proceed. With effective engagement of stakeholders, however, it should provide a sound basis for consideration as to whether a project should or should not proceed.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As mentioned in Chapter 1.1, companies are required to abide by host country law. Consequently, if there is an ESIA process mandated by a regulatory agency within the host country, the company will be required to participate in that process. However, if that process does not include some of the elements of the IRMA ESIA chapter, the operating company will be expected to demonstrate that measures were taken to meet the IRMA requirements, as well.
1.2—Community and Stakeholder Engagement	Requirement 1.2.2.3 specifically relates to stakeholder oversight of the company's environmental and social performance, and consequently, is relevant to this chapter. Capacity building or training may be needed to ensure effective participation by stakeholders in the ESIA process (see 2.1.9). The primary reference for that requirement is 1.2.3 Strengthening Capacity, in Chapter 1.2. Disclosure of information shall meet the requirements of Chapter 1.2. In particular, information mentioned in 2.1.9 shall be in formats and languages that are culturally appropriate, accessible and understandable to affected stakeholders. See criterion 1.2.4 for more details.
1.3—Human Rights Due Diligence	If the infringement of human rights is predicted during ESIA, or if human rights were infringed during exploration, a company will be expected to prevent, mitigate predicted impacts and remediate the human rights impacts as per Chapter 1.3.
2.2—Free, Prior and Informed Consent	Implementation of ESIA requirements can be integrated with the free, prior and informed consent process described in Chapter 2.2. However, it should be emphasized that indigenous peoples' participation in the ESIA process, including in the consideration of proposals to mitigate expected impacts does not, of itself, imply consent, even if the recommended actions to minimize impacts are fully implemented.
2.3—Obtaining Community Support and Delivering Benefits	It is possible that some initial planning of the company's contributions to community development initiatives and benefits may have been done during the ESIA process. If so, it is important that monitoring of the effectiveness of the community investment decisions occurs, and if necessary, additional planning occurs as per chapter 2.3.
2.5—Emergency Preparedness and Response	Potential impacts related to community safety, and mitigation strategies identified in the ESIA should feed into the Emergency Response Plan and planning processes described in Chapter 2.5.
4.1—Waste and Materials Management	Potential impacts of the mining project on mine wastes and other materials should be scoped, at least in a general manner, during the ESIA process. Additionally, Chapter 4.1 requires a more in-depth assessment of potential chemical and physical risks related to mine wastes and other materials (see 4.1.2 and 4.1.3).
4.2—Water Management	Potential impacts of the mining project on water quality or quantity should be scoped during the ESIA process, or in a separate scoping process as Chapter 4.2, requirement 4.2.2.2. Chapter 4.2 also requires a more in-depth assessment of potentially significant impacts on water quality and quantity if potential impacts are identified during a screening/scoping process.
4.3—Air Quality Management	Potential impacts of the mining project on air quality may be scoped during the ESIA process, however, or in a separate screening project as per Chapter 4.3, requirement 4.3.1.1. Chapter 43 also requires a more in-depth assessment of potentially significant impacts on air quality if potential impacts are identified during a screening/scoping process.

Cross References to Other Chapters	
4.4—Noise	IRMA Chapter 4.4—Noise and Vibration includes screening of impacts of noise and vibrations on human receptors, and this may be screened as part of the Environmental and Social Impact Assessment process. Noise-related impacts on wildlife, however, are not addressed in Chapter 4.4, and should be screened in the ESIA process, and If there are significant impacts are identified, then those impacts should be mitigated as per the ESIA process (including consultations with relevant stakeholders, such as government biologists, wildlife conservation organizations, academic experts and community members whose livelihoods or sustenance may be affected by impacts on wildlife). Any related monitoring should occur as per the Environmental and Social Monitoring program.
Multiple chapters that require risk or impact assessment	There are numerous chapters in the IRMA Standard that require risk or impact assessments. These assessments may be integrated into the ESIA, if the timing works, and the relevant information and analyses are included in the ESIA. Information produced for other assessments may also feed into the ESIA process (i.e., collection of some data may have already occurred, as well as an analysis of potential significance of some issues). Conversely, if other assessments occur later than the ESIA, the data and analysis carried out for the ESIA may feed into those assessments. The following chapters include reference to risk or impact assessment: 1.3—Human Rights Due Diligence; 3.4—Mining and Conflict-Affected or High-Risk Areas; 3.5—Security Arrangements; 3.3—Community Health and Safety; 2.3—Obtaining Community Support and Delivering Benefits; 3.7—Cultural Heritage; 2.4—Resettlement; 2.6—Reclamation and Closure; 4.1—Waste and Materials Management; 4.2—Water Management; 4.3—Air Quality; 4.4—Noise and Vibration; 4.6— Biodiversity, Ecosystem Services and Protected Areas.
Multiple chapters that require monitoring	Several IRMA chapters have their own monitoring specifications, some of which may not entirely align with all of the ESIA monitoring requirements in Chapter 2.1. Where they differ, the chapter requirements take precedence. If there are no particular requirements, then the expectation is that any significant impacts related to those chapters will be captured in the ESIA monitoring program. The following chapters include references to monitoring: 3.1—Fair Labor and Terms of Work; 3.2—Occupational Health and Safety; 1.3—Human Rights Due Diligence; 3.4—Mining and Conflict Affected Areas; 3.5—Security Arrangements; 3.3—Community Health and Safety; 2.3—Obtaining Community Support and Delivering Benefits; 2.4—Resettlement; 2.6—Reclamation and Closure; 4.1—Waste and Materials Management; 4.2—Water Management; 4.3—Air Quality; 4.4—Noise and Vibration; 4.6—Biodiversity, Ecosystem Services and Protected Areas; 4.7—Cyanide Management; and 4.8—Mercury Management.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Accessible

In reference to grievance mechanism or engagement processes, means being known to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access.

Affected Community

A community that is subject to risks or impacts from a project.

Artisanal and Small-Scale Mining (ASM)

Formal or informal operations with predominantly simplified forms of exploration, extraction, processing and transportation. ASM is normally low capital intensive and uses high labour intensive technology. ASM can include men and women working on an individual basis as well as those working in family groups, in partnership or as members of cooperatives or other types of legal associations and enterprises involving hundreds or thousands of miners. For example, it is common for work groups of 4-10 individuals, sometimes in family units, to share tasks at one single point of mineral extraction (e.g. excavating one tunnel). At the organisational level, groups of 30-300 miners are common, extracting jointly one mineral deposit (e.g. working in different tunnels), and sometimes sharing processing facilities.

Background Water Quality

Established after mining has commenced, it is the water quality in a similarly mineralized area outside of the mine's influence (e.g., surface water quality upstream of the mine site or upgradient for groundwater).

Baseline

A description of existing conditions to provide a starting point (e.g. pre-project condition) against which comparisons can be made (e.g. post-impact condition), allowing the change to be quantified.

Biodiversity/Biological Diversity

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Corporate Owner(s)

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Critical Habitat

Areas with high biodiversity value, including but not necessarily limited to: (i) habitat of significant importance to critically endangered, endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes. Other recognized high biodiversity values might also support a critical habitat designation, based on case-by-case evaluation.

Cumulative Impacts

Additive, synergistic, interactive or nonlinear outcomes of multiple development or disturbance events that aggregate over time and space. Examples of cumulative impacts (or effects) may include: reduction of water flows in a watershed due to multiple withdrawals; increases in sediment loads to a watershed over time; interference with migratory routes or wildlife movement; or more traffic congestion and accidents due to increases in vehicular traffic on community roadways.

Ecosystem Services

The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Human Rights Risks

Human rights risks are understood to be the business enterprise's potential adverse human rights impacts. (May also be referred to as potential human rights impacts).

Indigenous Peoples

An official definition of "indigenous" has not been adopted by the United Nations system due to the diversity of the world's indigenous peoples. Instead, a modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to

territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Inform

The provision of information to inform stakeholders of a proposal, activity or decision. The information provided may be designed to help stakeholders in understanding an issue, alternatives, solutions or the decision-making process. Information flows are one-way. Information can flow either from the company to stakeholders or vice versa.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mitigation

Refers to actions taken to reduce the likelihood of a certain adverse impact occurring.

Mitigation Hierarchy

The mitigation hierarchy is a set of prioritized steps to alleviate environmental (or social) harm as far as possible through avoidance, minimization (or reduction) and restoration of adverse impacts. Compensation/offsetting are only considered to address residual impacts after appropriate avoidance, minimization and restoration measures have been applied. (See Glossary for full definition)

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Post-Closure

The period after the reclamation surety holder declares the activities required by the reclamation and closure plan are complete; any significant objections raised during the public comment period on the final release of the financial surety have been resolved; and the reclamation surety has been returned to the operator, or it has been converted to a post-closure trust fund or equivalent (i.e., if there is a need to fund long-term management and monitoring of the site). This phase continues until final sign-off and relinquishment can be obtained from the regulator and stakeholders.

Protected Area / Protected Area Management Categories (IUCN)

A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. The definition is expanded by six "protected area management categories". (For full definition, see IRMA Glossary)

Resettlement

Voluntary Resettlement: voluntary land transactions (i.e., market transactions in which the seller is not obliged to sell and the buyer cannot resort to expropriation or other compulsory procedures sanctioned by the legal system of the host country if negotiations fail).

Involuntary Resettlement: physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood) as a result of project-related land acquisition and/or restrictions on land use. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement. This occurs in cases of (i) lawful expropriation or temporary or permanent restrictions on land use and (ii) negotiated settlements in which the buyer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller fail.

Rights Holder

Rights holders are individuals or social groups that have particular entitlements in relation to specific duty bearers (e.g., State or non-state actors that have a particular obligation or responsibility to respect, promote and realize human rights and abstain from human rights violations). In general terms, all human beings are rights-holders under the Universal Declaration of Human Rights. In particular contexts, there are often specific social groups whose human rights are not fully realized, respected or protected.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Threatened Species

Species that meet the IUCN (2001) criteria for Vulnerable (VU), Endangered (EN) or Critically Endangered (CR), and are facing a high, very high or extremely high risk of extinction in the wild. These categories may be re-interpreted for IRMA purposes according to official national classifications (which have legal significance) and to local conditions and population densities (which should affect decisions about appropriate conservation measures).

Worker

All non-management personnel.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 2.2—Free, Prior and Informed Consent (FPIC)

BACKGROUND

For more than a quarter century, the international community has recognized that special attention needs to be paid to the individual and collective rights of indigenous peoples. [123] The following rights of indigenous peoples are especially relevant in relation to industrial-scale mining developments:[124]

- the right to self-determination, by virtue of which indigenous peoples freely determine their political status and pursue their economic, social and cultural development;
- rights to property, culture, religion, and non-discrimination in relation to lands, territories and natural resources, including sacred places and objects
- rights to health and physical well-being in relation to a clean and healthy environment
- rights to set and pursue their own priorities for development
- the right to make authoritative decisions about external projects or investments

Both States and corporations should respect these rights. Corporations may demonstrate such respect by obtaining the Free, Prior and Informed Consent (FPIC) of indigenous peoples and providing culturally appropriate alternatives and adequate compensation and benefits for projects that affect indigenous peoples' rights.[125]

Key elements of the requirement for consent of indigenous peoples have been recognized by international law since 1989, when the General Conference of the International Labour Organization adopted Convention 169 on Indigenous and Tribal Peoples.[126] Since 1989, FPIC has gained broader application and more widespread support in national laws and various international instruments and bodies.[127]

TERMS USED IN THIS CHAPTER

Collaboration ■ Consultation ■ Corporate Owner ■ Critical Cultural Heritage ■ Existing Mine ■ Free, Prior and Informed Consent (FPIC) ■ FPIC Scoping ■ Grievance ■ Grievance Mechanism ■ Host Country Law ■ Indigenous Peoples ■ Mining Project ■ Mining-Related Activities ■ New Mine ■ Operating Company ■ Rights Holder ■ Stakeholder ■ Vulnerable Group ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To demonstrate respect for the rights, dignity, aspirations, culture, and livelihoods of indigenous peoples, participate in ongoing dialogue and engagement, and collaborate on strategies to minimize impacts and create benefits for indigenous peoples, thereby creating conditions that allow for indigenous peoples' free, prior and informed consent and decision-making regarding mining development.

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[123] UN. 2008. Guidelines on Indigenous Peoples' Issues. www.un.org/esa/socdev/unpfii/documents/UNDG_guidelines_EN.pdf

[124] Anaya, J. 2013. Extractive Industries and Indigenous Peoples. Report of the Special Rapporteur on the Rights of Indigenous Peoples. UN Doc. A/HRC/24/41. Para. 28. Available at: unsr.jamesanaya.org/study/report-a-hrc-24-41-extractive-industries-and-indigenous-peoples-report-of-the-special-rapporteur-on-the-rights-of-indigenous-peoples

[125] IFC. 2012. Performance Standard 7 Indigenous Peoples. Objectives and Paras. 9 and 14. Available at: www.ifc.org/wps/wcm/connect/1ee7038049a79139b845faa8c6a8312a/PS7_English_2012.pdf?MOD=AJPERES

[126] ILO. Convention 169. Available at: www.ilo.org/indigenous/Conventions/no169/lang--en/index.htm

[127] For a detailed discussion of recent international jurisprudence related to FPIC, see: Gilbert, J. and Doyle, C. 2011. "A New Dawn over the Land: Shedding Light on Collective Ownership and Consent." pp. 24-42. Available at: roar.uel.ac.uk/2648/1/A_New_Dawn_Over_the_Land_-_Shedding_Light_on_Collective_Ownership_and_Consent.pdf

SCOPE OF APPLICATION

Chapter Relevance: Operating companies may provide evidence that this chapter is not relevant if they can prove that there are no indigenous peoples whose legal or customary rights or interests may be affected by their exploration or mining activities, or potential mine expansions. Examples of rights or interests may include lands, territories and resources that indigenous peoples possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired; livelihood, cultural or spiritual activities or places; or critical cultural heritage.

New vs. Existing Mines: New mines shall meet the requirements in this chapter. At existing mines, where FPIC was not obtained in the past, operating companies will be expected to demonstrate that they are operating in a manner that seeks to achieve the objectives of this chapter. For example, companies may demonstrate that they have the free, informed consent of indigenous peoples for current operations by providing evidence of signed or otherwise verified agreements, or, in the absence of agreements, demonstrate that they have a process in place to respond to past and present community concerns and to remedy and/or compensate for past impacts on indigenous peoples' rights and interests. In alignment with this chapter, such processes should have been agreed to by indigenous peoples and evidence should be provided that agreements are being fully implemented by the companies.

Additionally, it should be noted that if there are human-rights-related impacts on indigenous peoples that have not been mitigated or remediated at existing mines, they will need to be addressed as per Chapter 1.3; and other unremediated impacts may be addressed through the operational-level grievance mechanism as per Chapter 1.4. (See also the "Cross Reference to Other Chapters" table in the Notes Section below.)

Both new and existing mines shall obtain the free, prior and informed consent of indigenous peoples if there are proposed changes to the company's plans or activities that may significantly change the nature or degree of an existing impact, or result in additional impacts on indigenous peoples' rights, lands, territories, resources, properties, livelihoods, cultures or religions.

Overlap with National Laws: The State always holds the primary duty to protect indigenous peoples' rights. Nothing in this chapter is intended to reduce the primary responsibility of the State to consult with indigenous peoples in order to obtain their FPIC and protect their rights. However, IRMA recognizes that in the absence of national laws, or in the exercise of their right to self-determination, some indigenous peoples may wish to engage with companies without State involvement.

As per Chapter 1.1, if national FPIC laws exist, companies shall abide by those laws. Where a host government has established an existing legislative framework that requires or enables agreements between mining companies and indigenous communities (as in Australia), it may not be necessary for companies to run a parallel FPIC process based on the requirements of this chapter. It would, however, be necessary for the company demonstrate to IRMA auditors that the process whereby the agreement was reached conformed with or exceeded the IRMA FPIC requirements and the general intent of this chapter (for example, there was no express or implied threat to invoke compulsory powers if agreement could not be reached, and the community was advised at the outset that the company would not undertake an activity in the absence of community consent).

CRITICAL REQUIREMENTS IN THIS CHAPTER

New mine sites have obtained the FPIC of indigenous peoples, and existing mines either have obtained FPIC or can demonstrate that they are operating in a manner that supports positive relationships with affected indigenous peoples and provides remedies for past impacts on indigenous peoples' rights and interests (2.2.2.2 and scope of application).

Free, Prior and Informed Consent (FPIC) Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
2.2.1. Policy Commitment 2.2.1.1. The operating company shall have a publicly available policy that includes a statement of the company's respect for indigenous peoples' rights, as set out in the United Nations Declaration on the Rights of Indigenous peoples.[128]	Auditing Note for Chapter 2.2.1: For auditing purposes, "indigenous peoples' representatives" may be representatives from the indigenous peoples' representative bodies/governing structures/governing institutions and/or representatives chosen by the peoples themselves in accordance with their own procedures. Ideally, interviews will include indigenous peoples' representatives and individuals from the project area, as well as those who were engaged in the FPIC process or who have knowledge of the process, and/or those responsible for monitoring FPIC implementation. For 2.2.1.1: Interview operating company to confirm that a policy is in place and that it is known and understood by relevant employees and contractors (e.g., those who may interact with indigenous peoples in the course of their work, those carrying out assessments or studies, those involved in stakeholder/rights holder engagement, etc.). Also, confirm that the company has made the policy publicly available (review website, consult with company on other public availability such as at libraries, distributed at meetings, etc.).	For 2.2.1.1: • Operating company or corporate owner Indigenous Peoples' Policy (or equivalent). • Public statements or commitments expressed in company materials to respect indigenous peoples' rights.	Explanatory Note for 2.2.1.1: It is recognized that many larger mining corporations have policies in place that include statements on respecting indigenous peoples' rights, such as human rights policies or specific policies related to indigenous peoples. If an operating company's corporate owner or parent has such a policy in place, it will suffice, as long as it has been communicated to the indigenous peoples potentially affected by the mining project up for IRMA certification, and relevant employees at the operations/mine-site level are aware of the policy and its implications in their work.
2.2.1.2. The operating company shall ensure that indigenous	For 2.2.1.2: Review minutes from meetings where policy was discussed with indigenous peoples; interview indigenous peoples'	For 2.2.1.2: • Documentation of outreach efforts	Explanatory Note re: 2.2.1.2: The intent of this requirement is that a "reasonable effort" be made to inform a broad-range of members of

[128] United Nations Declaration on the Rights of Indigenous Peoples. Available at: www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
peoples potentially affected by the company's mining-related activities are aware of the policy.	representatives to confirm that they were made aware of the policy.	(e.g., advertisement of policy; distribution of policy, meetings where policy was discussed, etc.) undertaken to inform indigenous peoples of a policy that addresses indigenous peoples' rights.	indigenous peoples' communities that the company has a policy that includes how the company relates to indigenous peoples. A "reasonable effort" to inform indigenous peoples about the policy implies that the company's outreach, such as advertising of informational meetings and dissemination of the policy is done in a manner likely to reach a broad-base of potentially affected indigenous peoples. For example, if informational meetings are held they should occur during times of year and times of day that are appropriate to reach a broad-base of members of affected communities (e.g., not held during harvest season or hunting season when large segments of affected communities might be unable to attend meetings; or not held during hours when many would be at work). Similarly, written/paper postings on flyers, posters, or mail; newspaper ads, radio or other media; and all other forms of information dissemination should be culturally appropriate and attentive to the needs of those indigenous peoples most likely to be impacted by or interested in the mine. NOTE: No outreach should be made to indigenous peoples who are living in voluntary isolation. If there is the potential that new exploration or mining to affect the culture, livelihoods, territory or resources of indigenous peoples living in voluntary isolation, such activities should not proceed. The requirement that FPIC be free from external manipulation, coercion and intimidation, which is likely to occur with unwanted or uninvited contact from a company, means that an FPIC process cannot be undertaken in situations where indigenous or tribal peoples are living in voluntary isolation, as any attempt to obtain consent would be inappropriate.[129] Consequently, IRMA will not certify a mine if affected communities include indigenous peoples living in voluntary isolation. (See also IRMA Chapter 3.7, requirement 3.7.5.5)
2.2.2. General Requirements	**For 2.2.2.1:** Review company's due diligence assessment, and interview company and	**For 2.2.2.1:** • Legal analysis of the host government	**Explanatory Note re: 2.2.2.1:** The State (i.e., host government) always holds the primary duty to protect indigenous peoples' rights. Nothing in

[129] Doyle, C. and Carino, J. 2014. Making Free Prior & Informed Consent a Reality: Indigenous Peoples and the Extractive Sector. p. 12. http://www.ecojesuit.com/wp-content/uploads/2014/09/Making-FPIC-a-Reality-Report.pdf, and UN Global Compact. 2012. A Business Reference Guide: UN Declaration on the Rights of Indigenous Peoples. p. 24. http://solutions-network.org/site-fpic/files/2012/09/UN-declaration-on-IR.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
2.2.2.1. The operating company shall conduct due diligence to determine if the host government conducted an adequate consultation process aimed at obtaining indigenous peoples' informed consent prior to granting access to mineral resources. The key findings of due diligence assessments shall be made publicly available and shall include the company's justification for proceeding with a project if the State failed to fulfill its consultation and/or consent duties.[130]	indigenous peoples' representatives to determine if the State (host country) fulfilled its own responsibility to respect FPIC. If the host government did not carry out its duties to consult with indigenous peoples prior to granting mineral concessions, confirm that the operating company made publicly available its justification, e.g., a written statement, for proceeding with a mining project.	(State) laws or policies related to FPIC for indigenous peoples. • Report on whether or not the host country carried out consultation and/or consent processes with potentially affected indigenous peoples prior to granting access to mineral resources (e.g., leasing minerals to private companies, offering mineral concessions, issuing exploration licences, etc.). • Documentation of communications of findings from company due diligence research (e.g., minutes from public meetings with stakeholders and rights holders where information was shared, internet link to summary of findings, correspondence with stakeholders and rights holders sharing the information, etc.).	this chapter is intended to reduce the primary responsibility of the State to consult with indigenous peoples in order to obtain their free, prior and informed consent (FPIC) before allowing the development of mineral resources that may affect indigenous peoples' rights and interests. However, IRMA recognizes that in the absence of national laws, or in the exercise of their right to self-determination, some indigenous peoples may wish to engage with companies without State involvement, or despite the fact that the State has not upheld its responsibility to consult with the indigenous peoples regarding proposed mineral extraction and development. As noted by the UN Special Rapporteur on the rights of indigenous peoples, mining company due diligence: "…entails ensuring that the company is not contributing to or benefiting from any failure on the part of the State to meet its international obligations towards indigenous peoples. Thus, for example, extractive companies should avoid accepting permits or concessions from States when prior consultation and consent requirements have not been met."[131] If the host government did not carry out its duties to consult with indigenous peoples prior to granting mineral concessions, must provide publicly available justification (e.g., a written statement) for proceeding with the project despite the host country's failure to exercise its duties. Justification could include, for example, that the company is committed to implementing an agreed free, prior and informed consent process with indigenous peoples and mutually-agreed remediation for past impacts (e.g., those experienced during mineral exploration or before consent was achieved from indigenous peoples for mineral development). It should be noted that even if the host government consulted with indigenous peoples there may not have been agreement between the government and indigenous peoples regarding if and how mineral development should proceed. In such cases, the operating company should

[130] The company shall make all documents relating to the due diligence process available to the IRMA auditor for review.

[131] Anaya, J. 2013. *Extractive industries and Indigenous Peoples.* Report of the Special Rapporteur on the Rights of Indigenous Peoples. UN Doc. A/HRC/24/41, Para. 55. http://unsr.jamesanaya.org/study/report-a-hrc-24-41-extractive-industries-and-indigenous-peoples-report-of-the-special-rapporteur-on-the-rights-of-indigenous-peoples

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			carefully manage its relationships with the host government and indigenous peoples to prevent contributing to conflicts.
2.2.2.2. (Critical Requirement) New mines shall not be certified by IRMA unless they have obtained the free, prior and informed consent (FPIC) of potentially affected indigenous peoples.[132] The circumstances for obtaining FPIC include situations where mining-related activities may affect indigenous peoples' rights[133] or interests, including those that may: impact on lands, territories and resources;[134] require the physical relocation of people; cause disruption to traditional livelihoods; impact on critical cultural heritage; or involve the use of cultural heritage for commercial purposes.	For 2.2.2.2: Interview operating company and indigenous peoples' representatives to determine if the company has complied with the relevant requirements in this criterion.	For 2.2.2.2: • Written or other evidence the mine has obtained FPIC from indigenous peoples. • Legal or other analysis of the potential for the mining project to affect the rights and/or interests of indigenous peoples. • Consultation procedures. • Complaints and grievance procedures. • Records of complaints or grievances. • Correspondence with affected indigenous peoples related to complaints and grievance procedures, consultation procedures, individual complaints or grievances and/or proposed mitigation/remediation measures for mining-related impacts that affect indigenous peoples	Explanatory Note re: 2.2.2.2: This requirement only applies at new mines that have the potential to affect the interests or rights of indigenous peoples. If there are no indigenous peoples who may be affected, then there is no need to obtain FPIC. Instead, requirements in Chapter 2.3 apply. In situations where there are distinct groups of indigenous peoples (i.e., groups who collectively have the right to free, prior and informed consent) that may be affected by the operating company's mining-related activities, each group must give its consent. (See also 2.2.4.1) At existing mines, where FPIC was not obtained in the past, operating companies will be expected to demonstrate that they are operating in a manner that seeks to achieve the objectives of this chapter. For example, companies may demonstrate that they have the free, informed consent of indigenous peoples for current operations by providing evidence of signed or otherwise verified agreements, or, in the absence of agreements, demonstrate that they have a process in place to respond to past and present community concerns and to remedy and/or compensate for past impacts on indigenous peoples' rights and interests. In alignment with this chapter, such processes should have been agreed to by indigenous peoples and evidence should be provided that agreements are being fully implemented by the companies. FPIC, in the context of this standard, requires that: • Engagement with indigenous peoples be free from external manipulation, coercion and intimidation; • Potentially affected indigenous peoples be notified that their consent will be sought, and that notification occur sufficiently in advance of

[132] This requirement only applies at new mines that have the potential to affect the interests or rights of indigenous peoples. If there are no indigenous peoples who may be affected, then there is no need to obtain FPIC. Instead, requirements in Chapter 2.3 apply.

[133] Indigenous peoples' rights include traditional rights, which are defined as "Rights which result from a long series of habitual or customary actions, constantly repeated, which have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit. It also encompasses the rights of Indigenous and Tribal Peoples established by the ILO Convention 169." (Source: Forest Stewardship Council)

[134] These include lands, territories and resources that indigenous peoples possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			commencement of any mining-related activities; • There is full disclosure of information regarding all aspects of the proposed mining project in a manner that is accessible and understandable to the indigenous peoples; and • Indigenous peoples can fully approve, partially or conditionally approve, or reject a project or activity, and companies will abide by the decision. NOTE: Because of the requirement that FPIC be free from external manipulation, coercion and intimidation, an FPIC process cannot be undertaken in situations where indigenous or tribal peoples are living in voluntary isolation (see also Chapter 3.7, requirement 3.7.5.5). Consequently, IRMA will not certify a mine if affected communities include indigenous peoples living in voluntary isolation. Re: "The circumstances for obtaining FPIC include situations where mining-related activities may affect indigenous peoples' rights." Indigenous peoples' rights include traditional rights, which are defined as, "Rights which result from a long series of habitual or customary actions, constantly repeated, which have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit."[135] Rights also encompasses the rights of Indigenous and Tribal Peoples established by the ILO Convention 169, and rights recognized in the UN Declaration on the Rights of Indigenous Peoples.[136] Re: "…situations mining-related activities may. . . impact lands, territories and resources" include lands, territories and resources that indigenous peoples possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.
2.2.2.3. For new and existing mines, the operating company shall obtain FPIC from indigenous	For 2.2.2.3: Interview company and indigenous peoples to determine if there have been any changes to the mining project since FPIC was first	For 2.2.2.3: • Written or other evidence the mine has obtained FPIC from indigenous	Explanatory Note re: 2.2.2.3: There may be a desire on the part of indigenous peoples to establish different FPIC processes for different stages of development (e.g., exploration, mining, mine closure and

[135] Forest Stewardship Council. Principles and Criteria. https://ic.fsc.org/preview.fsc-principles-and-criteria-for-forest-stewardship-fsc-std-01-001-v5-2-en-print-version.a-4843.pdf

[136] ILO Convention 169 – Indigenous and Tribal Peoples Convention, 1989 (No. 169). http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169; and United Nations Declaration on the Rights of Indigenous Peoples. http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
peoples for proposed changes to mining-related activities that may result in new or increased impacts on indigenous peoples' rights or interests.	obtained that were deemed significant enough to warrant a subsequent FPIC process. If so, confirm that another FPIC process was initiated, that a mutually-agreed process was followed, and that consent from the indigenous peoples was obtained prior to proceeding with the changes.	peoples for proposed changes to mining operations.	reclamation) or based on various triggers (e.g., major expansion of the mine). The original FPIC process (see 2.2.4) or FPIC agreement may have included some thresholds/triggers for when future FPIC might be required, i.e., outlined what sorts of new impacts or changes might trigger FPIC, and what sort of processes might be followed for different types/severity of impacts, e.g., perhaps low-impact changes involve only information-sharing, while large-impacts like mine expansions initiate full FPIC process). If these details were not included, then the operating company should consult with indigenous peoples prior to any change that may result in new or increased impacts on indigenous peoples' rights or interests to see if the indigenous peoples expect a new FPIC process to be initiated. If indigenous peoples express in writing (or through other means that can be verified by an auditor) that the operating company does not require their consent, then this requirement may be waived.
2.2.2.4. If indigenous peoples' representatives clearly communicate, at any point during engagement with the operating company, that they do not wish to proceed with FPIC-related discussions, the company shall recognize that it does not have consent, and shall cease to pursue any proposed activities affecting the rights or interests of the indigenous peoples. The company may approach indigenous peoples to renew discussions only if agreed to by the indigenous peoples' representatives.	For 2.2.2.4: Interview from the indigenous peoples' representatives to determine if they put a stop to an FPIC process. If so, and the company proceeded with the mining project without FPIC, then certification cannot be granted. If the company respected the indigenous peoples' request to stop the process, but later sought re-engagement and it was agreed by the indigenous peoples, then certification can be granted if the company meets the requirements in the remainder of this chapter.	For 2.2.2.4: • Communications from indigenous peoples requesting or demanding that FPIC discussions relating to the mining project not proceed. • Evidence that the operating company ceased pursuing the proposed mining project after receiving communications from indigenous peoples requesting that FPIC process be stopped. • Communications from indigenous peoples expressing that they are open to renewing FPIC discussions related to the proposed mining project.	Explanatory Note re: 2.2.2.4: "indigenous peoples' representatives" may be representatives from the indigenous peoples' representative bodies/governing structures/governing institutions and/or representatives chosen by the peoples themselves in accordance with their own procedures. Indigenous peoples are not under any obligation to participate in free, prior and informed consent (FPIC) processes if they have already determined they do not wish for extractive projects to go forward. NOTE: No outreach should be made to indigenous peoples who are living in voluntary isolation, regardless of whether or not they themselves have communicated that to the company. (See also Chapter 3.7, requirement 3.7.5.5). A 2013 report by former UN Special Rapporteur on Indigenous Peoples, James Anaya, states: "States should not insist, or allow companies to insist, that indigenous peoples engage in consultations about proposed extractive projects to which they have clearly expressed opposition. As is now well understood,

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			States have the obligation to consult with indigenous peoples about decisions that affect them, including decisions about extractive projects. In complying with this obligation States are required to make available to indigenous peoples adequate consultation procedures that comply with international standards and to reasonably encourage indigenous peoples to engage in the procedures. . . In the view of the Special Rapporteur, however, when States make efforts to consult about projects and, for their part, the indigenous peoples concerned unambiguously oppose the proposed projects and decline to engage in consultations, as has happened in several countries, the States' obligation to consult is discharged. In such cases, neither States nor companies need or should insist on consultations, while, at the same time, they must understand that the situation is one in which indigenous peoples have affirmatively withheld their consent." [137] In some cases, indigenous peoples may be open to re-examining a mining project and re-initiating an FPIC process with a company after a period of time, or if changes have been made to the company's original plans, etc. In other cases, however, the indigenous peoples may never wish to re-open FPIC discussions for a proposed project. Companies should be respectful of the indigenous peoples' wishes regarding if and how soon after an unsuccessful FPIC process they may approach the indigenous peoples about initiating a new FPIC process. In the Philippines, if an Indigenous Peoples (IP) community rejects a mining exploration proposal, they may "state in the document of rejection whether or not they shall entertain alternative proposals of similar nature. Any alternative proposal shall be subject to another FPIC of the IP. However, no FPIC process shall be repeated once a particular proposal has already been rejected by the IP."[138] If there are requirements that are part of a host-county's regulatory regime, such as those mentioned for the Philippines, above, then a company would be expected to adhere to that country's requirements,

[137] Anaya, J. 2013. Extractive Industries and Indigenous Peoples. Report of the Special Rapporteur on the Rights of Indigenous Peoples. UN Doc. A/HRC/24/41. Para. 25. http://unsr.jamesanaya.org/study/report-a-hrc-24-41-extractive-industries-and-indigenous-peoples-report-of-the-special-rapporteur-on-the-rights-of-indigenous-peoples

[138] International Finance Corporation (IFC) Office of Compliance Advisor. 2012. Ombudsman Assessment Report - Regarding Community and Civil Society Concerns in Relation to IFC's Mindoro Resources Project. p. 9. http://www.cao-ombudsman.org/cases/document-links/documents/AssessmentReport_MRL_May2012_ENG.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			unless the indigenous peoples specifically communicate a divergent opinion – in which case, IRMA would expect the company to respect the indigenous peoples' wishes.
2.2.3. Free, Prior and Informed Consent (FPIC) Scoping 2.2.3.1. The operating company shall: a. Consult with indigenous peoples and others, and review other relevant date to identify indigenous peoples that own, occupy or otherwise use land, territories or resources that may be affected by the mining project; b. Disclose to indigenous peoples, in a culturally appropriate manner, the preliminary project concepts and/or proposed activities, and the indigenous peoples' right to FPIC.	**For 2.2.3.1.a:** Review company documentation regarding identification of indigenous peoples potentially affected by the proposed activities. Documentation may include the company's methodology or criteria for defining indigenous peoples; a list of studies undertaken or information reviewed to identify indigenous peoples in the project area. Confirm through review of meeting minutes or other records that there were consultations with indigenous peoples and potentially others (e.g., civil society, academics, government officials and others with expertise on indigenous peoples' populations in the area of interest). For 2.2.3.1.b, interview company representatives and indigenous peoples' representatives to confirm that information about the project was conveyed by the operating company in a culturally appropriate manner (e.g., in languages and using terminology and formats that could be understood by the indigenous peoples).	**For 2.2.3.1:** • Records of meetings and other forms of consultations with indigenous peoples or others who were consulted to help identify potentially affected indigenous peoples. • Lists of documents reviewed during the identification of potentially affected indigenous peoples. • Documents, websites or other materials used by the operating company to disclose/inform indigenous peoples about the mining project concepts and proposed activities. • Records of meetings, presentations or other venues where the operating company disclosed to indigenous peoples any project information and/or discussed or provided information about indigenous peoples' right to FPIC.	**Explanatory Note for 2.2.3.1:** Free, Prior and Informed Consent (FPIC) scoping refers to the identification of the indigenous peoples that need to be involved in an FPIC process, and an evaluation of the information and capacity needs that must be addressed in order for indigenous peoples to make a free, prior and informed consent decision. The scoping process may be integrated into the free, prior and informed consent (FPIC) process (see 2.2.4). During the identification of indigenous peoples, companies should be aware that: • There may be more than one population of community of indigenous peoples who may be affected by the company's activities. Efforts should be made to identify all groups of indigenous peoples that may be affected by a proposed mining project. If efforts are not made to tap into the local knowledge of indigenous peoples and other resources, there is a chance that the operating company may miss some groups of indigenous peoples that own, occupy or otherwise use the land, territories or resources that may be affected by the mining project (e.g., those living in remote areas, those who only seasonally occupy or use lands or resources). • There may be existing conflicts within or between groups of indigenous peoples. Companies should carry out due diligence to understand potential divisions and conflicts between indigenous peoples' groups (or within a group of indigenous peoples) and take care to avoid exacerbating conflicts during the scoping process. • There may be indigenous peoples who are not recognized as such by the state. For example, very few African states officially recognize indigenous peoples in their constitutions and domestic laws, yet there are dozens of groups within Africa who self-identify as indigenous

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			peoples.[139] As expressed in the IRMA definition of indigenous peoples, the IRMA Standard follows the lead of the United Nations' Permanent Forum on Indigenous Peoples, the ILO Convention 169, and others that hold the view that self-identification by a peoples, rather than the State, is a fundamental criterion (although not sufficient in itself) for the identification of indigenous and tribal peoples. • There may be indigenous peoples who do not hold formal legal title to land and resources, however, indigenous peoples' rights to lands and resources need to be respected whether or not they are explicitly recognized by a national government. For example: • In 2004, the Inter-American Commission on Human Rights acknowledged that property rights are not only those that are already recognized by states or defined by their internal legislation; the right of indigenous and tribal peoples and their members to property has an autonomous meaning and foundation in International Human Rights Law. • In 2010, the African Commission on Human and Peoples' Rights concluded that, "traditional possession of land by indigenous peoples has the equivalent effect as that of a state-granted full property title." • The International Finance Corporation requires companies to obtain FPIC from indigenous peoples under various situations including if there are impacts on lands and natural resources subject to traditional ownership or under customary use. "Customary use of land and resources refers to patterns of long-standing community land and resource use in accordance with Indigenous Peoples' customary laws, values, customs, and traditions, including seasonal or cyclical use, rather than formal legal title to land and resources issued by the state."[140] As per IRMA Chapter 1.2, conveyance of information in a "culturally appropriate" manner refers to using methods, languages, terminology and

[139] Working Group on Indigenous Populations/Communities in Africa (WGIP/CA). Oct. 2012. Intersession Report of the Working Group. 52nd Ordinary Session of the African Commission on Human and Peoples' Rights. Para.46. http://www.achpr.org/sessions/52nd/intersession-activity-reports/indigenous-populations/ and African Commission on Human and Peoples' Rights (ACHPR). 2006. Indigenous People in Africa: The Forgotten Peoples? pp. 15, 16. http://www.achpr.org/mechanisms/indigenous-populations/wg-report-summary/

[140] International Finance Corporation (IFC). 2012. Guidance Note on Performance Standard 7: Indigenous Peoples. GN42. https://www.ifc.org/wps/wcm/connect/50eed180498009f9a89bfa336b93d75f/Updated_GN7-2012%20pdf?MOD=AJPERES

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			formats that are respectful of and aligned with communication styles and cultural norms of the affected communities. Indigenous peoples can help to define for the company what is considered culturally appropriate. Some indigenous peoples have developed community consultation protocols or policies that outline how external actors (governments, companies, NGOs, researchers) are expected to engage with them in the context of activities that could impact their land or natural resources. In the absence of any formal protocols, operating companies could consult with external experts or others for suggestions of how to initiate engagement, and whom to engage in indigenous peoples' communities.
2.2.3.2. The operating company shall collaborate with indigenous peoples' representatives and other relevant members of affected communities of indigenous peoples to: a. Identify the appropriate means of engagement for each group of indigenous peoples (e.g., tribe, nation, population); b. Identify indigenous peoples' rights and interests that may be affected by the proposed activities; c. Identify additional studies or assessments needed to determine the range and degree of potential impacts on indigenous peoples' rights or interests; and d. Identify if there are capacity issues that may prevent full and informed participation of	For 2.2.3.2: Interview operating company representatives and indigenous peoples' representatives to confirm that there was collaboration (e.g., through meetings, discussions, community forums, workshops, technical working groups, etc.) to: • Identify the appropriate means of engagement for each group of indigenous peoples. Note that there may be different engagement approaches for different distinct groups, or even sub-groups. There may also be different engagement processes for different tasks (e.g., there may be different indigenous peoples' representatives involved in the FPIC negotiations than in identifying the rights and interests of the indigenous peoples; and/or there may be broad community participation in certain aspects of the process. Interview indigenous peoples' representatives to determine if the company inquired about or was informed about any existing indigenous peoples' engagement procedures (i.e., a formal protocol) or how preferred engagement was otherwise conveyed to the	For 2.2.3.2: • Records of meetings and other forums with indigenous peoples' representatives and other indigenous community members where the issues in 2.2.3.2.a through d were discussed. • Records of input provided by indigenous peoples on the issues in 2.2.3.2.a through d. • Records of various types of outreach undertaken to create meaningful opportunities for engagement for all affected indigenous community members (including those who are vulnerable or marginalized).	Explanatory Note for 2.2.3.2: Free, Prior and Informed Consent (FPIC) scoping refers to the identification of the indigenous peoples that need to be involved in an FPIC process, and an evaluation of the information and capacity needs that must be addressed in order for indigenous peoples to make a free, prior and informed consent decision. The scoping process may be integrated into the free, prior and informed consent (FPIC) process (see 2.2.4). Explanatory Note for 2.2.3.2.a: There may be more than one distinct group of indigenous peoples potentially affected by mining-related activities. These distinct groups may be set apart from others in the same region by language, cultural traditions, social norms, political organization, territories and/or through self-identification as such, and may sometimes be referred to as nations, tribes, peoples, populations, communities or some other grouping. Each indigenous peoples' group is likely to have its own preferred means of engagement. As described by the UN Special Rapporteur on the Rights of Indigenous Peoples: "A defining characteristic of indigenous peoples is the existence of their own institutions of representation and decision-making, and it must be understood that this feature makes consultations with indigenous peoples very different from consultations with the general

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indigenous peoples. If issues are identified, the operating company shall provide funding or facilitate other means to enable indigenous peoples to address capacity issues in their preferred manner; and e. Ensure that the community as a whole/collective has meaningful opportunities to be involved in these processes.	company and agreement reached with the company. • Identify the scope of indigenous peoples' rights and interests affected by the project. Collaboration may have taken the form of meetings, participatory mapping of territories and resources, etc. Rights and interests may include but are not limited to lands, territories and resources that indigenous peoples possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired; indigenous peoples' livelihood or spiritual activities; and their critical cultural heritage; For 2.2.3.2.e: Interview operating company to determine if it conducted due diligence on whether or not the indigenous peoples' engagement and decision-making processes involve women and vulnerable/marginalized groups; and if they do not, whether attempts were made to develop some mutually acceptable processes with indigenous peoples' representative institutions to foster greater engagement of the broader community. Interview indigenous peoples' representatives, including, if possible, women and representatives of vulnerable groups or minority groups (e.g., the elderly, youth, children, economically disadvantaged, etc.) to confirm		public or from ordinary processes of State or corporate community engagement.[141] Some indigenous peoples have developed community consultation protocols or policies that outline how external actors (other governments, companies, NGOs, researchers) are expected to engage with them in the context of activities that could impact their land or natural resources. Some consultation protocols include provisions that establish representative organizations and procedures for those seeking FPIC. (For examples, see Natural Justice website and Weitzner, 2006.[142]) If the indigenous peoples indicate that they wish to develop a consultation protocol prior to engaging with the company their wishes should be respected. In the absence of any formal protocols, the appropriate indigenous peoples' representatives with whom to engage may not be clear. In some situations, representation may be contested or there may be a range of complementary or competing institutions. In those situations, International Fund for Agricultural Development (IFAD) recommends that a company "ensure that all institutions with a legitimate claim to representation are consulted and have the possibility to influence decision-making." IFAD also notes that, "representation should be determined by the concerned peoples or communities themselves to avoid misrepresentation or manipulation."[143] Explanatory Note for 2.2.3.2.b: The phrase "identify indigenous peoples that. . . use resources that may be affected by the operating company's mining-related activities" could include communities that border or are even located at some distance from the mining project area but whose resources (e.g., water, food sources, medicinal plants, cultural sites) may

[141] Anaya, J. 2013. Extractive Industries and Indigenous Peoples. Report of the Special Rapporteur on the Rights of Indigenous Peoples. UN Doc. A/HRC/24/41. http://unsr.jamesanaya.org/study/report-a-hrc-24-41-extractive-industries-and-indigenous-peoples-report-of-the-special-rapporteur-on-the-rights-of-indigenous-peoples

[142] Natural Justice: Lawyers for Communities and the Environment web site: "Community Protocols." http://www.community-protocols.org/community-protocols and Weitzner, V. 2006. Dealing Full Force: Lutsel K'e Dene First Nation's Experience Negotiating with Mining Companies. http://www.nsi-ins.ca/wp-content/uploads/2012/10/2006-Dealing-full-force-Lutsel-ke-Dene-first-nations-experience-negotiating-with-mining-companies.pdf

[143] International Fund for Agricultural Development (IFAD). 2015. How to do – Seeking free, prior and informed consent in IFAD investment projects. p. 6. https://www.ifad.org/web/knowledge/publication/asset/39181253

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	that efforts have been made to engage them. Information may also be gained by determining if any FPIC-related grievances regarding the company's lack of engagement or consultation were filed with the company's project-level grievance mechanism. Or by interviewing indigenous peoples' representatives to determine if any FPIC-related grievances have been filed through another grievance mechanism available to community members, including customary-law-based mechanisms, that related to lack of engagement of the broader community.		be affected. It may also include communities that seasonally use lands or resources that may be impacted by the mining project.[144] Explanatory Note for 2.2.3.2.d: This sub-requirement is relevant if the indigenous peoples are interested in funding or other forms of assistance from the operating company to be used for the purposes of capacity building. Not all communities of indigenous peoples will have the immediate capacity to fully engage in the scoping process (e.g., they may not have the in-house technical expertise to be able to identify particular environmental studies could help them better understand the nature and degree of potential impacts; not all community members may be fully aware of their right to FPIC or understand their rights under international law; it may be difficult for some community members to participate in scoping because they live in remote areas; etc.). Not all indigenous peoples' communities will want to receive such assistance. Indigenous peoples may wish to develop this capacity themselves, without any assistance from the company. However, some may need and want some assistance. For example: • Communities without in-house technical expertise may desire funding to hire independent experts or advisors to identify and/or carry out studies and explain the nature and degree of potential impacts. • Legal assistance to hold workshops or training on FPIC and indigenous peoples' rights under international law. • Logistical assistance to enable community members to participate in scoping and FPIC processes, e.g., coverage of travel costs or hosting of meetings in various times and locations to enable broad participation by community members. • Support for capacity building (e.g., funding or access to experts to train community members to carry out mapping of traditional territories) Unless otherwise requested by the indigenous communities in question, the company should document any agreement on funding or support to be provided by the company.

[144] See FAO. 2014. Respecting Free, Prior and Informed Consent. Practical guidance for governments, companies, NGOs, indigenous peoples and local communities in relation to land acquisition, p. 16. http://www.fao.org/3/a-i3496e.pdf

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			Explanatory Note for 2.2.3.2.e: Indigenous peoples' customary approaches to engagement may not always include participation of women, vulnerable groups or marginalized groups within indigenous communities. The UN Rapporteur on indigenous peoples has written that: "Indigenous peoples should be encouraged to include appropriate gender balance within their representative and decision making institutions. However, such gender balance should not be dictated or imposed upon indigenous peoples by States or companies, any more than indigenous peoples should impose gender balance on them."[145] Women, men youth, elders, etc. may have different needs, priorities and interests that should be considered and factored into the company's understanding of the mining project's full impacts, and its own subsequent decision-making processes. It is recommended that any efforts undertaken by the company to find other ways of facilitating involvement of women, vulnerable or marginalized indigenous peoples be carried out in coordination with and/or through mutual agreement with the indigenous peoples' representative institutions (as suggested by the UN Rapporteur, above, under no conditions should a company impose such processes on indigenous peoples).
2.2.3.3. The operating company shall collaborate with the indigenous peoples' representatives to design and implement plans to address the information gaps and needs identified through the scoping process.	For 2.2.3.3: Interview operating company representatives and indigenous peoples' representatives to confirm that the company undertook good faith efforts to collaborate (e.g., through meetings, discussions, community forums, workshops, technical working groups, etc.) with indigenous peoples to: • Identify any additional information (e.g., studies, assessments) necessary to fully understand the potential impacts of the proposed activities;	For 2.2.3.3: • Records of meetings and other forums with indigenous peoples' representatives and other indigenous community members where the issues in 2.2.3.3 were discussed. • Documented plans to address information gaps, and the results of the implementation of those plans (e.g., additional studies carried out, etc.)	Explanatory Note for 2.2.3.3: If data are not trusted or credible to indigenous peoples, they may be less willing to consent to the development of a mining project. The intent of this requirement is that if information gaps exist (e.g., the need for a better understanding of the lands and resources that are being owned, occupied or used by indigenous peoples) that the operating company and the potentially affected indigenous peoples work together to determine how best to obtain the data, and how that data may be used and shared (e.g., some indigenous peoples may want certain data to remain confidential). There may be cases where the indigenous peoples are not interested in participating in developing and implementing plans to address the

[145] Anaya, J. 2013. Extractive Industries and Indigenous Peoples. Report of the Special Rapporteur on the Rights of Indigenous Peoples. UN Doc. A/HRC/24/41. Para.70. http://unsr.jamesanaya.org/study/report-a-hrc-24-41-extractive-industries-and-indigenous-peoples-report-of-the-special-rapporteur-on-the-rights-of-indigenous-peoples

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	• Identify capacity needs, and confirm that if relevant, indigenous peoples were offered access to resources necessary to participate in an informed manner (e.g., funding to hire independent legal, technical experts, or other capacity support).	• Documentation that indigenous peoples were not interested in collaborating on the design and implementation of plans to address information gaps and needs identified during the scoping process.	information gaps or needs identified during scoping. In such cases, the operating company should be able to demonstrate that they made good faith efforts to include indigenous peoples' participation. Unless otherwise requested by the indigenous communities in question, the company shall document any agreement on the process to be followed to obtain additional information.
2.2.4. Determine FPIC Processes[146] 2.2.4.1. If there is more than one distinct indigenous peoples' group (e.g., tribe, nation, population) that may be affected by the operating company's mining-related activities, they may be included in a coordinated process or separate FPIC processes, as desired by the indigenous peoples.	**For 2.2.4.1:** Interview the operating company to determine the steps taken to understand the indigenous peoples' consent process (or processes, if there was more than one population of potentially affected indigenous peoples, or if the indigenous peoples' desire different processes at different stages of development, etc.). As mentioned in 2.2.4.2, if the potentially affected indigenous peoples have an FPIC protocol in place or under development, the operating company shall abide by it unless changes are agreed to by the indigenous peoples' group(s). Grounds for seeking changes to a protocol could include, for example, requirements stated elsewhere in this chapter or the IRMA standard (e.g., inclusivity of women in engagement processes).	**For 2.2.4.1:** • Records of meetings or other forms of communication with indigenous peoples' representatives to determine whether they preferred a coordinated FPIC process or a separate process for their particular group.	**Explanatory Note for 2.2.4.1:** Determining the FPIC process may be carried out concurrent with 2.2.3. Whether or not there is coordinated process or separate FPIC processes will be determined through discussions with the distinct indigenous peoples' groups. Indigenous peoples' groups are not always a homogeneous or united, and proposed mining projects may create conflict both within and between groups of indigenous peoples. Operating companies should carry out due diligence to understand potential divisions and conflicts between indigenous peoples' groups (or within a group of indigenous peoples) and take care to avoid exacerbating conflicts.
2.2.4.2. If the potentially affected indigenous peoples have an FPIC protocol in place or under development, the operating company shall abide by it unless	**For 2.2.4.2:** Interview indigenous peoples' representatives to confirm that the company followed the indigenous peoples' FPIC process (i.e., a formal protocol, if it exists) or that they jointly developed and agreed to a protocol with	**For 2.2.4.2:** • Copy of the indigenous peoples' FPIC protocol. • Copy of report, document or	**Explanatory Note for 2.2.4.2:** During the FPIC process companies should engage with representatives chosen by the peoples themselves in accordance with their own procedures. The work done in 2.2.3.2.a may have identified the appropriate representatives with whom to engage on the development of the FPIC process. If not, the company should reach out

[146] This may be carried out concurrent with 2.2.3. Also, there may be a desire to establish different FPIC processes for different stages of development (e.g., exploration, mining, closure) or based on various triggers (e.g., major expansion of the mine). For example, a process to obtain FPIC during the exploration stage may be less onerous than a process established to obtain FPIC for a mine development proposal, as the mining stage will likely have greater potential impacts on Indigenous Peoples' rights and interests, require more assessment, more dialogue around impact mitigation, remediation compensation, project benefits, etc.

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changes are agreed to by the indigenous peoples' group(s). Otherwise, the operating company shall jointly develop and document, in a manner agreed to by indigenous peoples' representatives, the FPIC process or processes to be followed.	the company, or agreed to amend an existing protocol or FPIC process to be followed. There may be reasons that specific protocol provisions may pose challenges for an operating company, such as a conflict with their own transparency provisions, internal codes of conduct related to inclusive engagement, etc. In such cases, indigenous peoples may agree to amend their protocols or FPIC processes. When such situations exist, confirm with indigenous peoples' representatives that any amendments have been agreed by the indigenous peoples.	recording that outlines the FPIC process to be followed.	to the indigenous peoples' representative bodies (sometimes referred to representative institutions, governing institutions, governance structures, governments, etc.) to determine how to proceed. If the potentially affected indigenous peoples have an FPIC protocol in place or under development, the operating company shall abide by it unless changes are agreed to by the indigenous peoples' group(s). Grounds for seeking changes to a protocol could include, for example, requirements stated elsewhere in this chapter or the IRMA standard (e.g., inclusivity of women in engagement processes). Regardless of whether there is an existing FPIC protocol or not, the expectation is that the FPIC process will be largely determined by the indigenous peoples. In particular, the indigenous peoples should be the ones determining: • How the indigenous peoples will make a collective decision regarding whether or not to provide consent • Who may legitimately represent the indigenous peoples in negotiations with the company, and who may sign off on an FPIC agreement • The conditions, if any, under which the operating company may return to seek FPIC for the same or similar activities in the event that consent is not obtained through the initial FPIC process • Also, there may be a desire to establish different FPIC processes for different stages of development (e.g., exploration, mining, closure) or based on various triggers (e.g., major expansion of the mine). For example, a process to obtain FPIC during the exploration stage may be less onerous than a process established to obtain FPIC for a mine development proposal, as the mining stage will likely have greater potential impacts on indigenous peoples' rights and interests, require more assessment, more dialogue around impact mitigation, remediation compensation, project benefits, etc. Additionally, the FPIC process might include factors such as: [147]

[147] UN REDD Programme. 2013. Guidelines on Free, Prior and Informed Consent. p. 33. https://unredd.net/documents/un-redd-partner-countries-181/templates-forms-and-guidance-89/un-redd-fpic-guidelines-2648/8717-un-redd-fpic-guidelines-working-final-8717.html?path=un-redd-partner-countries-181/templates-forms-and-guidance-89/un-redd-fpic-guidelines-2648

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			• Capacity and information needs that must be addressed before the FPIC process can take place • Whether the process will involve a facilitator and, if so, who it should be • Where and how the FPIC discussions will take place • A timeline for the proposed process • The appropriate language(s), methods and media for information sharing and distribution • How decisions will be taken by the community in accordance with their traditions and customs, and whether special measures will be adopted to ensure the participation of women and other vulnerable groups within the community • The geographical territory and communities that the decision will cover • How FPIC will be given, recognized and recorded • The role of others in the process (if any), including local government officials, UN agencies, institutions, donors, independent observers, independent legal and/or technical experts, and other stakeholders • Methods of verifying the process including, where relevant, participatory monitoring arrangements • Terms and frequency of review of the agreement(s) to ensure that conditions are being upheld • Process or mechanism for voicing complaints and seeking recourse on the FPIC process and proposed policy or activity There may be some elements of the process that may involve input from the company such as: where and when meetings will take place; provision of resources to fulfill capacity needs during the FPIC process; the scope of what is being discussed; etc. Consequently, it is important that a shared understanding of the process be reached. Ideally, the process to be followed would be documented and agreed to by the company and the indigenous peoples' representatives.

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2.2.4.3. The operating company shall make information on the mutually-agreed FPIC processes publicly available, unless the indigenous peoples' representatives have explicitly requested otherwise.	For 2.2.4.3: Review documented FPIC process document or FPIC protocol. Determine if the FPIC process/protocol to be followed has been made publicly available. If not available, confirm through interviews with indigenous peoples and/or review of documentation that it was because the indigenous peoples explicitly requested that it not be made public.	For 2.2.4.3: • Copy of report, document or recording that outlines the FPIC process to be followed. • Record of communication from indigenous peoples' representatives requesting that FPIC process not be made publicly available.	Explanatory Note for 2.2.4.3: Documentation of the agreed process is recommended in the UN REDD Programme[148] and in the International Finance Corporation's Performance Standard for Indigenous Peoples, which says: "For successful outcomes to be achieved for the mutual benefit of all parties, it is important that the parties have a shared view of the process . . . This should ideally be done through a framework document or plan that identifies representatives of Affected Communities of Indigenous Peoples, the agreed consultation process and protocols, the reciprocal responsibilities of parties to the engagement process and agreed avenues of recourse in the event of impasses occurring . . . Where appropriate, it should also define what would constitute consent from Affected Communities of Indigenous Peoples. The client should document support for the agreed process from the affected population."[149]
2.2.5. Implement FPIC Process 2.2.5.1. The operating company shall document, in a manner agreed to by the indigenous peoples, the FPIC process that was followed.	For 2.2.5.1: Review company materials that document the FPIC process that was followed.	For 2.2.5.1: • Copy of report, document or recording that outlines the FPIC process that was followed. • Record of communication from indigenous peoples' representatives requesting that FPIC process not be documented/recorded.	Explanatory Note for 2.2.5.1: Documentation may be through meeting minutes, a report on the free, prior and informed consent (FPIC) process, videos of meetings, or other means. As described by UN-REDD Programme, "it is important to document the whole FPIC process, including ideas, questions and concerns raised, so that it is possible to review the whole process in the event a grievance or dispute arises. However, documenting sensitive issues can be difficult. The rights-holders should be asked what is sensitive and what is not, and what it is permissible to document."[150] And while it is strongly recommended that the FPIC documentation be made publicly available, it is acknowledged that there may be some indigenous peoples who do not wish to make any documentation or certain portions of documentation of the process available publicly.

[148] UN REDD Programme. 2013. Guidelines on Free, Prior and Informed Consent. p. 33. https://unredd.net/documents/un-redd-partner-countries-181/templates-forms-and-guidance-89/un-redd-fpic-guidelines-2648/8717-un-redd-fpic-guidelines-working-final-8717.html?path=un-redd-partner-countries-181/templates-forms-and-guidance-89/un-redd-fpic-guidelines-2648

[149] International Finance Corporation (IFC). 2012. Guidance Note on Performance Standard 7: Indigenous Peoples. GN22. http://www.ifc.org/wps/wcm/connect/50eed180498009f9a89bfa336b93d75f/Updated_GN7-2012.pdf?MOD=AJPERES

[150] UN REDD Programme. 2013. Guidelines on Free, Prior and Informed Consent. pp. 33 and 46. https://unredd.net/documents/un-redd-partner-countries-181/templates-forms-and-guidance-89/un-redd-fpic-guidelines-2648/8717-un-redd-fpic-guidelines-working-final-8717.html?path=un-redd-partner-countries-181/templates-forms-and-guidance-89/un-redd-fpic-guidelines-2648

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2.2.5.2. The operating company shall publicly report, in a manner agreed to by the indigenous peoples, on the FPIC process that was followed and its outcome.	For 2.2.5.2: Confirm that information on the process followed and the outcome (including withholding of consent) of the process was made publicly available (if publicly release of information was agreed by the indigenous peoples).	For 2.2.5.2: • Publicly available copy of report, document or recording that outlines the FPIC process that was followed. • Publicly available copy of report, document or recording that discloses the outcome of the FPIC process. • Record of communication from indigenous peoples' representatives requesting that FPIC process not be disclosed publicly.	Explanatory Note for 2.2.5.2: One reason for making information on free, prior and informed consent (FPIC) processes publicly available is that it enables others to understand the FPIC process to be followed, and apply that learning in future FPIC situations. Additionally, it provides the opportunity for both indigenous communities and civil society to hold the company and indigenous peoples' representatives accountable for the actions taken during the FPIC processes. Furthermore, not all members of indigenous peoples' communities will have been involved in the FPIC process, so it will be important to inform them of the outcome (e.g., was consent granted or not). It is recognized, however, that some indigenous peoples may not want information on its FPIC process widely distributed. If this is the case, companies would still be expected to demonstrate to IRMA that it made efforts to reach agreement with the indigenous peoples to at least distribute information on the process to members of the indigenous community, to keep them informed. If agreed by the indigenous peoples, the operating company should publish both the outcomes of the FPIC process and, at minimum, a summary of the FPIC process that was followed.
2.2.5.3. If the process results in consent being given by indigenous peoples to certain mining-related activities, an agreement outlining the terms and conditions shall be signed or otherwise validated by the operating company and the representative(s) of the indigenous peoples. The agreement shall be binding and shall be made publicly available unless the indigenous peoples'	For 2.2.5.3: Interview operating company representatives and indigenous peoples' representatives to confirm that FPIC process was carried out according to the agreed-to process. Review signed (or otherwise validated) agreement. If auditor does not have access to all or relevant parts of the agreement, interview operating company representatives and indigenous peoples' representatives to confirm the outcome of the consent process, and that the agreement is binding. Also, confirm with indigenous peoples' representatives that any agreements were in languages that the	For 2.2.5.3: • Publicly available copy of signed document or other evidence of indigenous peoples' consent to the development of the mining project and the terms and conditions of that consent, e.g., verbal attestation from indigenous peoples' representatives if there is no written documentation. • Publicly available copy of documentation indicating that the agreement is binding. • Record of communication from indigenous peoples' representatives	Explanatory Note for 2.2.5.3: The terms and conditions may include factors such as: • Duration/term of agreement • Confidentiality of certain information • Conditions for renewal or renegotiation of consent • Transferability of FPIC agreement • Local employment targets • Local procurement targets • Impact monitoring arrangements • Impact avoidance / mitigation / remediation / compensation plans • Benefit-sharing • Methods of verifying that terms and conditions are being upheld including, where relevant, independent or participatory monitoring arrangements

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representatives explicitly request otherwise.	indigenous representatives and peoples could understand. Create opportunities for potentially affected indigenous peoples not directly involved in FPIC negotiations or discussions to provide feedback to IRMA regarding whether or not they have been kept informed of the FPIC process and proposed project, and if their concerns and views were heard and taken into consideration by their representatives involved in as part of the process. Also determine if they believed the process to be free of coercion, intimidation and manipulation. Determine if any grievances regarding the FPIC process were filed with the company's project-level grievance mechanism (see Chapter 1.4) or any other grievance mechanism available to community members, including customary-law-based mechanisms.	requesting that FPIC agreement not be legally binding. • Record of communication from indigenous peoples' representatives requesting that FPIC agreement not be disclosed publicly.	• Terms and frequency of review of the agreement to ensure that conditions are being upheld • Process or grievance mechanism for voicing complaints and seeking recourse if there is a failure to uphold the terms and conditions of the FPIC agreement "Otherwise validated" means that there may be other forms of agreement used by indigenous peoples other than signed documents. For example, some may prefer verbal agreements, some may have ceremonies to demonstrate agreement. As described by the UN REDD-Programme Guidelines on Free, Prior and Informed Consent, "Documenting FPIC decisions can be challenging, and rights-holders may fear submitting written statements or signing documents. However, only relying on verbal agreements leaves open the possibility of future disagreements. A compromise may be needed."[151] It is expected that most FPIC agreements will be legally binding, however, IRMA has built in some flexibility here, as there may be cases where the indigenous peoples themselves do not want a legally-binding agreement. While others strongly recommend that FPIC agreements be made publicly available, IRMA recognizes that indigenous peoples may not want to make the agreement public available, or may only feel comfortable making certain parts of the agreement public.
2.2.6. Failure to Obtain Indigenous Peoples' Consent 2.2.6.1. For new mines, IRMA certification is not possible if a mining project does not obtain free, prior and informed consent from indigenous peoples.	Auditing Note for 2.2.6: No verification necessary. The results of 2.2.5 will reveal whether or not consent for the project was granted by the indigenous peoples. This also applies to expansions at existing mines.		Explanatory Note for 2.2.6.1: The results of 2.2.5 will reveal whether or not consent for a new mining project was granted by the indigenous peoples. This also applies to expansions at existing mines. Note that as per requirement 2.2.2.4 if consent is not given, the company may approach indigenous peoples to renew or re-initiate free, prior and informed consent (FPIC) discussions only if agreed to by indigenous peoples' representative institutions.

[151] UN REDD Programme. 2013. Guidelines on Free, Prior and Informed Consent p. 49. https://unredd.net/documents/un-redd-partner-countries-181/templates-forms-and-guidance-89/un-redd-fpic-guidelines-2648/8717-un-redd-fpic-guidelines-working-final-8717.html?path=un-redd-partner-countries-181/templates-forms-and-guidance-89/un-redd-fpic-guidelines-2648

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			Additionally, because of the requirement that FPIC be free from external manipulation, coercion and intimidation, an FPIC process cannot be undertaken in situations where indigenous or tribal peoples are living in voluntary isolation (see also Chapter 3.7, requirement 3.7.5.5). Consequently, IRMA will not certify a mine if affected communities include indigenous peoples living in voluntary isolation. Even though mines cannot be fully IRMA certified if they do not obtain FPIC, companies can, carry out benchmarking against this and other chapters of the IRMA Standard and demonstrate continuing improvement in their relationships with indigenous peoples over time.
2.2.7. Implementation and Ongoing Engagement 2.2.7.1. The operating company shall collaborate with indigenous peoples to monitor implementation of the FPIC agreement, and document the status of the commitments made in the agreement.	**For 2.2.7.1:** Confirm with the operating company and indigenous peoples' representatives that there is an agreed system in place for monitoring and documenting the status of the FPIC agreement and commitments made therein. Determine, through interviews with operating company representatives and indigenous peoples' representatives if there have been any complaints or grievances about the implementation of the agreement, and whether or not they have been resolved to the satisfaction of all parties.	**For 2.2.7.1:** • Documentation of commitments made in the FPIC agreement, and information on the status of those commitments (e.g., have they been met, are the being implemented as expected, has there been some or no progress made, etc.). • Records of any efforts undertaken by indigenous peoples to monitor the implementation of the FPIC agreement. • Records of summary reports or verbal updates given on progress being made with regards to implementation of any of the terms and conditions in the FPIC agreement. • Records of any meetings held to discuss implementation of the FPIC agreement or status of implementation of various terms and conditions in the agreement.	**Explanatory Note for 2.2.7.1:** Any agreement that includes actions and commitments should be monitored to ensure that it is being effectively implemented. The company and indigenous peoples should decide how best to monitor the implementation of the agreement. It may be through a joint monitoring committee, or each party may wish to do its own monitoring and discuss the results with the other, or have a third party carry out the monitoring. Collaboration here implies that whatever approach is taken, it is agreed by the indigenous peoples and company.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
2.2.7.2. Engagement with indigenous peoples shall continue throughout all stages of the mining project.	For 2.2.7.2: Interview operating company and indigenous peoples' representatives to determine if on-going engagement is occurring (other than through monitoring of FPIC implementation).	For 2.2.7.2: • Records of meetings, consultations, forums, communications with indigenous peoples regarding the mining project. • Records of any complaints or grievances from indigenous peoples and the company's responses and remedies.	Explanatory Note for 2.2.7.2: Ongoing engagement may include sharing of information with indigenous peoples' representatives and the broader community on mining-related impacts, mitigation measures, environmental or social monitoring results, reporting on any unanticipated problems and their resolutions, reporting on complaints and their resolutions, or other information that indigenous peoples have indicated may be of interest or importance. It may include participation of indigenous peoples in commenting on or developing management plans or strategies, or in carrying out monitoring activities. Engagement may be through company support of community training, capacity building, events, or community development initiatives, etc.

NOTES

FPIC, in the context of this standard, requires that engagement with indigenous peoples be free from external manipulation, coercion and intimidation; that potentially affected indigenous peoples be notified that their consent will be sought sufficiently in advance of commencement of any mining-related activities; that there be full disclosure of information regarding all aspects of the proposed mining project in a manner that is accessible and understandable to the indigenous peoples; and that indigenous peoples can approve, partially or conditionally approve, or reject a project or activity, and companies abide by the decision.

Because of the requirement that FPIC be free from external manipulation, coercion and intimidation, an
FPIC process cannot be undertaken in situations where indigenous or tribal peoples are living in voluntary isolation (See also Chapter 3.7, requirement 3.7.5.5). Consequently, IRMA will not certify a mine if affected communities include indigenous peoples living in voluntary isolation.

The chapter uses the term indigenous peoples, recognizing that there may be peoples for whom this chapter applies who prefer to use other terms such as tribal, aboriginal, First Nations, *Adivasi*, etc., but who have the right to FPIC according to international and/or host country laws. For the purposes of interpreting this standard IRMA proposes the definition presented in the Glossary, adopted from guidance published by the UN Permanent Forum on indigenous peoples.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if there are host country laws related to free, prior and informed consent, the company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to violated host country law.

Cross References to Other Chapters	
1.2—Community and Stakeholder Engagement	Chapter 1.2 applies to engagement with stakeholders, including rights holders such as indigenous peoples. Therefore, in addition to meeting the requirements above, engagement with indigenous peoples shall conform to the requirements in Chapter 1.2. In particular, criterion 1.2.3 is important to ensure that indigenous peoples have the capacity to fully understand their rights and collaborate effectively in FPIC process, including in the collection of relevant information. Also, 1.2.4 ensures that communications and information are in culturally appropriate languages and formats that are accessible and understandable to affected indigenous peoples, and that information is provided in a timely, manner.
1.3—Human Rights Due Diligence	If indigenous peoples' human rights have been infringed upon at existing mines, a company will be expected to mitigate and remediate the impacts as per Chapter 1.3. This includes human-rights-related impacts on indigenous peoples from past activities at existing mines that have not been adequately mitigated or remediated.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Grievances or concerns related to the implementation of FPIC and any related agreements may be addressed through the operational-level grievance mechanism, or other mechanisms for handling grievances as long as those mechanisms have been agreed to by the indigenous peoples and the company. Complaints or grievances related to unremediated or unsatisfactory mitigation of impacts from past mining-related activities may also be raised through the operational-level grievance mechanism as per Chapter 1.4.
2.1—Environmental and Social Impact Assessment and Management	Some of the aspects of FPIC scoping may be carried out as part of the ESIA (e.g., relevant data collection and studies), however, it is likely that engagement with indigenous peoples will take place before the ESIA process begins, since it would be in the company's best interest to know prior to undertaking the significant step of ESIA whether or not potentially affected indigenous peoples are even interested in pursuing an FPIC process related to mineral development.
2.4—Resettlement	As per requirement 2.4.6.3, if a mining project requires the displacement of indigenous peoples, the operating company shall not proceed with resettlement unless it obtains FPIC from affected indigenous peoples.
2.6—Reclamation and Closure	As per requirement 2.6.6.1, if there is the potential that the mining project will require long-term water treatment, this must be explicitly addressed as part of the free, prior and informed consent process.
3.7—Cultural Heritage	As per requirement 3.7.5.1, where impacts may occur to indigenous peoples' critical cultural heritage, negotiation shall take place through the FPIC process, unless otherwise specified by the indigenous peoples. Chapter 3.7 (requirement 3.7.5.5) also prohibits new exploration or mining in areas where indigenous peoples are known to live in voluntary isolation, both to respect those peoples' right to self-determination and recognizing that FPIC is not possible when indigenous peoples reject contact and the presence of persons who do not belong to their people in their lands and ancestral territories.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Corporate Owner(s)

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Critical Cultural Heritage

Consists of: (i) the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes, (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation; or (iii) natural areas with cultural and/or spiritual value such as sacred groves, sacred bodies of water and waterways, sacred trees, and sacred rocks.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Free, Prior and Informed Consent (FPIC)

A process and an outcome that is based on: engagement that is free from external manipulation, coercion and intimidation; notification, sufficiently in advance of commencement of any activities, that consent will be sought; full disclosure of information regarding all aspects of a proposed project or activity in a manner that is accessible and understandable to the people whose consent is being sought; acknowledgment that the people whose consent is being sought can collectively approve or reject a project or activity, and that the entities seeking consent will abide by the decision.

Free, Prior and Informed Consent (FPIC) Scoping

Identification of the indigenous peoples that need to be involved in an FPIC process, and an evaluation of the information and capacity needs that must be addressed in order for indigenous peoples to make a free, prior and informed consent decision.

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which mining-project-related complaints or grievances, including business-related human rights abuses stakeholder complaints, and/or labor grievances, can be raised and remedy can be sought.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Indigenous Peoples

A modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Rights Holder

Rights holders are individuals or social groups that have particular entitlements in relation to specific duty bearers (e.g., State or non-state actors that have a particular obligation or responsibility to respect, promote and realize human rights and abstain from human rights violations). In general terms, all human beings are rights-holders under the Universal Declaration of Human Rights. In particular contexts, there are often specific social groups whose human rights are not fully realized, respected or protected.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 2.3—Obtaining Community Support and Delivering Benefits

BACKGROUND

There is widespread acknowledgement from extractive industries that efforts spent on building respectful relationships, responding to community and indigenous peoples' concerns, minimizing project-related impacts can be beneficial to both companies and affected communities.

Mining companies typically contribute national and local economic benefits through payments in taxes and royalties, and can contribute even more by procuring goods and services from the host country. Leading companies also recognize the need for delivering additional benefits to affected communities, and that benefits are best defined by the communities themselves. When communities' needs and aspirations are not at the forefront of mining company investments, experience shows that efforts often fail to deliver long-lasting benefits. Increasingly, efforts are being made to ensure that community investments made by mining companies provide both immediate and ongoing benefits that last beyond the life of the mining operation.

In addition to providing tangible benefits to affected communities, there is a growing need for mining companies to obtain and maintain broad community support for their projects and operations.[152] A high level of community support can provide reassurance to a company's shareholders and investors, and steps taken by a company to earn community support can foster the development and maintenance of strong relationships with affected communities.

TERMS USED IN THIS CHAPTER

Affected Community ■ Broad Community Support ■ Collaboration ■ Consultation ■ Existing Mine ■ Grievance ■ Inclusive ■ Mine Closure ■ Mining Project ■ New Mine ■ Operating Company ■ Post-Closure ■ Stakeholder ■ Vulnerable Group ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To obtain and maintain credible broad support from affected communities; and produce tangible and equitable benefits to communities that are in alignment with their needs and aspirations and sustainable over the long term.

SCOPE OF APPLICATION

Chapter Relevance: Operating companies may provide evidence that this chapter is not relevant if they can demonstrate that there are no communities that may be affected by their mining activities or potential mine expansions.

New vs. Existing Mines: The chapter applies to new mines and existing mines. With respect to obtaining broad community support, new mines are expected to demonstrate that they obtained it prior to the construction of a new mine while existing mines shall demonstrate that they have broad community support when they apply for certification. This approach recognizes that existing mines may not have had broad community support at the time they were constructed, but that through the building and maintenance of strong relationships with affected communities and stakeholders they have been able to earn this support over time.

[152] For example, ICMM members recognize that: "Successful mining and metals projects require the support of a range of interested and affected parties. This includes both the formal legal and regulatory approvals granted by governments and the broad support of a company's host communities." (ICMM. 2013. Indigenous Peoples and Mining. Position Statement. p. 3), and ICMM materials mention to the need to "gain and maintain the broad community support of the communities on which operations are located." (ICMM. 2008. Sustainable Development Framework: Assurance Procedure. p. 18).

Obtaining Community Support and Delivering Benefits Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
2.3.1. Commitments to Affected Communities 2.3.1.1. The operating company shall publicly commit to: a. Maintaining or improving the health, social and economic wellbeing of affected communities; and b. Developing a mining project only if it gains and maintains broad community support.[153]	For 2.3.1.1: Interview operating company representatives, and review the operating company website or other materials to ensure that a public commitment has been made.	For 2.3.1.1: • Records of public statements (e.g., in the media, in company written materials that are publicly available, on the company's website, etc.) expressing commitments outlined in 2.3.1.1. • Publicly available company policies that include these commitments.	Explanatory Note for 2.3.1.1: International Council on Mining and Metals (ICMM) members recognize that: "Successful mining and metals projects require the support of a range of interested and affected parties. This includes both the formal legal and regulatory approvals granted by governments and the broad support of a company's host communities."[154] Broad support from a community is often called broad community support (BCS), but may also be referred to as social licence to operate, or community support, etc. IRMA has decided to use the term "broad community support" to reflect this concept, as it is a term used in the International Finance Corporation's 2012 Policy on Environmental and Social Sustainability.[155] The IRMA definition has been adapted from IFC to fit IRMA's purposes. BCS is defined in the IRMA Glossary as: "A collective expression by the community in support of the mining project. Support may be demonstrated through credible (i.e., transparent, inclusive, informed, democratic) local government processes or other processes/methods agreed to by the community and company. There may be BCS even if some individuals or groups object to the business activity." This requirement applies to non-indigenous communities. If the only affected communities are indigenous peoples' communities, the operating company is required instead to have a policy statement that demonstrates respect for indigenous peoples' rights, as per Chapter 2.2, and meet the rest of the requirements in that chapter. For more guidance on maintaining BCS see the note for 2.3.2.2.

[153] This also may be referred to as social licence to operate, or community support, etc.

[154] International Council on Mining and Metals (ICMM). 2013. Indigenous Peoples and Mining. Position Statement.https://www.icmm.com/en-gb/members/member-commitments/position-statements/indigenous-peoples-and-mining-position-statement

[155] IFC. 2012. IFC Sustainability Framework: Policy on Environmental and Social Sustainability. p. 7. https://www.ifc.org/wps/wcm/connect/b9dacb004a73e7a8a273fff998895a12/IFC_Sustainability_+Framework.pdf?MOD=AJPERES

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
2.3.2. Obtaining Community Support 2.3.2.1. For new mines, the operating company shall demonstrate that it obtained broad community support from communities affected by the mining project, and that this support is being maintained.	**For 2.3.2.1 and 2.3.2.2:** For new mines, interview company representatives, and review the operating company documentation to determine if broad community support has been obtained, and to confirm that the process followed conformed to requirements 2.3.2.1 and 2.3.2.2. (See Means of Verification for 2.3.2.3 for more on broad community support being maintained). Examples of 2.3.2.2 might include recorded votes or resolutions by community or local government decision-making bodies (e.g., local government bodies such as town councils or boards, county commissions, etc.), or a referendum held by a local government to gauge community support. Documentation may include minutes from meetings with stakeholders, records of grievances or complaints made to the company (see IRMA Chapter 1.4) or to government agencies about the mining activities; letters of support for the mining project issued by community decision-making bodies and others. For new mines, confirm by interviewing a representative sample of affected community members to determine if support from the community has been obtained and is generally being maintained. Efforts should be made to confirm that those interviewed have the mandate to represent the views of the community or subsets of the community, or if there is no mandate, to understand the segment of community perspectives that may be reflected by	**For 2.3.2.1:** • Letters of support or resolutions from local governments expressing support or lack of support for the mining project. • Documented methods of an alternative mechanism (e.g., referendum, surveys, etc.) agreed by the company and community for determining broad community support. • Results of community opinion surveys related to the mining project. • Results of community referendum related to the mining project. • Expressions of continued support (or lack of support) for the mining project from local governments, community organizations, affected community members or other stakeholders (e.g., letters, videos, resolutions, media statements, etc.). • Records of complaints and grievances, and the company's responses/remedies. • Media accounts of community protests, and the company's response to them. • Stakeholder engagement plan • Policies and other documents reflecting commitments to and mechanism for collaborating with community beneficiaries, NGOs, government and	**Explanatory Note for 2.3.2:** The concept that mining development should not proceed without a high degree of support from affected communities is widely agreed among IRMA stakeholders. The requirements in 2.3.2 apply to non-indigenous communities. If an affected community is an indigenous peoples' community, the operating company is required to obtain the free, prior and informed consent of that community (as per Chapter 2.2). A company may, however, need to obtain FPIC from indigenous peoples and also demonstrate that it has broad community support for the same project (i.e., if there are communities or populations of indigenous peoples and non-indigenous peoples affected by the mine). The concept of broad community support is supported by the International Finance Corporation (IFC). In cases where business activities to be financed by IFC are likely to generate potential significant impacts on communities, IFC expects its clients' community engagement to lead to broad community support. IFC says that broad community support is "a collection of expressions by Affected Communities, through individuals or their recognized representatives, in support of the proposed business activity. There may be BCS even if some individuals or groups object to the business activity."[156] **Explanatory Note for 2.3.2.1:** See note for 2.3.2.3 regarding maintenance of broad community support.

[156] IFC. 2012. Policy on Environmental and Social Sustainability. https://www.ifc.org/wps/wcm/connect/7141585d-c6fa-490b-a812-2ba87245115b/SP_English_2012.pdf?MOD=AJPERES&CVID=kiIrw0g

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	the opinions or comments of those being interviewed. Note: "representative sample" is not meant to imply a statistically significant sample. It means that efforts are made to include a cross-section of the community (men and women of different ages, economic status, occupations, and interests, as well as individuals from vulnerable and marginalized groups or their advocates).	other stakeholders.	
2.3.2.2. For new mines, broad community support shall be determined through local democratic processes or governance mechanisms, or by another process or method agreed to by the company and an affected community (e.g., a referendum). Evidence of broad community support shall be considered credible if the process or method used to demonstrate support: a. Occurred after the operating company carried out consultations with relevant stakeholders regarding potential impacts and benefits of the proposed operation; b. Was transparent;	For 2.3.2.2.a: Confirm that the company has consulted with relevant affected community stakeholders, including men, women, vulnerable groups (children, the elderly, ethnic or other minority groups) or their representatives, and others who might be affected by the mine. As per IRMA Chapter 1.2, consultations should have been accessible and culturally appropriate.[157] (See requirement 1.2.4.4) For 2.3.2.2.b: Confirm that the process has been transparent, e.g., by looking for documentation on how the local government makes decisions, evidence that procedures are made public, triangulating with affected community members to make sure procedures were followed. For 2.3.2.2.c: Interview affected community members and other relevant stakeholders (e.g., civil society or third-party observers to a vote or referenda), and review media reports to determine if there have been any complaints of	For 2.3.2.2: • Letters of support or resolutions from local governments expressing support or lack of support for the mining project. • Documentation of rules or procedures followed by local governments to make a determination of whether or not the community should express support for the mining project. • Documentation of alternative processes/methods agreed by the company and community to determine if there is broad community support for a project (e.g., referendum, surveys, town hall votes, etc.). • Documented results from any alternative mechanism for determining broad community support.	Explanatory Note for 2.3.2.2: The intent of this requirement is that mines be able to show that good faith efforts were made to determine whether or not there is broad community support for a project before a mine is developed. There will almost always be groups within communities that oppose a mining project, so it is not expected that there be unanimous support from communities. (See also the explanatory note for 2.3.2.3) To gauge the level of support mines may rely on existing mechanisms such as local government resolutions or approval processes, or newly creates ones such as community referenda, as long as the processes meet the sub-requirements in 2.3.2.2. Mining companies should undertake due diligence to understand if existing mechanisms used by local government institutions are viewed by a significant proportion of the community as adequately reflecting the opinions of a broad cross-section of the population. If that is not the case, then mines may want to undertake efforts to collaborate with communities to create mechanisms that better reflect the overall sentiment of the community. Otherwise, the so-called broad community support may not prove to exist in reality, and

[157] "Culturally appropriate": communication includes interactions and conveyance of information using methods, languages, terminology and formats that are respectful of cultural differences (e.g., in some cultures, it is disrespectful to look directly into a person's eyes); and can be easily understood by the affected communities and stakeholders. As per requirement 1.2.1.3, stakeholders can help to define for the company what is considered culturally appropriate.

"Accessible": In reference to engagement processes, means being known in an understandable manner to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
c. Was free from coercion or manipulation; and d. Included the opportunity for meaningful input by all potentially affected community members, including women, vulnerable groups and marginalized members, prior to any decision or resolution.	coercion or manipulation in any decision-making process. For 2.3.2.2.d: If the process followed was a community or local government process (e.g., a decision made by elected officials or other selected representatives) confirm that the process allowed for input from all potentially affected community members before a decision was made.		may result in ongoing challenges and conflicts for the company and community moving forward. Explanatory Note for 2.3.2.2.b: "transparent" means that the rules or procedures are shared publicly, so that everyone knows how decisions are made.
2.3.2.3. For existing mines, the operating company shall demonstrate that the mine has earned and is maintaining broad community support.[158]	For 2.3.2.3: For existing mines (and new mines), confirm by interviewing a representative sample of affected community members to determine if support from the community is generally being maintained. Efforts should be made to confirm that those interviewed have the mandate to represent the views of the community or subsets of the community, or if there is no mandate, to understand the segment of community perspectives that may be reflected by the opinions or comments of those being interviewed. Note: "representative sample" is not meant to imply a statistically significant sample. It means that efforts are made to include a cross-section of the community (men and women of different ages, economic status, occupations, and interests, as well as individuals from vulnerable and marginalized groups or their advocates).	For 2.3.2.3: • Expressions of continued support (or lack of support) for the mining project from local governments, community organizations, affected community members or other stakeholders. • Records of complaints and grievances, and the company's responses/remedies. • Media accounts of community protests, and the company's response to them. • Results of community opinion surveys related to the mining project. Results of community referendum related to the mining project.	Explanatory Note for 2.3.2.3: The following guidance may help to make the determination that broad community support is being maintained: • The presence of absence of complaints or protests, alone, should not be the basis of the determination. Occasional complaints or opposition from individuals does not necessarily mean that broad community support is not being maintained. But if there are similar complaints from several different complainants, and/or valid complaints remain unresolved over an extended period of time, it may indicate that the company is not making good faith efforts to address community concerns, reduce conflict and maintain broad community support. • Sustained and widespread disapproval of company practices, or significant or frequent community protests, could potentially be an indication that broad community support is not being maintained. However, they do not definitively prove that it is not being maintained. • Consideration should be given to how the complaints, concerns and protest(s) are handled by the company (e.g., does the company immediately take the concerns seriously, offer to open up a dialogue on the issues, work with the community to resolve the issues, collaborate to develop mechanisms for working

[158] If the affected community is an indigenous peoples' community, the operating company is required to obtain the free, prior and informed consent of that community (as per Chapter 2.10). If the company obtains FPIC, they will have met this requirement also. A company may need to obtain FPIC from Indigenous Peoples and also demonstrate that it has broad community support for the same project, if there is a community of non-Indigenous Peoples also affected by the mine.

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			together to try to try to prevent similar issues from escalating, etc.?). If the source of a conflict or a protest has been resolved to the general satisfaction of affected community members, or the company is clearly making a good faith effort to resolve the source of the conflict, or there has been a process put in place for moving forward with discussions or dialogue that communities agree to, then the weight of evidence may lead the auditor to determine that broad community support is generally being maintained.
2.3.3. Planning and Delivering Community Benefits 2.3.3.1. The operating company, in collaboration with affected communities and other relevant stakeholders (including workers and local government), shall develop a participatory planning process to guide a company's contributions to community development initiatives and benefits in affected communities.	**For 2.3.3.1:** Determine, through interviews with the operating company and review of documents (e.g., community investment framework, action plans, correspondence between company and stakeholders, meeting minutes), that a participatory planning process is in place. Confirm that community and other relevant stakeholders involved in the process, and as per Chapter 1.2 (requirement 1.2.4.3) confirm that they had timely access to the operating company documents and information in appropriate formats necessary to participate in the planning process.	**For 2.3.3.1:** • Records from meetings with affected community members and stakeholders, or correspondence pertaining to planning/designing the participatory process to guide the company's community contributions. • Documentation of any procedures or rules governing the process (e.g., who is involved, why, when, how, etc.).	**Explanatory Note for 2.3.3.1:** "Relevant stakeholders" may include, for example, local economic planning entities, community service groups, social services agencies, land-use focused groups, chambers of commerce, artisanal and small-scale mining representatives, faith-based groups, school boards, conservation organizations, etc.). "Community initiatives" may include any projects or undertakings that support the community, such as infrastructure, training programs, social programs, scholarships, mentorships, grants, etc. The agreed planning process should be documented so that both the mine and the community understand exactly what is meant by participation and what was agreed to in terms of the process itself (who is involved, what the process looks like, who participates, etc.).
2.3.3.2. The planning process shall be designed to ensure local participation, social inclusion (including both women and men, vulnerable groups and traditionally marginalized community members, e.g., children, youth, the elderly, or	**For 2.3.3.2 and 2.3.3.3:** Interview operating company and affected community and other relevant stakeholders to determine if the participatory planning process included local participation, was socially inclusive (i.e., included women and men, and if relevant, vulnerable groups and/or traditionally marginalized community members or their representatives, for example advocates for children, youth, the	**For 2.3.3.2:** • Records from meetings with affected community members and stakeholders, or correspondence pertaining to planning/designing the participatory process to guide the company's community contributions. • Minutes or sign-in sheets from	**Explanatory Note for 2.3.3.2:** The intent of 2.3.3.2 is that discussions related to how a community can best benefit from mining company contributions should occur through participatory processes. The World Bank recognizes that such "Community-Driven Development" (CDD) processes can be an effective poverty-reduction and sustainable development strategy.[159] In this approach, the foundations of good governance and transparency in the development of community development projects or initiatives

[159] World Bank website: "Community-Driven Development." http://www.worldbank.org/en/topic/communitydrivendevelopment

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their representatives), good governance and transparency.	elderly, etc.), provided access to experts, if needed (as per 2.3.3.3), and operated according to good governance and transparency. Not every single group listed above need be included in the planning process, but the company should have a credible rationale for why certain groups are not involved in the process.	meetings. • Documentation of any procedures or rules governing the process.	include: (i) a clear and well-articulated set of community accepted rules; (ii) effective social mobilization and information dissemination to ensure that rules are well understood; and (ii) a robust and transparent system to identify and target the project beneficiaries. For more information see: CDD Toolkit.[160] "Social inclusion" means that efforts should be made to include women and men, and if relevant, vulnerable groups and/or traditionally marginalized community members or their representatives, for example advocates for children, youth, the elderly, etc.). The purpose of including a broad range of stakeholders is to ensure that benefits to communities are not confined to a few, but rather are shared throughout the community. "Good governance and transparency" means that the rules or procedures are ... and that the rules are shared publicly, so that everyone knows how decisions are made.
2.3.3.3. If requested by the community and not provided by the appropriate public authorities, the operating company shall provide funding for mutually agreed upon experts to aid in the participatory process.	**For 2.3.3.2 and 2.3.3.3:** Interview operating company and affected community and other relevant stakeholders to determine if the participatory planning process included local participation, was socially inclusive (i.e., included women and men, and if relevant, vulnerable groups and/or traditionally marginalized community members or their representatives, for example advocates for children, youth, the elderly, etc.), provided access to experts, if needed (as per 2.3.3.3), and operated according to good governance and transparency.	**For 2.3.3.3:** • Stakeholder engagement plan. • Stakeholder engagement procedure. • Records of requests made by stakeholders, and company responses. • Records of stakeholder complaints related to participatory planning process.	**Explanatory Note for 2.3.3.3:** There are different types of expert assistance that may be useful to the process, such as professional facilitators, or experts that can guide the community through a process to help them identify community development options and priorities. Also, community participants may benefit from experts who can provide legal advice, economic or financial advice, assistance with project planning and management, etc., during the process.
2.3.3.4. Efforts shall be made to develop:	**For 2.3.3.4:** Review documentation related to the planning process. Interview operating company management and staff and	For 2.3.3.4: • Records of correspondence or meetings	**Explanatory Note for 2.3.3.4:** The intent of 2.3.3.4 is that any contributions made by mining companies to local communities benefit a broad spectrum of the community rather than a few, and

[160] World Bank website: "Community-Driven Development Toolkit: Governance and Accountability Dimensions." http://www.worldbank.org/en/topic/communitydrivendevelopment/publication/community-driven-development-toolkit-governance-and-accountability-dimensions

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
a. Local procurement opportunities; b. Initiatives that benefit a broad spectrum of the community (e.g., women, men, children, youth, vulnerable and traditionally marginalized groups); and c. Mechanisms that can be self-sustaining after mine closure (including the building of community capacity to oversee and sustain any projects or initiatives agreed upon through negotiations).	representative sample of affected community and other relevant stakeholders to determine if community development initiatives were implemented as planned, and that measures were taken to create local procurement opportunities and sustainable initiatives designed to deliver and maintain post-closure benefits to communities. Note: "representative sample" is not meant to imply a statistically significant sample. It means that efforts are made to include a cross-section of the community (men and women of different ages, economic status, occupations, and interests, as well as individuals from vulnerable and marginalized groups or their advocates).	(e.g., minutes) that include suggestions from the operating company that its contributions include the sub-requirements 2.3.3.4.a, b and c. For 2.3.3.4.a: • A local procurement policy, local procurement contracts or other documentation related to the operating company's local procurement practices. See Explanatory notes. • Public reporting on the how much local procurement spending from a given mine site goes to local suppliers, e.g., via the Mining Local Procurement Reporting Mechanism (LPRM) For 2.3.3.4.b: • Documentation of the community initiatives that are being supported by the operating company. • Documentation, e.g., meeting minutes from the participatory planning process, that mechanisms or projects that are expected to continue after mine closure have been agreed to by the community.	that the investments being made in the community has long-lasting effects well beyond the life of the mine. Re: 2.3.3.4.a, local procurement by mining projects can create opportunities for further industrialization and economic development, and is seen as a means of achieving a number of Sustainable Development Goals.[161] Investment in local procurement is included in the Global Reporting Initiative (GRI), and more recently, the Mining Local Procurement Reporting Mechanism has been developed to increase transparency about the contributions that mining makes to host countries through local procurement, both to highlight positive outcomes and deter problematic practices.[162] Ideally, a local procurement initiative would include capacity-building support for host country businesses; there would be clear, practical and easily accessible information for current and potential suppliers on how to supply the mine site (e.g. contact information, information on tendering process, information sessions); and procurement processes used at the mine site would be tailored to support local suppliers, such as faster payment for small suppliers, and preference or extra points given to local suppliers during the bidding process. As part of any local procurement initiative, mines should develop a local procurement policy (either as a standalone or part of another, e.g., Supply Chain Policy) that lays out the company's vision and procedures for local procurement by the mine site, as well as the duties and responsibilities for those overseeing the policy. Re: 2.3.3.4.b and c, it is widely recognized that an important part of community development is investing in local residents, and that this can be done through job training programs (within and external to the mining project), and by building the capacity and supporting the development and growth of local businesses.

[161] Deutsche Gessellschaft fur Interionatle Zusammenarbeit (GIZ) GmbH and Engineers Without Borders. 2017. Mining Local Procurement Reporting Mechanism. https://static1.squarespace.com/static/54d667e5e4b05b179814c788/t/59f0f6beccc5c58e5e884d5c/1508964041682/ewb-msv-mining-lprm.pdf

[162] Ibid. p. 10.

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			Mines may also contribute to sustainable community development by contributing to infrastructure, such as roads, health facilities, schools, or sponsoring health and education programs delivered by external providers. However, as described by ICMM, "Often, these efforts, although appreciated as generous gifts to local communities, have not lasted beyond the life of the mine. . . because often the projects:[163] • Were chosen by the mining company people and/or the local elites • Were built or run by outsiders, with little management involvement from local community members and limited capacity building to allow a handover of responsibility over time • Required technology, resources of knowledge not locally available to maintain them. To avoid such an outcome, as per 2.3.3.4.c any initiatives supported by the mine must include consideration of how projects, infrastructure or services can be maintained beyond the life of the mine.
2.3.3.5. The planning process and any outcomes or decisions shall be documented and made publicly available.	For 2.3.3.5: Review documentation related to the planning process. Interview operating company and representative sample of affected community and other relevant stakeholders to determine if community development initiatives were implemented as planned, and that measures were taken to create sustainable initiatives designed to deliver and maintain post-closure benefits to communities.	For 2.3.3.5: • Documentation of any procedures or rules governing the process. • Minutes from meetings held as part of the planning process. • Signed or otherwise validated agreements between the operating company and community that include terms and conditions of operating company support for community projects or initiatives, or other forms of community benefits supported by the company.	

[163] International Council on Mining and Metals (ICMM). 2012. Community Development Toolkit. p. 18. https://www.commdev.org/pdf/publications/ICMM-Community-Development-Toolkit.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
		• Documentation of the community initiatives being supported by the operating company.	
2.3.3.6. In collaboration with the community, the operating company shall periodically monitor the effectiveness of any mechanisms or agreements developed to deliver community benefits, based on agreed upon indicators, and evaluate if changes need to be made to those mechanisms or agreements.	For 2.3.3.6: Review monitoring and evaluation of results of community development programs.	For 2.3.3.6: • Signed or otherwise validated agreements between the operating company and community that include terms and conditions of operating company support for community projects or initiatives, or other forms of community benefits supported by the company. • Documentation of any processes to develop indicators to measure the effectiveness of agreements or mechanisms designed to deliver community benefits. • Records of evaluations of agreements or mechanisms designed to deliver community benefits (e.g., initiatives and projects) to determine the effectiveness of company-supported initiatives. • Records of any updates to agreements that have occurred as a result of evaluations.	Explanatory Note for 2.3.3.6: Periodically, the operating company and affected community members should evaluate whether or not the community initiatives that are being supported by the operating company are delivering benefits to a broad-base of the community, and also whether or not benefits to communities are likely to be sustained after the life of the mine.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.2—Community and Stakeholder Engagement	See Chapter 1.2 for requirements relating to engagement and communication with stakeholders. In particular, criterion 1.2.3 is important to ensure that stakeholders have the capacity to fully understand their rights and collaborate effectively in community planning processes. Also, 1.2.4 ensures that communications and information are in formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely, culturally appropriate manner.

Cross References to Other Chapters	
2.2—Free, Prior and Informed Consent	Chapter 2.2 is relevant for mining projects that may affect communities of indigenous peoples. Rather than obtaining broad community support as per this chapter, when there are indigenous peoples whose land, resources, cultural heritage or rights may be impacted by mining activities, operating companies must adhere to the requirements of Chapter 2.2.
3.6—Artisanal and Small-Scale Mining	If ASM entities are present and are affected by the mining project, they should be included in the process to plan and determine benefits in 2.3.3.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to risks or impacts from a project.

Broad Community Support (BCS)

A collective expression by the community in support of the mining project. Support may be demonstrated through credible (i.e., transparent, inclusive, informed, democratic) local government processes or other processes/methods agreed to by the community and company. There may be BCS even if some individuals or groups object to the business activity.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Inclusive

In the context of stakeholder engagement, means that engagement includes men, women, the elderly, youth, displaced persons, vulnerable and disadvantaged persons or groups.

Mine Closure

A period of time when ore-extracting and processing activities of a mine have ceased, and final decommissioning and mine reclamation are occurring. It typically includes pre-closure (detailed closure design and planning), closure (actual activities of closure of mine workings and construction/decommissioning) and post-closure (mainly long-term reclamation, monitoring, and treatment) periods, each with its own specific activities.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Post-Closure

The period after the reclamation surety holder declares the activities required by the reclamation and closure plan are complete; any significant objections raised during the public comment period on the final release of the financial surety have been resolved; and the reclamation surety has been returned to the operator, or it has been converted to a post-closure trust fund or equivalent (i.e. if there is a need to fund long-term management and monitoring of the site). This phase continues until final sign-off and relinquishment can be obtained from the regulator and stakeholders.

Stakeholders

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 2.4—Resettlement

[flag] **Issue in Brief:** In some cases, by virtue of the location of a mineable ore body, proposed mining projects are located in close proximity to where people live. The situation where those affected do not have the legal right to refuse land acquisition and displacement is referred to as involuntary resettlement.

The current approach of the IRMA resettlement chapter does not prohibit involuntary resettlement, although it encourages mines to avoid it if possible. When avoidance is not possible, IRMA, like other internationally recognized standards on resettlement (e.g., IFC Performance Standard 5) requires that companies strive to minimize impacts on affected people, implement mitigation measures such as fair compensation and improvements to livelihoods and living conditions that are discussed ahead of time with affected peoples. Active engagement of affected peoples and their advisors is required throughout the process, from the earliest stages of resettlement risk and impact assessment through the monitoring of resettlement outcomes.

During its Launch Phase, IRMA will be encouraging mines that have been through resettlement processes to help test this chapter, and determine if the metrics used are robust and comprehensive enough to ensure that if the displacement of individuals and communities occurs, it can be carried out in a fair and respectful way that leads to improvements in quality of life and economic opportunities for affected peoples.

BACKGROUND

There are well-documented economic, social and environmental impacts and risks related to resettlement. People may be economically displaced from their livelihoods as well as physically displaced from their lands, homes, communities, and social and cultural ties. If planned or executed poorly resettlement may lead to increased impoverishment of affected households.

Resettlement is considered involuntary when people do not wish to move but do not have the legal right to refuse land acquisition that results in their displacement.[164] The International Finance Corporation's (IFC) Performance Standard 5 on Land Acquisition and Involuntary Resettlement states that involuntary resettlement should be avoided where possible.

The IFC encourages its clients to use negotiated settlements, even if they have the legal means to acquire land without the seller's consent.[165] Negotiated settlements typically give affected persons a greater role in planning the resettlement, help avoid expropriation and eliminate the need to use governmental authority to remove people forcibly.[166]

When deemed unavoidable, involuntary resettlement, like other evictions, must only be carried out under exceptional circumstances and in accordance with international human rights law.[167]

TERMS USED IN THIS CHAPTER

Affected Community ■ Associated Facilities ■ Baseline ■ Collaboration ■ Competent Professionals ■ Consultation ■ Displacement ■ Economic Displacement ■ Existing Mine ■ Forced Eviction ■ Free, Prior and Informed Consent (FPIC) ■ Grievance ■ Grievance Mechanism ■ Host Community ■ Indigenous Peoples ■ Involuntary Resettlement ■ Livelihood Restoration Plan (LRP) ■ Mining Project ■ Mining-Related Activities ■ Mitigation ■ New Mine ■ Operating Company ■ Remediation ■ Replacement Cost ■ Resettlement Action Plan (RAP) ■ Stakeholder ■ Vulnerable Group ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

[164] According to the International Finance Corporation, "This occurs in cases of (i) lawful expropriation or temporary or permanent restrictions on land use and (ii) negotiated settlements in which the buyer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller fail." (IFC. 2012. IFC Performance Standards on Environmental and Social Sustainability. Performance Standard 5: Land Acquisition and Involuntary Resettlement. Para. 1)

[165] IFC Performance Standard 5. Para. 3

[166] European Bank for Reconstruction and Development. 2014. Performance Requirement 5. Land Acquisition, Involuntary Resettlement and Economic Displacement. p. 30. www.ebrd.com/news/publications/policies/environmental-and-social-policy-esp.html

[167] See Kothari, M. 2007. "Basic Principles and Guidelines on Development-based Evictions and Displacement". A/HRC/4/18. www.ohchr.org/Documents/Issues/Housing/Guidelines_en.pdf

OBJECTIVES/INTENT OF THIS CHAPTER

To avoid involuntary resettlement, and when that is not possible, equitably compensate affected persons and improve the livelihoods and standards of living of displaced persons.

SCOPE OF APPLICATION

Chapter Relevance: This chapter applies if mining-related activities could result or have resulted in the physical or economic displacement and involuntary resettlement of people.

This chapter does not apply to voluntary resettlement (i.e., market transactions in which the seller is not obliged to sell and the buyer cannot resort to expropriation or other compulsory procedures sanctioned by the legal system of the host country if negotiations fail). As with involuntary resettlement, however, there are risks such as impoverishment that accompany voluntary resettlement. IRMA therefore encourages companies to implement measures to maximize benefits for any household resettled as a result of project activities.

New vs. Existing Mines: New mines shall meet the requirements in this chapter.

At existing mines, where resettlement occurred in the past, operating companies are not required to demonstrate compliance with all of the requirements in this chapter, however, it is possible, even years after a resettlement program occurs, to evaluate the outcomes of resettlement projects and, if necessary, take steps to restore or improve the living conditions and livelihoods of those affected. Therefore, IRMA expects that any mine applying for IRMA certification that carried out a resettlement project after April 30, 2006[168] that posed a risk of significant social impacts will have carried out a completion audit or resettlement evaluation (See 2.4.7.3.b) prior to applying for IRMA certification.

If the evaluation demonstrates that the objectives of this chapter have not been met, the company is expected to develop and implement mitigation strategies in collaboration with the affected peoples until the objectives have been met. Mines that are in the mitigation development/implementation phase are eligible for certification.

For mines that involved resettlement prior to 2006, IRMA will not require evidence of such evaluations. It should be noted, however, that if there are human-rights-related impacts associated with historic resettlement programs that have not been mitigated or remediated, they will need to be addressed as per Chapter 1.3; and other unremediated impacts may be raised by stakeholders and addressed through the operational-level grievance mechanism as per Chapter 1.4. (See the table "Cross Reference to Other Chapters" in the Notes Section of this Chapter for more information.)

Additionally, all mines shall apply the requirements of this chapter if there are proposed changes to mining-related activities, or if direct impacts become significantly adverse, such that communities or individuals have no alternative other than physical and/or economic displacement. In such cases, requirements of this chapter shall apply even where no initial project-related land acquisition or resettlement was involved.

CRITICAL REQUIREMENTS IN THIS CHAPTER

If resettlement has occurred, the mine monitors and evaluates its implementation and takes corrective actions until the provisions of resettlement action plans and/or livelihood restoration plans have been met (2.4.7.1).

[168] This chapter is largely based on IFC's Sustainability Framework, and in particular, Performance Standard 5 on Land Acquisition and Involuntary Resettlement. In 2006, IFC adopted the Sustainability Framework, which articulated IFC's strategic commitment to sustainable development. http://www.ifc.org/wps/wcm/connect/9fb7150048855c138af4da6a6515bb18/2007%2BUpdated%2BGuidance%2BNotes_full.pdf?MOD=AJPERES&attachment=true&id=1322804281925)

Resettlement Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
2.4.1. Risk and Impact Assessment 2.4.1.1. If there is the potential that a new mine (including associated facilities) or the expansion of an existing mine or associated facilities may require land acquisition that could result in the involuntary resettlement (for the remainder of this chapter, referred to as resettlement) of people, the operating company shall undertake an assessment process to evaluate the potential direct and indirect risks and impacts related to the physical and/or economic displacement of people.	**For 2.4.1.1:** Confirm, through interviews with relevant operating company employees and review of relevant documentation, that alternative designs for the mining project were considered to avoid or minimize physical and/or economic displacement, and that special attention was given to impacts on women, marginalized and vulnerable groups in potentially displaced communities, and potential host/receiving communities.	**For 2.4.1.1:** • Documentation related to resettlement risk/impact assessment process (e.g., methodology, scoping documents, draft and final risk assessment reports).	**Explanatory Note for 2.4.4.1:** "Physical displacement" occurs when affected people are required to move from their homes to another location. The term "economic displacement" includes the loss of assets or access to assets that leads to loss of income sources or other means of livelihood, regardless of whether or not affected people are physically displaced.[169] "Direct risks" would be associated with activities that are undertaken, and facilities that are owned and managed by the mining company. "Indirect risks" would be those stimulated by the mining project's presence (e.g., an influx of workers or others seeking economic opportunities due to the mine development), but the potential impacts would be caused by other parties (e.g., increased influx could put pressures on environmental and social resources). See also definition of direct/indirect impacts. Depending on timing and other factors, the resettlement risk and impact assessment may be done as a stand-alone process, or the assessment of risks and impacts from resettlement may occur as part of a broader environmental and social impact assessment for the mining project.[170] If undertaken as part of a broader impact assessment process the assessment of resettlement risks and impacts will be expected to meet the requirements of this chapter (in particular 2.4.1.2 to 2.4.1.5, 2.4.2.1, and 2.4.2.2). If resettlement assessment and planning is carried out but a project is subsequently delayed (e.g., due to permitting issues, or for economic reasons, etc.), there may be the need update parts of the assessment (e.g., census data) and the resettlement and/or livelihood restoration action plans prior to resettlement implementation.

[169] ibid. Para.26.

[170] International Finance Corporation (IFC). 2012. Performance Standard 5: Land Acquisition and Involuntary Resettlement. Para.26. https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/GN5_English_2012.pdf?MOD=AJPERES

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2.4.1.2. The assessment shall: a. Be undertaken during the early stages of mining project planning; b. Include identification of alternative mining project designs to avoid, and if that is not possible, minimize the displacement of people; c. Identify and analyze the social, cultural, human rights, conflict, environmental and economic risks and impacts to displaced persons and host communities for each project design alternative, paying particular attention to potential impacts on women, children, the poor and vulnerable groups; and d. Identify measures to prevent and mitigate risks and impacts, and estimate the costs of implementing the measures.	For 2.4.1.2: Review the assessment to confirm that it conforms with the aspects listed in 2.4.1.2.	For 2.4.1.2: • Documentation related to resettlement risk/impact assessment process (e.g., methodology, scoping documents, draft and final risk assessment reports). • Documentation of alternative mining project designs considered, and the potential for each to result in resettlement. • Documentation of methodology for accepting/rejecting various project designs • Documentation of methodology for identifying potentially affected people, and for collecting census/socio-economic baseline data. • Documentation of efforts to minimize resettlement. Resettlement Action Plan. Livelihood Restoration Plan.	Explanatory Note for 2.4.1.2: World Bank experience indicates that, "involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social and environmental risks: productive systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost."[171] Additionally, resettlement or relocation of affected communities may result in impacts on the environment, biodiversity, ecosystems services or protected areas, as new areas are developed for communities and livelihood activities. Social disintegration and severe impoverishment are some of the immediate consequences of resettlement that affect not only the displaced community but also the host community.[172] Re: 2.4.1.2.c: Host communities, with respect to resettlement, are any communities receiving displaced persons. They may also be called "receiving communities." According to IFC, "Host communities may be affected adversely by new settlement and should therefore be identified as a category of persons affected by the project. The sponsor must address and mitigate any adverse effects associated with resettlement in host communities including increased pressure on land, water, natural vegetation. . . common property resources, public infrastructure, and services.[173] The full range of risks to human rights, and potential social and environmental impacts on potentially displaced communities and also potential host communities should be assessed during the resettlement

[171] World Bank. 2001. Operational Manual. OP 4.12 – Involuntary Resettlement. https://policies.worldbank.org/sites/ppf3/PPFDocuments/090224b0822f89db.pdf

[172] Sridarran et al. 2018. "Acceptance to be the Host of a Resettlement Programme: A literature review," Procedia Engineering. 212:962-969. https://www.sciencedirect.com/science/article/pii/S1877705818301474

[173] International Finance Corporation (IFC). 2002. Handbook for Preparing a Resettlement Action Plan. p. 12. https://commdev.org/userfiles/ResettlementHandbook.pdf

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			risk and impact assessment process (2.4.1.1 and 2.4.1.2). As mentioned in the note for 2.4.1.1, this assessment may be carried out as a stand-alone process, or as part of a broader environmental and social impact assessment for the mining project. A case study on risks to human rights posed by resettlement can be found in the IFC's Guide Human Rights Impact Assessment and Management.[174] Risks to human rights related to resettlement must be assessed and addressed in a manner that is consistent with IRMA Chapter 1.3. If the timing works out, the assessment of risks related to resettlement may be done as part of a larger human rights risk assessment for the entire mining project proposal. Otherwise risks to human rights posed by resettlement can be determined during a risk and impact assessment process that is specific to resettlement.
2.4.1.3. The assessment shall be undertaken by competent professionals with experience in resettlement related to large-scale development projects.	For 2.4.1.3: Interview relevant company representatives, and review the experience and qualifications of the company employees or external experts that carried out the resettlement assessment to confirm that they had experience in resettlement.	For 2.4.1.3: • Documented evidence of the qualification of the company employees or external experts who conducted the resettlement assessment.	Explanatory Note for 2.4.1.3: As defined in the IRMA Glossary, competent professionals are "In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional."
2.4.1.4. The operating company shall document decision-making regarding alternative mining project designs and efforts to minimize resettlement.	For 2.4.1.4: Review assessment documentation to confirm that the company provided rationale for decisions related to alternative mining project designs in relation to how they prevented or minimized the need for resettlement.	For 2.4.1.4: • Documentation related to resettlement risk/impact assessment process (e.g., methodology, scoping documents, draft and final risk assessment reports). • Documentation of alternative project designs considered, and the potential for each to result in	Explanatory Note for 2.4.1.4: The operating company is expected to consider different project designs in order to avoid involuntary resettlement, if possible, and otherwise to minimize the number of people who will be physically displaced and/or economically displaced as a result of a particular project design. Companies should establish a methodology for comparing various project designs, so that the decision-making framework is clearly understood, such as establishing what factors need to be considered for each alternative project design (e.g., likely number of people to be

[174] IFC. 2011. Guide to Human Rights Impact Assessment and Management. pp. 87 – 93. https://www.globalgovernancewatch.org/docLib/20140206_hriam-guide-092011.pdf

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		resettlement. • Documentation of methodology for accepting/rejecting various project designs • Documentation of rationale for accepting/rejecting various project designs • Documentation of efforts to minimize resettlement.	physically and/or economically displaced, potential equivalent land/livelihood opportunities for displaced people, environmental impacts, social impacts, human rights, cost, technical feasibility, etc.), and how different factors are valued or weighted in the analysis of the alternatives. The different project design ideas, as well as the potential for physical and economic displacement of affected community members should be documented, as should the rationale for why various alternatives were rejected.
2.4.1.5. The assessment shall be made public, or, at minimum, be made available to potentially affected people and their advisors.	For 2.4.1.5: Confirm that the risks and impacts assessment was made public, or was made available to potentially affected people and their advisors. As per IRMA Chapter 2.1, materials need to be provided in formats and languages that are culturally appropriate and accessible to affected communities and stakeholders (see requirement 1.2.4.3).	For 2.4.1.5: • Record of communication with stakeholders, e.g., providing them with copies of the assessment or informing them how to obtain a copy. • Documented evidence that assessments that have been made public (e.g., links to websites); evidence of availability of reports in public locations. • Documented evidence that reports have been provided • Records of meetings with people specifically being relocated and host communities to present findings.	Explanatory Note for 2.4.1.5: In this case, "be made public" means that the assessment should either be available on the operating company's website, or available in hard copy or digitally at a public facility (e.g., a public library, government office, etc.) within affected communities (including host communities). Alternatively, if not made publicly available the operating company should inform potentially affected people that they have the ability to access the assessment upon request, if they are so interested. Some communities may prefer to have results presented to them by the company, e.g., a community forum or meeting. Even if this occurs, companies should inform communities that the assessment report is publicly available or available upon request, in a language that is understandable to the community members. Companies are not expected to include in public reports information that is culturally inappropriate, that compromises the safety of any individual, or legitimate confidential business information. Culturally inappropriate information may include that which is sensitive to particular groups or communities, and therefore should not be freely released to all requesting parties (e.g., locations of indigenous peoples' sacred sites). Stakeholders can help to define what is considered culturally inappropriate.
2.4.2. Community Engagement	Auditing Note for 2.4.2: Confirm the following through interviews with	For 2.4.2.1:	Explanatory Note for 2.4.2.1: "Potentially affected persons and communities" include but are not necessarily limited to physically and/or

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2.4.2.1. The operating company shall disclose relevant information and consult with potentially affected persons and communities, including host communities, during: a. The assessment of displacement and resettlement risks and impacts, including the consideration of alternative mining project designs to avoid or minimize resettlement; b. The development of resettlement and livelihood options; and c. The development, implementation, monitoring and evaluation of a Resettlement Action Plan (RAP) and/or Livelihood Restoration Plan (LRP).	relevant operating company employees and affected persons and representatives from affected communities, including host communities, and review of documentation. For 2.4.2.1: Confirm that there has been disclosure of relevant information and participation of affected communities in the identification of project alternatives to minimize the need for resettlement; in the planning and the development of mitigation measures; implementation; and monitoring and evaluation of compensation payments, and livelihood restoration activities and resettlement implementation. Confirm that the views of affected households, included women and men, vulnerable groups, and host communities, were incorporated into the company's decision-making related to resettlement planning, mitigation, compensation, implementation, monitoring and evaluation.	• Documentation related to resettlement risk/impact assessment process (e.g., methodology, scoping documents, draft and final risk assessment reports). • Records of meetings with potentially affected community members and issues discussed during those meetings. • Records of other communications with potentially affected community members (e.g., written correspondence). • Records of input received from affected community members during the assessment of resettlement risks and impacts, or during the development of resettlement and livelihood options, or the development of Resettlement Action Plan (RAP) and/or Livelihood Restoration Plan (LRP). • Records of participation of affected community members in Monitoring and Evaluation of the RAP and/or LRP.	economically displaced persons and their advisors, and stakeholders in host communities and their advisors. As per IRMA Chapter 1.2, engagement with stakeholders (in particular, potentially affected persons who may be displaced or located in host communities, as well as rights holders such as indigenous peoples or any person whose human rights may be infringed upon during resettlement) shall conform to the requirements in IRMA Chapter 1.2. In particular, criterion 1.2.3 is important to ensure that stakeholders have the capacity to fully understand their rights and engage effectively in the resettlement assessment and the development of prevention and mitigation options, plans and resettlement monitoring and evaluation processes. Also, criterion 1.2.4 ensures that communications and information are provided in a timely manner and are in culturally appropriate formats and languages that are understandable to stakeholders. "Culturally appropriate" engagement processes would be those that are aligned with the cultural norms and communication styles of the affected communities and stakeholders. (For more on culturally appropriate communications see IRMA Chapter 1.2) Companies are not expected to disclose any information that is culturally inappropriate, that compromises the safety of any individual, or legitimate confidential business information. Culturally inappropriate information may include that which is sensitive to particular groups or communities, and therefore should not be freely disclosed. Affected persons and community representatives can help to define information that is considered culturally inappropriate or that may create safety issues for them.
2.4.2.2. The operating company shall facilitate access, if desired by potentially affected persons and communities, including host communities, to independent legal or other expert advice from the earliest stages of project design	For 2.4.2.2: Confirm that the operating company offered to provide affected people and host communities with access to independent experts throughout the resettlement process.	For 2.4.2.2: • Records of communications with potentially affected stakeholders involving requests for expert assistance related to resettlement. • Documented evidence of provision	Explanatory Note for 2.4.2.2: "facilitate access to independent experts" may involve providing funding to enable affected people to select and consult with experts; work with government agencies and/or non-governmental organizations to provide free legal and other services to affected people; or other means.

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and assessment, through monitoring and evaluation of the resettlement process.		of access to independent legal or other expert advice to potentially affected persons and communities, including host communities.	Existing mines will not be expected to have offered assistance from the earliest stages of project design and assessment, but if resettlement monitoring and evaluation are ongoing then they would be expected to meet the intent of this requirement.
2.4.2.3. Persons from affected communities, including host communities, shall have access to an effective mechanism to raise and seek recourse for concerns or grievances related to displacement and resettlement.	For 2.4.2.3: The operational-level grievance mechanism developed as per IRMA Chapter 1.4 may be used to handle resettlement-related complaints. If it is not, confirm that any resettlement-specific grievance mechanism is consistent with the requirements of IRMA Chapter 1.4, which includes a requirement that grievance mechanisms be designed to address the effectiveness criteria outlined in UN Guiding Principles on Business and Human Rights.[175] Confirm that a mechanism was in place early enough to be able to receive and address specific concerns related to compensation and relocation raised by displaced persons and host communities, and that affected persons were aware of the grievance mechanism, that it was culturally appropriate, and enabled stakeholder participation in its design. "Culturally appropriate" engagement processes would be those that are aligned with the cultural norms and communication styles of the affected communities and stakeholders. (For	For 2.4.2.3: • Documented complaints and grievance procedures. • Documentation on how the grievance mechanism and its procedures align with the effectiveness criteria outlined in UN Guiding Principles on Business and Human Rights. • Records of communications with potentially affected stakeholders informing them of the grievance mechanism and its procedures. • Records of lodged complaints and grievances. • Records of resolved grievances and steps taken to resolve them, including records of communications with those filing grievances.	Explanatory Note for 2.4.2.3: The operational-level grievance mechanism developed as per Chapter 1.4 may be used as a mechanism to receive and address resettlement related grievances, or a mechanism may be created to handle only resettlement-related concerns. If a separate mechanism is developed, it shall be done in a manner that is consistent with IRMA Chapter 1.4. In particular, it shall be developed in a manner that meets the United Nations Guiding Principles on Business and Human Rights effectiveness criteria for grievance mechanisms. Measures of whether or not a mechanism meets the effectiveness criteria include that the mechanism is: (a) Legitimate: the mechanism has been co-designed by stakeholders and is trusted by them (and there are no unresolved complaints that the mechanism is unfair or biased); (b) Accessible: The mechanism provides various means of filing complaints and does so in formats in language that work for affected stakeholders; (c) Predictable: There are known procedures and timelines/deadlines for receiving responses from the company when complaints are filed, etc. (d) Equitable: Complainants are provided with resources to understand the grievance procedures/processes and participate in an informed manner; (e) Transparent: Company provides sufficient information about the complaints received, how they were handled, and their outcomes;

[175] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. A/HRC/17/31. Principles 31. Available at: www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf

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	more on culturally appropriate communications see IRMA Chapter 1.2)		(f) Rights-Compatible: The mechanism can handle human rights related complaints, allows for confidentiality, and can result in suspension of certain mining project activities if there is a risk of imminent human rights abuses related to those activities; (g) Source of continuous learning: There are scheduled reviews of the mechanism that allow for input from stakeholders; (h) Based on engagement/dialogue: Stakeholders are consulted in the design and performance of mechanism, and dialogue is a primary means to try to address and resolve grievances. For more on effectiveness criteria, see: • UN Guiding Principles on Business and Human Rights.[176] • Doing Business with Respect for Human Rights.[177]
2.4.3. Resettlement and Livelihood Restoration Planning and Preparation 2.4.3.1. When project-related displacement is deemed unavoidable, a census shall be carried out to collect appropriate socio-economic baseline data to identify the persons who will be physically or economically displaced by the project and determine who will be eligible for compensation and assistance.	**For 2.4.3.1:** Interview relevant operating company staff and stakeholders and review documentation to confirm that the operating company carried out a census to collect appropriate socio-economic baseline data to identify potentially displaced persons. Confirm that the collection of census and socio-economic baseline data followed credible methodologies.	**For 2.4.3.1:** • Documentation of methodology for identifying potentially affected people, and for collecting census/socio-economic baseline data. • Report or other documentation containing socio-economic baseline data (e.g., census results). • Documented compensation eligibility criteria.	**Explanatory Note for 2.4.3.1:** This requirement comes from IFC (PS 5, Para. 12). Effective resettlement planning entails conducting a detailed socio-economic census of displaced persons and an inventory of affected land and assets at the household, enterprise, and community level. The date of completion of the census and assets inventory represents a cut-off date.[178] According to IFC, the census serves five interrelated functions:[179] • Enumerating and collecting basic information on the affected population • Registering the affected population by residence or locality • Establishing a list of legitimate beneficiaries before the project's onset that counters spurious claims from those moving into the project area solely in anticipation of benefits

[176] Ibid. 33-35.

[177] Global Compact Network Netherlands, Oxfam and Shift. "Doing Business With Respect for Human Rights." See, in particular, Chapter 3.8. https://www.businessrespecthumanrights.org/en/page/349/remediation-and-grievance-mechanisms

[178] International Finance Corporation (IFC). 2012. Performance Standard 5: Land Acquisition and Involuntary Resettlement. GN32. https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/GN5_English_2012.pdf?MOD=AJPERES

[179] International Finance Corporation (IFC). 2002. Handbook for Preparing a Resettlement Action Plan. p. 15. https://commdev.org/userfiles/ResettlementHandbook.pdf

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			• Laying a framework for subsequent socioeconomic research needed to establish fair compensation rates and to design, monitor, and evaluate sustainable income restoration or development interventions • Providing a baseline for monitoring and evaluation. According to IFC, the baseline situation—to be established prior to resettlement—may include a socio-economic survey, census and enumeration of household assets. Socio-economic baseline studies should be conducted in the early stages of project preparation and with the involvement of potentially displaced people. The studies may include the information on vulnerable groups, information on livelihoods and standards of living, land tenure and transfer systems, use of natural resources, patterns of social interaction, social services and public infrastructure.[180] The results of socioeconomic studies and household and census survey will be used to inform the Resettlement Action Plan or Livelihood Restoration plan. Efforts should be made to gather qualitative baseline data, as this will assist with later determination of appropriate compensation rates and measures, and to ensure that adequate budget is set aside to carry out required mitigation and compensation. Re: "determine who will be eligible for compensation and assistance," IFC recommends that: "Documentation of ownership or occupancy and compensation arrangements should be issued in the names of both spouses or heads of households. Where national law and tenure systems do not recognize the rights of women to hold or contract in property, measures should be considered to provide women as much protection as possible with the objective to achieve equity with men."[181] The purpose of the census, concepts such as “inventory of assets” and “eligibility cut-off dates” and assistance should be communicated to the

[180] International Finance Corporation (IFC). 2012. Performance Standard 5: Land Acquisition and Involuntary Resettlement. GN39 and p. 28. https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/GN5_English_2012.pdf?MOD=AJPERES

[181] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. Para.12, Footnote 17. https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/GN5_English_2012.pdf?MOD=AJPERES

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			potentially affected/displaced persons before or while the census is occurring (see also 2.4.3.2). The data gathered during this step should feed into the assessment of risks and impacts on human rights (IRMA Chapter 1.3), as the potential risks for infringement of human rights when people are displaced is greatly heightened.
2.4.3.2. In the absence of host government procedures, the operating company shall establish compensation eligibility criteria and a cut-off date for eligibility. Information regarding the cut-off date shall be well documented, and disseminated along with eligibility information throughout the mining project area.	For 2.4.3.2: If relevant, interview relevant operating company staff and stakeholders and review documentation to confirm that the company, as per 2.4.3.2, developed criteria for eligibility for compensation and assistance; and disseminated cut-off date and eligibility criteria throughout the project area. If government criteria exist, confirm that offers have been made by the company to assist the government to ensure the wide dissemination of eligibility information throughout the mining project area.	For 2.4.3.2: • Documented cut-off date and eligibility information. • Documented compensation eligibility criteria. • Record of communications with potentially affected stakeholders informing them of the eligibility criteria and cut-off date. • Records of outreach activities undertaken to disseminate eligibility criteria (e.g., advertisements, mailings, radio spots, distribution of flyers, public meetings, etc,) and information on the cut-off date.	Explanatory Note for 2.4.3.2: The requirement is always relevant if the host country does not have regulations/procedures in place for compensation eligibility. If the host country has regulations/procedures in place for compensation eligibility and a cut-off date for eligibility that do not conform with other requirements in this chapter (e.g., if the government does not allow compensation for physically displaced person who don't have any formal legal rights to their current land or assets (see 2.4.4.3)) then, as per requirement 2.4.8.1 the operating company is expected to collaborate with the responsible government agency to strive to achieve outcomes that are consistent with this chapter. For example, the company may be able to provide assistance to ensure the dissemination of eligibility information throughout the project area, or the company may be allowed to provide housing, compensation, training, livelihood opportunities, etc. to those who fall outside government eligibility requirements in a manner that does not conflict with host country law. Eligibility criteria and cut-off dates may have impacts on human rights and livelihoods, e.g., the law of the country might require that no improvements (including agricultural activities) may happen on land after the cut-off date, which could have food security implications and impacts on standards of living. As a result, operating companies should assess the potential impacts of these factors when establishing their own eligibility criteria, or when assessing the impacts on human rights from the resettlement (as required in 2.4.1.1 and 2.4.1.2).
2.4.3.3. In the case of physical displacement, the operating company	For 2.4.3.3: Interview relevant operating company staff and	For 2.4.3.3: • Resettlement Action Plan.	Explanatory Note for 2.4.3.3: These are minimum requirements for Resettlement Action Plans and Livelihood Restoration Plans.

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shall develop a Resettlement Action Plan. If the project involves economic displacement only, a Livelihood Restoration Plan shall be developed. In either case, these plans shall, at a minimum: a. Describe how affected persons will be involved in an ongoing process of consultation throughout the resettlement/livelihood restoration planning, implementation and monitoring phases; b. Describe the strategies to be undertaken to mitigate the negative impacts of displacement and improve or restore livelihoods and standards of living of displaced persons, paying particular attention to the needs of women, the poor and vulnerable groups; c. Describe development-related opportunities and benefits for affected persons and communities; d. Describe the methods used for valuing land and other assets; e. Establish the compensation framework (i.e., entitlements and rates of compensation for all categories of affected persons, including host communities) in a	stakeholders and review documentation to confirm that the company developed a Resettlement Action Plan or Livelihood Restoration Plan in consultation with affected communities that meets the criteria in 2.4.3.3.	• Livelihood Restoration Plan.	In addition to Annex A of IFC Performance Standard 5, there are several good resources available that provide additional information on developing such plans. For additional guidance on developing a Resettlement Action Plan and/or Livelihood Restoration Plan see:[182] • IFC. 2002. Handbook on Resettlement. • World Bank. Resettlement Plan generic template. • UNDP. Resettlement Action Plan Template. • Bankwatch. Resettlement Action Plan outline. Re: 2.4.3.3.b., in addition to paying attention to the needs of women, the poor and vulnerable groups, attention should be paid to the situations (e.g., housing, assets, cultural and social support systems, food security, etc.) that should be addressed to mitigate negative impacts. Re: 2.4.3.3.e., compensation for land and other assets should be calculated at the market value plus the transaction costs related to restoring the assets. In practice, those who suffer negative social and economic impacts as a result of the acquisition of land for a project and/or restrictions on land use, may include those having legally recognized rights or claims to the land; those with customary claims to land; and those with no legally recognized claims, as well as seasonal natural resource users such as herders, fishing families, hunters and gatherers who may have interdependent economic relations with communities located within the project area. The potential variety of land and land use claimants renders the calculation of full replacement cost in the above-mentioned situations difficult and complex.[183] Re: 2.4.4.3.f, companies are not expected to include in public budget and implementation reports any information that is culturally inappropriate, that compromises the safety of any individual, or legitimate confidential business information. Culturally inappropriate

[182] IFC. 2002. Handbook on Resettlement. https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_rap__wci__1319577659424 and World Bank. Resettlement Plan generic template. http://www.rhd.gov.bd/Documents/ExternalPublications/WorldBank/Resettlement/generic/plan_rap.htm and UNDP. Resettlement Action Plan Template. https://info.undp.org/sites/bpps/SES_Toolkit/_layouts/15/WopiFrame.aspx?sourcedoc=/sites/bpps/SES_Toolkit/SES%20Document%20Library/Uploaded%20October%202016/Resettlement%20Action%20Plan%20-%20Template.docx&action=default and Bankwatch. Resettlement Action Plan outline. https://bankwatch.org/documents/Outline_RAP.pdf

[183] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN8.

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transparent, consistent, and equitable manner; f. Include a budget and implementation schedule; and g. Be publicly available.			information may include that which is sensitive to particular groups or communities, and therefore should not be freely released publicly. Affected persons and community representatives can help to define what is considered culturally inappropriate or that may create safety issues for them.
2.4.4. Mitigation Measures Related to Physical Displacement 2.4.4.1. In all cases, when people are physically displaced as a result of the development or expansion of a mine or its associated facilities: a. The operating company shall provide relocation assistance that is suited to the needs of each group of displaced persons and is sufficient for them to improve or at least restore their standard of living at an alternative site; b. New resettlement sites built for displaced persons shall offer improved living conditions; and c. Displaced persons' preferences with respect to relocating in pre-existing communities and groups shall be taken into consideration and existing social and cultural institutions of the displaced persons and any host communities shall be respected.	For 2.4.4.1: Interview relevant operating company staff and affected persons, and review documentation to confirm that the company: • Classified, within the census, each physically displaced person according to the categories laid out in 2.4.4.2 and 2.4.4.3. • Offered relocation assistance to all groups of physically displaced persons sufficient to restore their standards of living; offered improved living conditions if any resettlement sites were built for displaced persons; considered displaced persons' preferences with respect to relocating in pre-existing communities; and respected existing social and cultural institutions of the displaced persons and host communities.	For 2.4.4.1: • Resettlement Action Plan. • Report or other documentation containing socio-economic baseline data and census results. • Records of lodged grievances related to compensation. • Records of communications with affected people regarding alternative relocation options, preferences and process for obtaining security of tenure.	Explanatory Note for 2.4.4.1: 2.4.4.1 aligns with IFC Performance Standard 5, Paragraph 20. For more explanation and guidance see IFC, 2012. Physical displacement is when the acquisition of land associated with a project requires the affected person(s) to move to another location. It may lead to the loss of shelter and assets (including productive assets such as (such as land, water, and forests). Re: 2.4,4.1.a, in addition to paying attention to the needs of each group, attention should be paid to their situations (e.g., housing, land tenure, assets, cultural and social systems, food security, etc.). Re: 2.4.4.1.c, "existing social and cultural institutions of the displaced persons and any host communities shall be respected," IFC provides guidance that: Social disarticulation is, as noted in GN1 above, a significant risk to consider in many resettlement scenarios. Identifying and respecting the existing social and cultural institutions and bonds of the displaced and those of host communities is often a key component of successful resettlement planning and implementation, especially in rural contexts. The social bonds affected by resettlement may be kinship, neighborly ties, or village-specific ties (i.e., people who know and trust each other wanting to remain together); leadership arrangements (so that people know who to turn to in resettlement areas); religious or ethnic ties and so forth.[184] Additionally, as per requirement 2.4.2.1, potentially affected persons and communities, including host communities, need to be consulted

[184] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN54. https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/GN5_English_2012.pdf?MOD=AJPERES

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			regarding the development of resettlement and livelihood options, and the development of Resettlement Action Plans.
2.4.4.2. In cases where physically displaced persons have formal legal rights to the land or assets they occupy or use, or do not have formal legal rights but have a claim to land that is recognized or recognizable under national (host country) law: a. The operating company shall offer the choice of replacement property (land and assets) of at least equal value and characteristics, security of tenure, and advantages of location; and b. If cash compensation is appropriate and preferred by the affected persons, compensation shall be sufficient to replace lost land and other assets at full replacement cost in local markets.	For 2.4.4.2: If relevant, confirm that the operating company offered (a) a choice of replacement property of equal or higher value, security of tenure, equivalent or better characteristics, and advantages of location, or (b) cash compensation sufficient to replace the lost land and other assets at full replacement cost in local markets to physically displaced persons having formal legal rights to the land or assets they occupy or use, or a claim to land recognized or recognizable under national law.	For 2.4.4.2: • Report or other documentation containing socio-economic baseline data (e.g., census results). • Documented compensation framework or equivalent. • Documentation related to market value of land and other assets. • Documentation of determination of what is "sufficient" cash compensation. • Documentation of available relocation options. • Resettlement Action Plan. • Records of lodged grievances related to compensation. • Records of communications with affected people regarding alternative relocation options, preferences regarding cash versus land compensation, and process for obtaining security of tenure. • Records of compensation payments, including transition assistance.	Explanatory Note for 2.4.4.2: 2.4.4.2 aligns with IFC Performance Standard 5, Paragraphs 20 and 21. For more explanation and guidance see IFC, 2012.[185] This requirement is relevant if persons who may be physically displaced have formal legal rights to the land or assets they occupy or use, or do not have formal legal rights but have a claim to land that is recognized or recognizable under national law. As described in IFC's Performance Standard 5:[186] • Displaced persons may have formal legal rights to the land; • Displaced persons may have recognized but not formal legal rights to land (e.g., through traditional customary claim to the land or communal possession of community land); or • Displaced persons may have no recognizable legal right to the land they occupy (e.g., informal or opportunistic settlers). Re: 2.4.4.2.b, according to IFC: "Payment of cash compensation for lost assets may be appropriate where (i) livelihoods are not land-based; (ii) livelihoods are land-based but the land taken for the project is a small fraction of the affected asset and the residual land is economically viable; or (iii) active markets for land, housing, and labor exist, displaced persons use such markets, and there is sufficient supply of land and housing."[187]

[185] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/GN5_English_2012.pdf?MOD=AJPERES

[186] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN14.

[187] International Finance Corporation (IFC). 2012. Performance Standard 5: Land Acquisition and Involuntary Resettlement. Footnote 21.

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2.4.4.3. In cases where physically displaced persons have no recognizable legal right or claim to the land or assets they occupy or use, the operating company shall: a. Offer options for adequate housing with security of tenure; and b. Compensate for the loss of assets other than land at full replacement cost, provided that the persons had been occupying the project area prior to the cut-off date for eligibility.	For 2.4.4.3: If relevant, confirm that the operating company offered a choice of options for adequate housing with security of tenure; provided compensation for the loss of assets other than land at full replacement cost; and offered assistance to physically displaced persons without a recognizable legal right or claim to the land or assets they occupy or use that was sufficient to restore their standard of living at an adequate alternative site.	For 2.4.4.3: • Report or other documentation containing socio-economic baseline data (e.g., census results). • Documented compensation framework or equivalent. • Documentation related to market value of land and other assets. • Resettlement Action Plan. • Records of lodged grievances related to compensation. • Records of communications with affected people regarding alternative relocation options and process for obtaining security of tenure. • Records of compensation payments, including transition assistance.	Explanatory Note for 2.4.4.3: 2.4.4.3 aligns with IFC Performance Standard 5, Paragraphs 22 and 23. For more explanation and guidance see IFC, 2012.[188] As described in IFC's Performance Standard 5:[189] • Displaced persons may have formal legal rights to the land; • Displaced persons may have recognized but not formal legal rights to land (e.g., through traditional customary claim to the land or communal possession of community land); or • Displaced persons may have no recognizable legal right to the land they occupy (e.g., informal or opportunistic settlers). This requirement is relevant if persons who may be physically displaced have no recognizable legal right or claim to the land or assets they occupy or use. In some cultures or countries, women may not have formal legal rights to land ownership. In such cases, IFC suggests that: "The Resettlement Action Plan should include measures to ensure that documentation of ownership or occupancy, such as title deeds and lease agreements, and compensation (including the bank accounts established for payment of compensation), are issued in the names of both spouses or of single women heads of households, as relevant to each situation. Under circumstances in which national law and local customary tenure systems do not give women equal opportunities or rights with regard to property, provision should be made to ensure that the access of women to security of tenure is equivalent to that of men and does not further disadvantage women."[190] In the case of tenants, IFC does not specify a particular outcome. IFC's guidance document states that, "In some cases, tenants may qualify for

[188] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/GN5_English_2012.pdf?MOD=AJPERES

[189] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN14.

[190] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN46.

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			replacement housing and in other cases they will be resettled in similar housing under similar or improved tenure arrangements."[191]
2.4.5. Mitigation Measures Related to Economic Displacement 2.4.5.1. If project-related land acquisition or restrictions on land use result in economic displacement, regardless of whether or not the affected people are physically displaced, the operating company shall apply the following measures: a. When commercial structures are affected, the business owners shall be compensated for the cost of re-establishing commercial activities elsewhere, for lost net income during the period of transition, and for the costs of the transfer and reinstallation of the plant, machinery, or other equipment, and the employees shall be compensated for lost income; b. When affected persons have legal rights or claims to land that are recognized or recognizable under national law, replacement property of equal or greater value shall be provided, or, where appropriate, cash compensation at full replacement cost; and	**For 2.4.5.1:** Interview relevant operating company staff and economically displaced persons and review documentation to confirm that the company: • Compensated business owners for the full cost of establishing business elsewhere, as well as losses during transition time, including employee compensation; • Provided affected persons with legal rights or claims to land recognizable under national law with replacement property (e.g., agricultural or commercial) of equal or greater value or cash compensation at full replacement cost; • Provided affected persons without legally recognized claims to land with compensation for lost assets other than land (e.g., crops, irrigation infrastructure and other improvements) at full replacement cost.	**For 2.4.5.1:** • Report or other documentation containing socio-economic baseline data (e.g., census results). • Documented compensation framework or equivalent. Livelihood Restoration Plan. • Documentation related to market value of land, buildings and other commercial assets. • Records of lodged grievances related to compensation. • Records of communications with affected people regarding alternative relocation options, preferences and process for obtaining security of tenure. • Records of compensation payments, including transition assistance.	**Explanatory Note for 2.4.5.1:** Economic displacement is the loss of income streams or means of livelihood resulting from land acquisition or obstructed access to resources (land, water, or forest) resulting from the construction or operation of a project or its associated facilities. Economic displacement results from an action that interrupts or eliminates people's access to productive assets even without physically relocating the people themselves.[192] As per requirement 2.4.2.1, potentially affected persons and communities, including host communities, need to be consulted regarding the development of resettlement and livelihood options, and the development of Resettlement Action Plans and Livelihood Restoration Plans.

[191] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. p. 6.

[192] IFC. 2002. Handbook on Resettlement. p. 5. https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_rap__wci__1319577659424

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c. Economically displaced persons who are without legally recognizable claims to land shall be compensated for lost assets other than land at full replacement cost.			
2.4.5.2. All economically displaced persons whose livelihoods or income levels are adversely affected shall be provided opportunities to improve, or at least restore, their means of income-earning capacity, production levels, and standards of living, and transitional support shall be provided based on a reasonable estimate of the time required to restore their income-earning capacity, production levels, and standards of living. Additionally: a. For persons whose livelihoods are land-based, replacement land that has a combination of productive potential, locational advantages, and other factors at least equivalent to that being lost shall be offered as a matter of priority; b. For persons whose livelihoods are natural resource-based and where project-related restrictions on access apply, continued access to affected resources or access to alternative resources with at least equivalent livelihood-earning potential and accessibility shall be provided; and	For 2.4.5.2: Confirm that the operating company provided affected persons whose livelihoods or income levels were adversely affected with: • Transitional support, as necessary, based on a reasonable estimate of the time required to restore their income-earning capacity, production levels and standards of living • Provided replacement land of equal or higher productive potential and other beneficial characteristics to persons whose land-based livelihoods were adversely affected • Provided replacement land of equal or higher productive potential and other beneficial characteristics to persons whose land-based livelihoods were adversely affected • Provided continued access to affected resources or access to alternative resources of equal or higher livelihood potential to persons whose natural-resource-based livelihoods were adversely affected • Provided alternative income earning opportunities as needed, for example,	For 2.4.5.2: • Report or other documentation containing socio-economic baseline data and census results • Documented compensation framework or equivalent. • Livelihood Restoration Plan. • Documentation related to market value of land, buildings and other commercial assets. • Records of lodged grievances related to compensation. • Records of communications with affected people regarding alternative relocation/replacement land options, and/or continued access to affected resources. • Records of compensation payments, including transition assistance. • Records of communications with affected people regarding alternative livelihood opportunities.	Explanatory Note for 2.4.5.2: Re: 2.4.5.2.a, IFC (2012, GN12) provides guidance on measures that can improve and/or restore livelihoods:[193] • Land-based livelihoods: Depending on the type of economic displacement and/or the site to which affected women and men are relocated, they may benefit from: (i) assistance in acquiring or accessing replacement land, including access to grazing land, fallow land, forest, fuel and water resources; (ii) physical preparation of farm land (e.g., clearing, leveling, access routes and soil stabilization); (iii) fencing for pasture or cropland; (iv) agricultural inputs (e.g., seeds, seedlings, fertilizer, irrigation); (v) veterinary care; (vi) small-scale credit, including rice banks, cattle banks and cash loans; and (vii) access to markets (e.g., through transportation means and improved access to information about market opportunities). • Wage-based livelihoods: Wage earners in the affected households and affected communities may benefit from skills training and job placement, provisions made in contracts with project contractors for temporary or longer-term employment of local workers, and small-scale credit to finance start-up enterprises. Wage earners whose income is interrupted during physical displacement should receive a resettlement allowance that covers these and other hidden costs. Affected women and men should be given equal opportunities to benefit from such provisions. Careful consideration must be given to the ability of wage earners to continue to access their place(s) of work during and after resettlement; if this ability is impaired then mitigation measures need to be implemented to ensure continuity and avoid a net loss in welfare for affected households and communities.

[193] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN14.

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c. If circumstances prevent the operating company from providing land or similar resources as described above, alternative income earning opportunities shall be provided to restore livelihoods.	access to credit facilities, training, cash, or employment opportunities.		• Enterprise-based livelihoods: Established and start-up entrepreneurs and artisans may benefit from credit or training (e.g., business planning, marketing, inventory and quality control) to expand their business and generate local employment. Clients can promote local enterprise by procuring goods and services for their projects from local suppliers. As per requirement 2.4.2.1, potentially affected persons and communities, including host communities, need to be consulted regarding the development of resettlement and livelihood options, and the development of Resettlement Action Plans and Livelihood Restoration Plans. Re: 2.4.5.2.c, "alternative income earning opportunities" include, for example, access to credit facilities, training, cash, or employment opportunities.
2.4.6. Resettlement and Livelihood Restoration Agreements and Implementation 2.4.6.1. In order to be certified by IRMA, if a new project will require the displacement of indigenous peoples the operating company shall obtain the free, prior and informed consent (FPIC) of affected indigenous communities before proceeding with the resettlement and mine development (as per IRMA Chapter 2.2).	**For 2.4.6.1:** Confirm with indigenous peoples that if resettlement occurred only it was only their free, prior and informed consent, and that FPIC was carried out as per IRMA Chapter 2.2.	**For 2.4.6.1:** • Documented Free, Prior and Informed Consent (FPIC) agreement. • Resettlement Action Plan. • Livelihood Restoration Plan	**Explanatory Note for 2.4.6.1:** This requirement is similar to a provision in IFC Performance Standard 7 (Para 15), which states that: "The client will consider feasible alternative project designs to avoid the relocation of Indigenous Peoples from communally held lands and natural resources subject to traditional ownership or under customary use. If such relocation is unavoidable the client will not proceed with the project unless FPIC has been obtained as described above. Any relocation of Indigenous Peoples will be consistent with the requirements of Performance Standard 5."[194] For mines to comply with this requirement, any resettlement of indigenous peoples must be agreed to through a process of free, prior and informed consent. The requirements in IRMA Chapter 2.4 on Resettlement should be used as a guide, but ultimately, the terms of the resettlement must be agreed to by the indigenous peoples. Ideally, the terms for resettlement will not be less than what is required in IRMA Chapter 2.4, and in some cases may be stronger.

[194] International Finance Corporation (IFC). 2012. Guidance Notes 7. Indigenous Peoples. Paragraph 15. p. 15. https://www.ifc.org/wps/wcm/connect/50eed180498009f9a89bfa336b93d75f/Updated_GN7-2012%20pdf?MOD=AJPERES

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2.4.6.2. If a new mine will require the displacement of non-indigenous peoples, the operating company shall make a good faith effort to negotiate agreements with all households that will be physically or economically displaced by the mining project before proceeding with the resettlement, even if the company has the legal means to acquire land or restrict land use without their consent.	For 2.4.6.2: Interview operating company and review documentation demonstrating that good faith efforts were made to negotiate agreements with affected households (e.g., potential agreements were discussed with affected households at public meetings or other venues, and if agreements were not reached initially, additional outreach efforts were made, such visits with individual households and/or with legal experts supporting those households). Review documentation (e.g., copies of signed agreements, data on number of households identified versus the number who signed agreements).	For 2.4.6.2: • Resettlement Action Plan. • Records of communication and meetings with all households that will be physically or economically displaced by the mining project. • Copies of agreements. • Consultation reports. • Records of lodged grievances.	Explanatory Note for 2.4.6.2: For this section, a "good faith effort" means that if an affected household rejects the company's initial offer, that the company continues to try to work with the household to find an acceptable resolution. Operating companies may want to collaborate with potentially affected people to establish an agreed process for mediation prior to beginning the negotiation process.
2.4.6.3. Prior to negotiating with affected people, the operating company shall provide or facilitate access to resources necessary to participate in an informed manner. This shall include, at minimum: a. Copies of RAP and/or LRP; b. Details on what to expect at various stages of the resettlement or livelihood restoration process (e.g., when an offer will be made to them, how long they will have to respond, how to access the grievance mechanism if they wish to appeal property or asset valuations, legal procedures to be followed if negotiations fail); and c. Independent legal experts or others to ensure that affected persons	For 2.4.6.3: Confirm with affected people that they were provided with timely information throughout the resettlement process, that they were made aware of the steps in the process and the availability of a grievance mechanism, and also were provided access to independent legal or other experts.	For 2.4.6.3: • Resettlement Action Plan. • Livelihood Restoration Plan. • Records of communications with affected peoples regarding provision of RAP/LRP and information on what to expect in the resettlement/livelihood restoration process. • Documented evidence of provision of access to independent legal experts or other experts. • Records of lodged grievances that relate to lack of access to information, resources or experts, or poor information sharing about the resettlement process.	Explanatory Note for 2.4.6.3: As per IRMA chapter 1.2, requirement 1.2.4.3, information must be provided to stakeholders in a timely manner, and shall be in formats and languages that are culturally appropriate and accessible to affected communities and stakeholders Re: 2.4.6.3 b, as mentioned in requirement 2.4.2.3, above, any grievance mechanism, whether it be a general operational-level (e.g., for all grievances related to a mining project) or a specific mechanism for the resettlement phase, must be developed in a manner that is consistent with IRMA Chapter 1.4. For example, as per requirement 1.4.2.1 operating companies must consult with affected community members and rights holders to design grievance mechanisms that are culturally appropriate and that are consistent with the effectiveness criteria outlined in Principle 31 of the United Nations Guiding Principles on Business and Human Rights. These criteria include the need for the mechanism to be: (a) Legitimate, (b) Accessible, (c) Predictable, (d) Equitable, (e) Transparent, (f) Rights-compatible, (g) A source of continuous learning, and (h) Based on engagement and dialogue. (See Explanatory Note for 2.4.2.3 for more information)

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understand the content of any proposed agreement and associated information.		• Documentation that confirms that the grievance mechanism is deemed legitimate (as per IRMA Chapter 1.4)	
2.4.6.4. In cases where affected persons reject compensation offers that meet the requirements of this chapter and, as a result, expropriation or other legal procedures are initiated, the operating company shall explore opportunities to collaborate with the responsible government agency, and, if permitted by the agency, play an active role in resettlement planning, implementation, and monitoring to mitigate the risk of impoverishment of those affected persons.	For 2.4.6.4: If affected persons reject compensation offers and, as a result, expropriation or other legal proceedings were initiated, confirm through interviews with operating company and affected persons and other relevant stakeholders, that the company sought to collaborate with relevant responsible government agencies to the extent allowed.	For 2.4.6.4: • Resettlement Action Plan. • Risk planning, implementation, and monitoring reports. • Records of communications or other documentation demonstrating collaboration with responsible government agency. • Records of lodged grievances related to compensation. • Documentation that confirms that the grievance mechanism is deemed legitimate (as per IRMA Chapter 1.4)	Explanatory Note for 2.4.6.4: This requirement aligns with expectations in IFC Performance Standard 5. IFC guidance on this point says that: "If the affected households or communities reject an offer of compensation from the client that meets the requirements of Performance Standard 5 and, as a result, expropriation or other legal procedures are initiated, the responsible government agencies may offer affected households or communities compensation based on the assessed value of the land. The matter may proceed to litigation and may take a number of years to be resolved. The court's final determination may confirm compensation based on assessed value. Because there is a risk of impoverishment from loss of the income base or livelihood of the affected people or communities from a protracted process and depressed compensation, the client will ascertain whether government or court assessed value in cases of such expropriation is consistent with Performance Standard 5 by requesting information on the level of compensation offered by the government and the procedures used to estimate these values under such expropriation. The client may be asked to verify that these rates reflect the current market replacement values for the assets in question. Compensation payments for those affected by resettlement could be held in an escrow account set up by the client for earmarking the funds until a decision is made regarding the payment timing and amount owed. The client should be engaged during these expropriation processes and support outcomes that are consistent with the objectives of Performance Standard 5. Whether the client will be permitted to play an active role will depend in part on the applicable national law and the

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			judicial and administrative processes and practices of the responsible government agency."[195]
2.4.6.5. Forced evictions shall not be carried except in accordance with law and international best practice,[196] and the requirements of this chapter.	For 2.4.6.5: Confirm that if forced evictions were carried out that procedures were consistent with international human rights law as per the procedures outlined in the UNCESCR Right to Adequate Housing,[197] that government or court-assessed compensation/mitigation for evicted persons was consistent with mitigation measures required in this chapter (as listed in 2.4.4. and 2.4.5), and that monitoring of these affected persons occurred as part of the general monitoring of the resettlement program.	For 2.4.6.5: • Resettlement Action Plan. • Risk planning, implementation, and monitoring report. • Documentation related to evictions (when and how they took place, the conditions such as weather and time of day) • Communications with affected people on proposed evictions (e.g., notice of evictions, information on when and how evictions are to take place, access to legal aid and remedies). • Documentation of legal aid or other assistance provided to affected peoples. • Records of lodged grievances related to the eviction process. • Documentation that confirms that the grievance mechanism is deemed legitimate (as per IRMA Chapter 1.4)	Explanatory Note for 2.4.6.5: There is no specific definition of "international best practice" when it comes to forced evictions. However, the IFC in its Guidance says that in addition to conforming to the law and relevant requirements of its Performance Standard, forced evictions should follow the procedural protections enumerated by the UN Office of High Commissioner for Human Rights, such as: [198] (a) an opportunity for genuine consultation with those affected; (b) adequate and reasonable notice for all affected persons prior to the scheduled date of eviction; (c) information on the proposed evictions, and, where applicable, on the alternative purpose for which the land or housing is to be used, to be made available in reasonable time to all those affected; (d) especially where groups of people are involved, government officials or their representatives to be present during an eviction; (e) all persons carrying out the eviction to be properly identified; (f) evictions not to take place in particularly bad weather or at night unless the affected persons consent otherwise; (g) provision of legal remedies; and (h) provision, where possible, of legal aid to persons who are in need of it to seek redress from the courts. IFC cautions that even when evictions carried out by force are in accordance with the law and in conformity with the provisions of the International Covenants on Human Rights, "clients should avoid direct

[195] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN14.

[196] See: UN Committee on Economic, Social and Cultural Rights (CESCR). 1997. General Comment No. 7: The right to adequate housing (Art. 11.1): forced evictions. In particular, see Paragraph 15. Available at: www.refworld.org/docid/47a70799d.html

[197] ibid.

[198] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN55.

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			involvement in implementing evictions and should exercise caution and monitor the implementation of evictions carefully in order to manage the associated reputational and operational risks. The use of independent third party monitors is recommended in such situations, in order to ensure independent oversight and effective risk management."[199] If forced evictions are carried out, they must be done in a manner that respects the human rights of all involved, but special attention may be needed to ensure the safety and security of vulnerable groups. Those carrying out forced evictions should be trained on human rights and the appropriate use of force, and procedures should be in place so that it is clear what should be done in the case of conflicts or violent opposition to the evictions. For more information on how forced evictions can be carried out in accordance with international best practice see: UN Committee on Economic, Social and Cultural Rights (CESCR). 1997. General Comment No. 7: The right to adequate housing (Art. 11.1): forced evictions. In particular, see Paragraph 15.[200]
2.4.6.6. The operating company shall take possession of acquired land and related assets only after compensation has been made available, and, where applicable, resettlement sites and moving allowances have been provided to the displaced persons.	For 2.4.6.6: Review documents related to payment of moving allowances and compensation, and transactions whereby the operating company acquired land rights, and those associated with compensation measures and relocation activities and those associated with compensation measures and relocation activities; and confirm through interviews with affected persons and other relevant stakeholders	For 2.4.6.6: • Records of payment of moving allowances and compensation made. • Communications with affect people on potential delayed payment of compensation and/or moving allowances. • Documented agreements between the operating company and affected people related to delays in	Explanatory Note for 2.4.6.6: There Re: 2.4.6.6, according to IFC, "in certain cases it may not be feasible to pay compensation to all those affected before taking possession of the land, for example when the ownership of the land in question is in dispute. Such circumstances shall be identified and agreed on a case-by-case basis, and compensation funds shall be made available for example through deposit into an escrow account before displacement takes place."[201] IFC Guidance further elaborates that: "Compensation for lost land and assets should be paid prior to the client taking possession of this land or assets and where possible people should have been resettled at their new sites and moving allowances paid to them. However, there may be

[199] Ibid.

[200] Available at: www.refworld.org/docid/47a70799d.html

[201] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. Para.7, Footnote 14.

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	that possession of land and assets by the company occurred after compensation and other assistance was provided to them.	compensation payments. • Documented compensation framework or equivalent. • Records of lodged grievances related to possession of land and assets, resettlement sites and moving allowances.	circumstances where delayed payment of compensation may be justified or beyond the client's control. In addition, certain activities, for example seismic surveys, may lead to temporary disruption of economic activities and damage or destruction of property which can only be assessed and compensated for after the surveys are completed, once the damage is measurable. In such cases, compensation after the fact is acceptable. There are also instances in which economic effects must necessarily be measured over time, for example the re-establishment of croplands and crop yields after temporary disruption caused by pipeline laying; again, staggered compensation payments based on measured impacts may be acceptable."[202] The compensation payment process, including timing of payments, should be included in the Resettlement Action Plan/ Livelihood Restoration Plan (see 2.4.3.3), as this transparency and clarity will foster trust and enable affected individuals to prepare for the transition.
2.4.6.7. The operating company shall document all transactions to acquire land rights, and all compensation measures and relocation activities.	For 2.4.6.7: Review documents to confirm that all transactions, compensation and relocation measures have been recorded.	For 2.4.6.7: • Resettlement Action Plan. • Documented transactions to acquire land rights, and all compensation measures and relocation activities. • Documented compensation framework or equivalent.	
2.4.7. Resettlement and Livelihood Restoration Monitoring and Evaluation 2.4.7.1. (Critical Requirement) The operating company shall establish and implement procedures to monitor and evaluate the implementation of a Resettlement Action Plan (RAP) or Livelihood Restoration Plan (LRP), and	For 2.4.7.1: Review procedures related to monitoring and evaluation of the RAP/LRP implementation. Interview affected persons to confirm that they were consulted during the monitoring and evaluation process. Interview operating company and review relevant documentation to confirm that	For 2.4.7.1: • Resettlement Action Plan (RAP). • Procedures for conducting monitoring and evaluation of the RAP (including methodology, timelines, budget, etc.). • Documented evidence of the qualification of the company	Explanatory Note for 2.4.7.1: This requirement aligns with expectations in IFC Performance Standard 5 (Para 14). IFC's Handbook for Preparing a Resettlement Action Plan explains that: "IFC requires project sponsors to monitor and report on the effectiveness of RAP implementation, including the physical progress of resettlement and rehabilitation activities, the disbursement of compensation, the effectiveness of public consultation and participation activities, and the sustainability of income restoration and development

[202] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN24.

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take corrective action as necessary until the provisions of the RAP/LRP and the objectives of this chapter have been met.	corrective actions were taken, as necessary, based on monitoring feedback.	employees or external experts who designed and are implementing the monitoring. • Livelihood Restoration Plan (LRP). • Procedures for conducting monitoring and evaluation of LRP (including methodology, indicators, timelines, budget, etc.). • Monitoring reports. • Evaluation reports related to the effectiveness of RAP/LRP implementation. • Documented corrective actions.	efforts among affected communities. The objective of monitoring is to provide the sponsor with feedback on RAP implementation and to identify problems and successes as early as possible to allow timely adjustment of implementation arrangements. For these reasons, RAP monitoring and evaluation activities should be adequately funded, implemented by qualified specialists, and integrated into the overall project management process. The RAP must provide a coherent monitoring plan that identifies the organizational responsibilities, the methodology, and the schedule for monitoring and reporting. The three components of a monitoring plan should be performance monitoring, impact monitoring, and completion audit. The scope of the monitoring plan should be commensurate with the scale and complexity of the RAP."[203] The handbook provides much more detailed information on monitoring and evaluation.
2.4.7.2. Periodically, the operating company shall report to affected persons and other relevant stakeholders on progress made toward full implementation of the RAP or LRP.	For 2.4.7.2: Interview the operating company and stakeholders, and review relevant documentation to confirm that the company reported to affected persons and other relevant stakeholders on progress being made toward implementation of the RAP/LRP.	For 2.4.7.2: • Documentation of meetings or correspondence with relevant stakeholders where the operating company has reported on the progress of the implementation of the RAP and or LRP.	Explanatory Note for 2.4.7.2: Examples of "relevant stakeholders" include but are not necessarily limited to: • Physically or economically displaced/affected persons • Government agencies • Financial institutions funding the project • Affected persons' advisors • Stakeholders in host communities • Civil society organizations/non-governmental organizations that work on resettlement issues The reporting frequency should be defined in the Resettlement Action Plan (RAP).

[203] IFC. 2002. Handbook on Resettlement. pp. 49, 50. https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_rap__wci__1319577659424

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
2.4.7.3. Where resettlement is deemed to pose a risk of significant adverse social impacts the operating company: a. Shall retain competent professionals to verify the operating company's monitoring information and provide advice on additional steps needed to achieve compliance with the requirements of this chapter; and b. Shall commission a completion audit that: i. Occurs after the company deems that its RAP/LRP has been fully and successfully implemented; ii. Is carried out by external resettlement experts; iii. Includes, at a minimum, a review of the mitigation measures implemented by the operating company, a comparison of implementation outcomes against the requirements of this chapter, and a determination as to whether the commitments made in the RAP/LRP have been delivered and the monitoring process can therefore be terminated; and iv. Is made available to affected persons and their advisors.	For 2.4.7.3: If significant risks associated with resettlement were identified during the risk assessment, confirm through review of documentation (e.g., report of experts reviewing monitoring program; completion audit) and interviews with the operating company and affected persons that: • Expert review of monitoring program and provide recommendations, if needed, to determine changes to monitoring program needed to ensure compliance with the requirements of this chapter. • A completion audit was undertaken (after the company perceived that resettlement had been successfully implemented); the audit was carried out by external experts; the review compared resettlement outcomes to objectives, and determined if the company's efforts to restore the living standards and livelihood opportunities of the affected population were properly executed and whether or not monitoring can be terminated. • That the report was made available to affected persons and their advisors	For 2.4.7.3: • Documentation of qualifications of those carrying out completion audits. • Completion audit report that addresses requirements in 2.4.7.3.b.i-iv. • Recommendations of competent professionals on steps or corrective actions necessary to fulfill implementation of the RAP/LRP. • Evidence that the report was made available to affected persons and their advisors.	Explanatory Note for 2.4.7.3: This requirement aligns with the following expectations in IFC Performance Standard 5: • Para.14. The client will establish procedures to monitor and evaluate the implementation of a Resettlement Action Plan or Livelihood Restoration Plan (see paragraphs 19 and 25) and take corrective action as necessary. The extent of monitoring activities will be commensurate with the project's risks and impacts. For projects with significant involuntary resettlement risks, the client will retain competent resettlement professionals to provide advice on compliance with this Performance Standard and to verify the client's monitoring information. Affected persons will be consulted during the monitoring process. • Para. 15. Implementation of a Resettlement Action Plan or Livelihood Restoration Plan will be considered completed when the adverse impacts of resettlement have been addressed in a manner that is consistent with the relevant plan as well as the objectives of this Performance Standard. It may be necessary for the client to commission an external completion audit of the Resettlement Action Plan or Livelihood Restoration Plan to assess whether the provisions have been met, depending on the scale and/or complexity of physical and economic displacement associated with a project. The completion audit should be undertaken once all mitigation measures have been substantially completed and once displaced persons are deemed to have been provided adequate opportunity and assistance to sustainably restore their livelihoods. The completion audit will be undertaken by competent resettlement professionals once the agreed monitoring period is concluded. The completion audit will include, at a minimum, a review of the totality of mitigation measures implemented by the Client, a comparison of implementation outcomes against agreed objectives, and a conclusion as to whether the monitoring process can be ended.[204]

[204] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. pp. 13, 14.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			For existing mines, it is not expected that completion audits show that there is full compliance with the IRMA Standard (as specified in 2.4.7.3.a) as these requirements may not have been in existence when resettlements took place. Rather, competent professionals should have verified that the implementation of the RAP/LRP met the goals or objectives set out in the RAP/LRP and also achieved the following objective set out in the IFC Resettlement Standard: To improve, or restore, the livelihoods and standards of living of displaced persons. Completion audits must also confirm that any human rights impacts that occurred in the past have been remedied (as per IRMA Chapter 1.3). If completion audits demonstrate that objectives have not been not met, then corrective actions should be developed and implemented until such time as the objectives are met.[205] Another completion audit may be necessary to needed to verify that objectives are eventually met. IFC provides additional guidance on completion audits.[206]
2.4.8. Private Sector Responsibilities Under Government-Managed Resettlement 2.4.8.1. Where land acquisition and resettlement are the responsibility of the government, the operating company shall collaborate with the responsible government agency, to the extent permitted by the agency, to achieve outcomes that are consistent with this chapter.	**For 2.4.8.1:** Where resettlement and land acquisition are the responsibility of the government, interview relevant operating company staff and review documentation to confirm that the company collaborated with the responsible government agency, to the extent permitted by the agency, to achieve outcomes consistent with this chapter. For example, confirm that they company played an active role during resettlement planning, implementation and monitoring, especially where government capacity was limited. And confirm that the company advocated for	**For 2.4.8.1:** • Documented evidence of collaboration with the responsible government agency (e.g., meeting minutes, correspondence, memorandum of understanding, etc.). • Documentation of efforts made by the company to have processes and measures integrated into government processes that would enable outcomes similar to those expressed in the IRMA Chapter.	**Explanatory Note for 2.4.8:** This section applies to situation where resettlement projects are largely controlled and managed by host country government agencies. While not specifically required, even when the company, not the government is responsible for managing a resettlement project government should be considered a key partner in any successful resettlement process. Operating companies should encourage relevant government agencies to contribute and participate in the company-led process, and roles and responsibilities should be clearly defined from the outset. In either scenario, the company may want to sign a Memorandum of Understanding or other agreement with the government that clearly delineates role and responsibilities with respect to resettlement.

[205] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. Para. 15, Footnote 18.

[206] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. See GN35 and Annex B: Completion Audit Table of Contents.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	resettlement processes and practices that were consistent with those in this chapter.		Explanatory Note for 2.4.8.1: As per IRMA Chapter 1.1, operating countries are not expected to violate host country law in order to meet IRMA requirements. So if host country law largely controls the resettlement process, companies will only be expected to fulfill IRMA requirements to the extent that is possible within the law. If the law is silent on aspects addressed in the IRMA chapter, then companies will be expected to advocate for their inclusion in government processes or plans, or the company should include those provisions in their own supplemental resettlement plan.
2.4.8.2. The operating company shall identify government resettlement and compensation measures. If these measures do not meet the relevant requirements of this chapter, the operating company shall prepare a supplemental plan that, together with the documents prepared by the responsible government agency, shall address the relevant requirements of this chapter. The company shall include in its supplemental plan, at a minimum: a. Identification of affected people and impacts; b. A description of regulated activities, including the entitlements of physically and economically displaced persons provided under applicable national laws and regulations; c. The supplemental measures to achieve the requirements of this chapter in a manner that is permitted	For 2.4.8.2: Confirm that the operating company identified and described government resettlement measures undertaken; and if the measures did not meet the relevant requirements in this chapter, confirm that a supplemental resettlement plan was developed, that it included, at minimum, the aspects listed in 2.4.8.2, and that the plan was implemented.	For 2.4.8.2: • Report or other documentation containing socio-economic baseline data and census results. • Risk assessment or other documentation of potential risks and impacts (social, human rights, economic) to displaced persons from resettlement. • Documented government resettlement and compensation measures, RAP and/or LRP. • Documented supplemental plan for company-led actions related to resettlement (including specific actions, budgets, etc).	Explanatory Note for 2.4.8.2: According to IFC, "While government agencies are often mandated to lead resettlement efforts, experience indicates that there are generally opportunities for clients to either influence or supplement the planning, implementation and monitoring of government-led resettlement..."[207] IFC provides general guidance to companies on practices that should be implemented when resettlement is largely controlled by the government. In particular, they state that: • Under government-managed resettlement, the client should collaborate with the appropriate agencies to establish methods for determining and providing adequate compensation to the affected people in the Resettlement Action Plan or Framework. Where national law or policy does not provide for compensation at full replacement cost, or where other gaps exist between national law or policy and the requirements with respect to displaced people detailed in Performance Standard 5, the client should apply alternative measures to achieve outcomes consistent with the objectives of Performance Standard 5. Such measures could range from making or arranging for the payment of supplementary allowances in cash or in kind, to arranging for the provision of dedicated support services. These gaps and measures should be

[207] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN74.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
by the responsible agency and implementation time schedule; and d. The financial and implementation responsibilities of the operating company in the execution of its supplemental plan.			addressed in a Supplemental Action Plan.[208] • Where the responsible government agency will allow the client to participate in the ongoing monitoring of affected persons, the client should design and carry out a program of monitoring with particular attention to those who are poor and vulnerable so as to track their standards of living and effectiveness of resettlement compensation, assistance, and livelihood restoration. Because resettlement can be stressful on individuals, households and communities, it may have gender-differentiated consequences on nutrition and health status, particularly of children. The client and the responsible agency should agree to an appropriate allocation of responsibilities with respect to completion audits and corrective actions. Where the client is prevented from adequately monitoring the implementation of the Resettlement Plan and there exists a risk that the Plan will not be monitored according to Performance Standard 5, the client may choose not to proceed with the project.[209]

NOTES

This chapter uses, as its basis, the International Finance Corporation's (IFC) Performance Standard 5 (PS 5) Land Acquisition and Involuntary Resettlement, which applies to physical displacement and/or economic displacement resulting when land rights or land use rights are acquired by the operating company: through expropriation or other compulsory procedures in accordance with the legal system of the host country; or through negotiated settlements with property owners or those with legal rights to the land if failure to reach settlement would have resulted in expropriation or other compulsory procedures.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As addressed in criterion 2.4.8, in some jurisdictions governments may oversee resettlement projects. As per Chapter 1.1, if there are host country laws that pertain specifically to land acquisition and resettlement, a company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to break the host country law.

[208] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN71.

[209] International Finance Corporation (IFC). 2012. Guidance Notes 5. Land Acquisition and Involuntary Resettlement. GN73.

Cross References to Other Chapters	
1.2—Community and Stakeholder Engagement	Engagement with stakeholders (including rights holders) regarding resettlement shall conform to the requirements in Chapter 1.2. In particular, criterion 1.2.3 is important to ensure that stakeholders have the capacity to fully understand their rights and engage effectively in the resettlement assessment and the development of prevention/mitigation plans and monitoring processes. Also, 1.2.4 ensures that communications and information are in culturally appropriate formats and languages that are accessible and understandable to affected stakeholders, and are provided in a timely manner. (See Chapter 1.2 for explanations of these terms)
1.3—Human Rights Due Diligence	If the timing works, the resettlement risk assessment required in 2.4.1 may be done in coordination with or as part of the assessment of human rights risks and impacts in Chapter 1.3, rather than as a stand-alone assessment. If the infringement of human rights is predicted, or actually occurs as a result of a resettlement program, a company will be expected to prevent, mitigate and remediate the impacts as per Chapter 1.3. This includes the mitigation or remediation of human-rights-related impacts from past resettlement programs at existing mines.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Requirement 2.4.2.3 requires that a mechanism be available for affected persons to raise grievances related to resettlement. If appropriate, grievances or concerns during resettlement may be addressed through the operational-level grievance mechanism as outlined in Chapter 1.4. If a grievance mechanism is developed for the specific purpose of resettlement, it shall conform to the requirements of Chapter 1.4, which requires that any such mechanism meet the effectiveness criteria outlined in the UN Guiding Principles on Business and Human Rights. There may be impacts related to past resettlement programs that have not been remediated. Complaints or grievances related to unremediated or unsatisfactory mitigation of impacts may be addressed through the operational-level grievance mechanism as per Chapter 1.4.
2.2—Free, Prior and Informed Consent	Resettlement of indigenous peoples shall only occur if the requirements of Chapter 2.2 free, prior and informed consent have been followed.
3.6—Artisanal and Small-Scale Mining	When artisanal and small-scale mining (ASM) activities are occurring in the same area as proposed large-scale mining projects, ASM entities should be engaged by the company, included as part of the resettlement risk assessment and baseline studies, and should be afforded mitigation, compensation and livelihood opportunities in the Resettlement Action Plan and/or Livelihood Restoration Plan.
4.6—Biodiversity, Ecosystem Services and Protected Areas	Resettlement may lead to impacts on biodiversity, ecosystem services, or protected areas depending on the location of resettled communities. The potential impacts of resettlement impacts on biodiversity, ecosystem services, or protected areas should be identified during the Resettlement Risk and Assessment Process (See 2.4.1.2.c), and any necessary mitigation developed accordingly to Chapter 4.5, criteria 4.6.4.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to risks or impacts from a project.

Associated Facility

Any facility managed by the operating company that would not have been constructed, expanded or acquired but for the exploration or development of the mine (including ore processing facilities, stationary physical property such as power plants, port sites, roads, railroads, borrow areas, fuel production or preparation facilities, parking areas, shops, offices, housing facilities, storage facilities, etc.).

Baseline

A description of existing conditions to provide a starting point (e.g. pre-project conditions) against which comparisons can be made (e.g. post-impact conditions), allowing the change to be quantified.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Displacement

A process by which projects cause people to lose land or other assets, or access to resources. This may result in physical dislocation, loss of income, or other adverse impacts.

Economic Displacement

The loss of assets or access to assets that leads to a loss of income sources or other means of livelihood (i.e., the full range of means that individuals, families, and communities utilize to make a living, such as wage-based income, agriculture, fishing, foraging, other natural resource-based livelihoods, petty trade, and bartering). Economic displacement results from an action that interrupts or eliminates people's access to jobs or productive assets, whether or not the affected persons must move to another location.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Forced Eviction

The permanent or temporary removal against their will of individuals, families and/or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection Host Communities: With respect to resettlement, any communities receiving displaced persons.

Free, Prior and Informed Consent (FPIC)

Consent based on: engagement that is free from external manipulation, coercion and intimidation; notification, sufficiently in advance of commencement of any activities, that consent will be sought; full disclosure of information regarding all aspects of a proposed project or activity in a manner that is accessible and understandable to the people whose consent is being sought; acknowledgment that the people whose consent is being sought can approve or reject a project or activity, and that the entities seeking consent will abide by the decision.

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which mining-project-related complaints or grievances, including business-related human rights abuses stakeholder complaints, and/or labor grievances, can be raised and remedy can be sought.

Host Communities

With respect to resettlement, any communities receiving displaced persons.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Indigenous Peoples

A modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Involuntary Resettlement

Physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood) as a result of project-related land acquisition and/or restrictions on land use. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement. This occurs in cases of (i) lawful expropriation or temporary or permanent restrictions on land use and (ii) negotiated settlements in which the buyer can resort to expropriation or impose legal restrictions on land use if negotiations with the seller fail.

Livelihood Restoration Plan (LRP)

A plan that establishes the entitlements (e.g., compensation, other assistance) of affected persons and/or communities who are economically displaced, in order to provide them with adequate opportunity to reestablish their livelihoods.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Physical activities (e.g., land disturbance and clearing, road building, sampling, airborne surveys, facility construction, ore removal, ore processing, waste management, reclamation, etc.) carried out during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure, post-closure).

Mitigation (including in relation to Human Rights Impacts)

Refers to actions taken to reduce the likelihood of a certain adverse impact occurring. The mitigation of adverse human rights impacts refers to actions taken to reduce its extent, with any residual impact then requiring remediation.

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Remediation/Remedy (including in relation to Human Rights Impacts):

Remediation and remedy refer to both the processes of providing remedy for an (adverse human rights) impact and the substantive outcomes that can counteract, or make good, the adverse impact. These outcomes may take a range of forms, such as apologies, restitution, rehabilitation, financial or non-financial compensation, and punitive sanctions (whether criminal or administrative, such as fines), as well as the prevention of harm through, for example, injunctions or guarantees of non-repetition.

Replacement Cost

The market value of the assets plus transaction costs. In applying this method of valuation, depreciation of structures and assets should not be taken into account. Market value is defined as the value required to allow affected communities and persons to replace lost assets with assets of similar value.

Resettlement Action Plan (RAP)

A plan designed to mitigate the negative impacts of displacement; identify development opportunities; develop a resettlement budget and schedule; and establish the entitlements of all categories of affected persons (including host communities). Such a plan is required when resettlement involves physical displacement of persons.

Stakeholder

Persons/ groups directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, positively or negatively.

Voluntary Resettlement

Voluntary land transactions (i.e., market transactions in which the seller is not obliged to sell and the buyer cannot resort to expropriation or other compulsory procedures sanctioned by the legal system of the host country if negotiations fail) that lead to the relocation of willing sellers.

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 2.5—Emergency Preparedness and Response

BACKGROUND

Modern mines are large industrial facilities and have operational risks. These risks are common to industries that make, handle, transport and use fuels and chemical substances and include the potential for explosions, fires, releases of gas, ventilation failures, rock falls, avalanches, water or slurry inundation, radiation exposures, seismic events and environmental incidents.

Mining companies have direct responsibility for both minimizing risks (through prevention, mitigation, and preparedness) and developing effective and thoughtful emergency response plans for emergencies or major accidents. Mining companies must also work with joint venture partners, contractors and suppliers providing bulk and dangerous materials to put adequate emergency response plans in place to deal with both on-site and off-site accidents. It is also very important to coordinate and communicate with communities that could be affected by these accidents, both to protect health and safety in these communities, and so that the emergency resources in the communities are available if needed.

TERMS USED IN THIS CHAPTER

Affected Community ■ Consultation ■ Mine Waste Facility ■ Mining Project ■ Operating Company ■ Stakeholder ■ Subsidence ■ Worker ■ Workers' Representative ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To plan for and be prepared to respond effectively to industrial emergency situations that may affect offsite resources or communities, and minimize the likelihood of accidents, loss of life, injuries, and damage to property, environment, health and social well-being.

SCOPE OF APPLICATION

Chapter Relevance: This chapter applies to the operating company and to its on-site contractors (and subcontractors) involved with dangerous and bulk materials and wastes at all mines applying for IRMA certification.

CRITICAL REQUIREMENTS IN THIS CHAPTER

All operations related to the mining project shall have an emergency response plan (2.5.1.1) and there is community participation in emergency response planning exercises (2.5.2.1).

Emergency Preparedness and Response Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTE
2.5.1. Emergency Response Plan 2.5.1.1. (Critical Requirement) All operations related to the mining project shall have an emergency response plan conforming to the guidelines set forth in *United Nations*	Auditing Note for 2.6.2.1: IRMA chapters on Waste and Materials Management (Chapter 4.1), and Water management (Chapter 4.2) contain requirements related to emergency preparedness and response. See	For 2.5.1.1: • Emergency response plan(s). • Emergency response procedures(s).	Explanatory Note for 2.5.1.1: There may be several different components of an emergency response plan maintained by different functional areas of the operating company, such as safety, environmental and social responsibility, security, and communications/external affairs. Or separate emergency

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTE
Environment Programme, Awareness and Preparedness for Emergencies at the Local Level (APELL) for Mining.[210]	requirements 4.1.7.2, 4.1.7.3 and 4.2.5.2. These requirements may be evaluated simultaneously with this chapter. **For 2.5.1.1:** Review the APELL for Mining, Appendix 1, for recommendations on components of an emergency response. Review the operating company's emergency response plan. Confirm that emergency response plans are consistent with the components outlined in Appendix I and the 10 Steps in the APELL process.		response plans for each operation/facility within the mining project. Emergency response plans that cover different operations and/or parts of a mine site should be combined into or integrated with a site-wide emergency response plan. But if they are not integrated, then at minimum, each plan must be consistent with *APELL for Mining* (see Appendix I: Components of an emergency response plan). IRMA expects emergency response plans to meet intent, not the letter, of the components outlined in that Appendix. In general terms, the APELL Process aims at creating a cohesive and resilient community in the face of technological or natural hazards through raising awareness and agreement on roles and responsibilities of all community stakeholders in potential preparedness and response measures. The specific goals of the implementation of the APELL Process are to:[211] • Provide information to concerned members of the community on the hazards involved with nearby industrial operations, and the measures taken to reduce these risks • Review, update, or establish emergency response plans in local areas • Increase local industry involvement in community awareness and emergency response planning • Integrate industry emergency plans with local emergency response plans into one overall plan for the community to handle all types of emergencies • Involve members of the local community in the development, testing and implementation of the overall

[210] United Nations Environment Programme. 2001. Awareness and Preparedness for Emergencies at the Local Level (APELL) for Mining, (Technical Report 41). www.unep.fr/shared/publications/pdf/WEBx0055xPA-APELLminingEN.pdf See Appendix 1 for Components of an emergency response plan. See also, http://apell.eecentre.org/Modules/GroupDetails/UploadFile/APELL_Handbook_2016_-_Publication.pdf

[211] United Nations Environment Programme website: "Awareness and Preparedness for Emergencies at the Local Level (APELL)." https://www.unenvironment.org/explore-topics/disasters-conflicts/what-we-do/preparedness-and-response/awareness-and-preparedness

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTE
			emergency response plan. The *APELL for Mining* Appendix I goes into greater detail, but the categories of components that should be addressed in the mine's emergency preparedness activities and plan include: • Purpose/Objectives/Scope • Emergency Scenarios and Risks • Mine Emergency Coordination Centre • Media and Crisis Communications Centre • Emergency Notification Procedures and Communications Systems • Emergency Equipment and Resources • Emergency Scenarios and Emergency Response Procedures • Clean-up, Remediation, Procedure for Returning to Normal Operations • Training and Drills. Additionally, the Ten Steps in the APELL process should be followed. These include: • Step 1: Identification of participants and their roles • Step 2: Evaluation of reduction of risks offsite • Step 3: Review of existing plans and their weaknesses • Step 4: Task identification • Step 5: Matching of tasks and resources • Step 6: Integration of individual plan into overall plan, and reaching agreement • Step 7: Drafting and endorsement of final plan • Step 8: Communication and training (See 2.5.1.2) • Step 9: Testing review and updating (See 2.4.1.2) • Step 10: Community Education

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTE
2.5.1.2. The operating company shall:[212] a. Conduct an exercise to test the plan, with key participants describing how they would respond to a variety of different emergency scenarios, at least every 12 – 24 months; and b. Update the communications contacts of the emergency response plan at least annually.	**For 2.5.1.2:** Interview operating company and review documentation related to testing of emergency scenarios. Confirm that exercises take place annually and that that efforts are made to update communications contacts in the emergency response plan annually. Review lists of participants. Contact a sample of participants and confirm that they have been contacted to update their information.	**For 2.5.1.2:** • Emergency response plan. • Records (e.g., minutes, attendance records) from emergency response planning exercises. • Records of communications contacts included in emergency response plans (most recent and prior years).	**Explanatory Note for 2.5.1.2:** This requirement is consistent with the APELL for Mining, Section 4, Step 3. See also ICMM's Good Practice in Emergency Preparedness and Response.[213]
2.5.2. Community and Worker Consultation 2.5.2.1. (Critical Requirement) The emergency response plan shall be developed in consultation with potentially affected communities and workers and/or workers' representatives,[214] and the operating company shall incorporate their input into the emergency response plan, and include their participation in emergency response planning exercises.	**For 2.5.2.1:** Interview community stakeholders, workers and workers' representatives to confirm that they were consulted in the development and updating of emergency response plans. Review documentation showing that community members and workers have been involved in the development of emergency response plans (e.g., advertisements, meeting minutes, sign-in sheets).	**For 2.5.2.1:** • Emergency response plans(s) and procedure(s). • Communications with community members and/or representatives and workers and/or their representatives related to the development of emergency response plans. • Records of meetings related to the development of emergency response plans. • Written or other comments from community members/representatives or workers/representatives providing input on emergency response plans. • Records (e.g., minutes, attendance records) from emergency response planning exercises.	**Explanatory Note for 2.5.2.1:** The requirement for consultation with workers on emergency preparedness plans is based on ILO Conventions 174 and 176.[215] Consultation with communities is part of the APELL for Mining. For example, participants in planning process should include local community agencies such as fire departments, police, emergency health services, hospitals, public health authorities, public information authorities and media organizations, and others.[216]

[212] This is in accordance with the APELL for Mining, Section 4, Step 3. See also ICMM. Good practice in emergency preparedness and response. p. 15. www.icmm.com/document/8

[213] ICMM. 2005. Good Practice in Emergency Preparedness and Response. p. 15. www.icmm.com/document/8

[214] This is based on ILO Conventions 174 and 176, OHSAS 18001. See IRMA Guidance for more details.

[215] International Labour Organization (ILO). 1993. Prevention of Major Industrial Accidents Convention, 1993 (Convention No. 174). https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312319 and ILO. 1995. Safety and Health in Mines Convention, 1995 (Convention No. 176). http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C176

[216] United Nations Environment Programme. 2001. Awareness and Preparedness for Emergencies at the Local Level (APELL) for Mining, (Technical Report 41). p.21. www.unep.fr/shared/publications/pdf/WEBx0055xPA-APELLminingEN.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTE
2.5.3. Public Liability Accident Insurance 2.5.3.1. All operations related to the mining project shall be covered by a public liability accident insurance policy that provides financial insurance for unplanned accidental events. 2.5.3.2. The public liability accident insurance shall cover unplanned accidental events such as flood damage, landslides, subsidence, mine waste facility failures, major spills of process solutions, leaking tanks, or others. 2.5.3.3. The accident insurance coverage shall remain in force for as long as the operating company, or any successor, has legal responsibility for the property.	**For 2.5.3.1:** Confirm, through interviews with operating company and review of documentation that a public liability accident insurance policy is in force. **For 2.5.3.2:** Review coverage to confirm that it covers a breadth of possible unplanned accidental events that may be related to mining. Confirm that insurance (one or more policies) will cover both short and long-term events. **For 2.5.3.3:** Review coverage during every audit to confirm that it is still in force.	**For 2.5.3:** • Public liability insurance policy.	**Explanatory Note for 2.5.3.1:** Public liability insurance is designed to protect businesses from the financial risk of damages to people or property, due to actions or negligence of the business. Damages resulting from illegal or deliberate acts are not covered. Public liability insurance covers holders for the cost of a claim made by a member of the public that has suffered injury or property damage as a result the business activities.

NOTES

The requirements in this chapter largely follow the guidance from the *United Nations Environment Programme, Awareness and Preparedness for Emergencies at the Local Level (APELL)* for Mining Technical Report No. 41 (2001). Additional guidance is also taken from: Part III of International Labour Organization (ILO) *Convention 176 on the Safety and Health in Mines, 1995*; Part III and Part V of ILO *Convention 174 on Prevention of Major Industrial Accidents, 1993*; and, the Occupational Health and Safety Assessment Series (OHSAS) 18001/2.

The chapter does not require a separate emergency response plan from those already prepared for mining projects, contractors, suppliers, and transportation companies, provided it can be demonstrated that the plan is in compliance with the chapter requirements. There may be several different components of an emergency response plan maintained by different functional areas of the operating company, such as safety, environmental and social responsibility, security, and communications/external affairs. Emergency response plans that cover different operations and/or parts of a mine site should be combined into or integrated with a site-wide emergency response plan. A single reference document should exist that identifies the location(s), responsible person(s) and contact information for each of the separate emergency response plans or supplements to those plans. And a crisis management/communications, rapid response, or other incident command system should be developed in conjunction with the emergency response plans.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1— Legal Compliance	As per Chapter 1.1, mine contractors and subcontractors must be IRMA compliant. So the operating company should be able to demonstrate that either contractors and subcontractors are aware of the company's emergency response plan, and/or have their own plan in place.
1.2—Community and Stakeholder Engagement	Engagement with stakeholders during the development and updating of the Emergency Response Plan shall conform with the stakeholder engagement requirements in Chapter 1.2. In particular, communications shall be in formats and languages that are culturally appropriate, accessible and understandable to potentially affected communities and stakeholders.
2.1—Env and Social Impact Asst and Mgment	Information from the environment and social impact assessment may feed into the Emergency Response Plan.
3.2— Occupational Health and Safety	Chapter 3.2 provides additional requirements related to worker safety, which may be partially addressed in the Emergency Response Plan. Conversely, emergency-related procedures may also be included in occupational health and safety procedures or plans.
3.3—Community Health and Safety	Information from the community health and safety risk and impact assessment may feed into the emergency response plan.
4.1—Waste and Materials Management	Chapter 4.1 requires that the Emergency Response Plan include provisions related to catastrophic failure of mine waste facilities, that the emergency action provisions be developed with potentially affected communities and local agencies, and that evacuation drills related to catastrophic failures are held on a regular basis. (See 4.1.7.2 and 4.1.7.3)
4.2—Water Management	Chapter 4.2 requires that the operating company develop and implement procedures for rapidly communicating with stakeholders in the event that there are changes in water quantity or quality that pose an imminent threat to human health or safety, or commercial or natural resources. (See 4.2.5.2). These procedures should be incorporated into the emergency response plan.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to risks or impacts from a project.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle the company should take into account the concerns and views expressed by stakeholders in the final decision.

Mine Waste Facility

Facilities that contain, store, are constructed of, or come in contact with wastes that are generated or created during mining (e.g., waste rock, pit walls, pit floors or underground workings, runoff or discharge from exposed mined areas) and mineral processing (e.g., tailings, spent ore, effluent). These facilities include, but are not limited to open pits, underground mine workings and subsidence areas, waste rock facilities, tailings storage facilities, heap leach facilities, process water facilities, stormwater facilities, borrow areas for construction and/or reclamation, water treatment facilities, and water supply dams/impoundments.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Subsidence

Subsidence is a sinking of the ground surface that results in a fracture of the surface, which could change surface water hydrology, or pose a threat to human health or property.

Worker

All non-management personnel.

Workers' Representative

A worker chosen to facilitate communication with senior management on matters related to working conditions, occupational health and safety or other workers' concerns. This is undertaken by the recognized trade union(s) in unionized facilities and, elsewhere, by a worker elected by non-management personnel for that purpose.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 2.6—Planning and Financing Reclamation and Closure

BACKGROUND

Reclamation refers to the process of rehabilitation and stabilization such that disturbed land is returned to its former or other beneficial uses.[217] Closure refers to the activities that are required to maintain compliance with environmental regulations during and following completion of reclamation.

Discussions over the adequacy of reclamation and closure include: (1) the final use that is appropriate for reclaimed mine lands; (2) how re-contoured mine lands should be stabilized, re-vegetated and ecosystem functionality restored; (3) the timing of reclamation processes; (4) whether open pits should be backfilled with waste in a way that does not degrade the environment; and (5) how much money should be set aside to guarantee that reclamation is accomplished, how should that money be invested or valued in terms of discount rate, and what form of financial surety is required for this guarantee to be effective in practice.

It is now widely recognized that the objectives and impacts of reclamation and closure must be considered from project inception. A reclamation and closure plan should define a vision of the end result of the process and set concrete objectives to implement that vision. Future changes to the reclamation plan can be anticipated, but the use of new technologies, while countenanced, cannot be relied upon until they have been proven. The reclamation and closure plan must include only techniques that rely on proven technologies. This forms an overall framework to guide all actions and decisions taken during the mine's life.

TERMS USED IN THIS CHAPTER

Acid Rock Drainage ■ Affected Community ■ Biodiversity ■ Confidential Business Information ■ Conservation Values ■ Consultation ■ Contractor ■ Corporate Owners ■ Ecosystem Services ■ Existing Mine ■ Exploration Activity ■ Facility ■ Financial Surety ■ Free, Prior and Informed Consent ■ Holding Costs ■ Host Country Law ■ Landscape ■ Long-term Water Treatment ■ Metals Leaching ■ Mine Closure ■ Mining Project ■ Mitigation ■ New Mine ■ Operating Company ■ Pit Lake ■ Post-Closure ■ Practicable ■ Process Water ■ Restoration ■ Revegetation ■ Stakeholder ■ Stormwater ■ Subsidence ■

These terms appear in the text with a dashed underline, and they are explained at the end of the chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To protect long-term environmental and social values, and ensure that the costs of site reclamation and closure not borne by affected communities or the wider public.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant for all mines applying for IRMA certification.

New vs. Existing Mines: This chapter applies to new mines and existing mines, as it affects existing and future requirements. For existing mines the chapter requirements are not applicable if the mining project has progressed to a stage where meeting the requirement is no longer possible. For example, existing mines may qualify for IRMA certification without strict compliance to the following requirements: Backfilling of Open Pits and Underground Mines (2.6.3); and Post-Closure Water Treatment (2.6.6).

CRITICAL REQUIREMENTS IN THIS CHAPTER

Reclamation and closure plans are compatible with protection of human health and the environment, and are available to stakeholders (2.6.2.1 and 2.6.2.6).

Financial surety instruments are in place for mine closure and post-closure (including reclamation, water treatment and monitoring) (2.6.4.1).

[217] Powter, Chris. 2002. Glossary of Reclamation and Remediation Terms used in Alberta. Government of Alberta. Available at: http://environment.gov.ab.ca/info/library/6843.pdf

Planning and Financing Reclamation and Closure Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
2.6.1. Exploration Reclamation 2.6.1.1. The operating company shall guarantee that the cost of implementing reclamation for exploration activities related to the mining development will be met by the company.	**For 2.6.1.1:** Review any financial surety or other forms of guarantee to confirm that the costs of reclamation for exploration activities are covered.	**For 2.6.1.1:** • Plan for exploration-related reclamation. • Financial security cost estimate (e.g. spreadsheet costings and assumptions used, closure cost reports) and financial security documentation (e.g. bank/financial guarantees, deposits or contributions to trusts).	**Explanatory Note 2.6.1.1:** Reclamation should take place on all disturbed areas including drill pads, trenching and road construction. It should also address removal of any materials and/or supplies and mitigation of any drilling fluids or products that may contain hazardous chemicals or result in mining-impacted waters (MIW). Reclamation and closure plans for exploration activities should be in conformance with criterion 2.6.2, where applicable, and financial surety for the identified reclamation activities shall be in conformance with criterion 2.6.4, where applicable.
2.6.1.2. The operating company shall implement exploration-related reclamation in a timely manner.	**For 2.6.1.2:** Confirm that exploration-related reclamation has been implemented, or that there is a reasonable rationale for why certain measures have not yet been completed.	**For 2.6.1.2:** • Plan for exploration-related reclamation. • Documentation (e.g., reports, memos, photographs, etc.) of exploration areas being reclaimed.	**Explanatory Note 2.6.1.2:** For the purposes of this requirement, "timely" means within two years of the exploration project being completed. This recognizes that exploration can be an ongoing process that may require periods of up to tens of years to complete. Also note that because an area explored may subsequently be disturbed by proposed mining development, exploration reclamation may be delayed if it will be addressed by proposed mining development. If this is the case, the reclamation plan should include a discussion of why certain activities will be delayed.
2.6.1.3. Any stakeholder complaints of incomplete or inadequate exploration reclamation, if not resolved by other means, shall be discussed and resolved through the operational-level grievance mechanism (see Chapter 1.4).	**For 2.6.1.3:** Interview operating company and review documentation to establish whether there have been any complaints related to exploration reclamation associated with the mine, and if so, confirm that actions were taken to resolve the issues.	**For 2.6.1.3:** • Records of stakeholder communications, public comment, other dialogue (e.g., meeting minutes or notes, emails or written correspondence, etc.) related to exploration reclamation. • Records of complaints and grievances related to exploration reclamation filed with the operational-level grievance mechanism.	**Explanatory Note 2.6.1.3:** In most jurisdictions operators will be required to complete reclamation of exploration areas in accordance with regulatory requirements (i.e., they will define what needs to be done for reclamation to be considered as complete). Operating companies should consult with stakeholders prior to exploration to ensure any additional expectations by stakeholders are recognized and incorporated into the reclamation plan.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
2.6.2. Reclamation and Closure Planning 2.6.2.1. (Critical Requirement) Prior to the commencement of mine construction activities the operating company shall prepare a reclamation and closure plan that is compatible with protection of human health and the environment, and demonstrates how affected areas will be returned to a stable landscape with an agreed post-mining end use.	Auditing Note for 2.6.2.1: Review IRMA guidance materials for Reclamation and Closure Plan Elements. **For 2.6.2.1:** Review the reclamation and closure plan.	**For 2.6.2.1:** • Reclamation and closure plan.	Explanatory Note 2.6.2.1: For existing mines, if the reclamation and closure plan was not in place prior to construction, mines must be able to demonstrate that there is a plan in place at the time of the mine site assessment. In most jurisdictions operators will be required to complete mine reclamation and closure plans in accordance with regulatory requirements that are similarly intended to be protective of human health and the environment and provide for stability and achievement of a post mining land use. If there are no regulatory requirements or the regulatory requirements are not consistent with the IRMA requirements, then the reclamation and closure plan should be supplemented to provide for those requirements. (See also IRMA Chapter 1.1, which requires that companies are required to comply with host country law and the IRMA Standard, unless meeting IRMA's requirements would require the company to break host country law). For requirements related to planning for retrenchment of workers (both during operations and prior to mine closure), see Chapter 3.1. And for requirements related to planning for sustainable communities post-mining see Chapter 2.3.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
2.6.2.2. At a minimum, the reclamation and closure plan shall contain: a. A general statement of purpose; b. Site location and background Information; c. A description of the entire facility, including individual site features; d. The role of the community in reviewing the reclamation and closure plan; e. Agreed-upon (after-ESIA) post-mining land use and facility use; f. Source and pathway characterization including geochemistry and hydrology to identify the potential discharge of pollutants during closure; g. Source mitigation program to prevent the degradation of water resources; h. Interim operations and maintenance, including process water management, water treatment, and mine site and waste site geotechnical stabilization;	For 2.6.2.2: Confirm that the elements of the reclamation and closure plan conform with the guidance elements, or encompass their equivalents, as described in IRMA guidance for Chapter 2.6, 2.6.2. Reclamation and Closure Plan Elements. All documentation should be up-to-date.	For 2.6.2.2: • Reclamation and closure plan. • Supplemental documentation, if certain required information is not included in the reclamation and closure plan. • A figure showing the mine site layout and identifying all disturbed area boundaries and proposed or existing disturbance types within each area. • Survey maps and aerial photographs indicating all infrastructure and surface disturbances. • List of all relevant mine tenements (areas under lease or licence for prospecting, exploration, mining or other mining-related activities). • Maps showing tenement boundaries, nearby sensitive receptors and the location of the mine in relation to the local and regional setting.	Explanatory Note 2.6.2.2: IRMA recognizes that in jurisdictions with modern mining regulations there are existing reclamation and closure requirements that must be met. In those cases the information required by IRMA should be similar, but where it is not the reclamation and closure plan should be supplemented to address the information required by IRMA, or supplementary documentation should be provided addressing how the requirements of IRMA for this section will otherwise be met. In cases where reclamation and closure regulations do not exist companies may also want to refer to ICMM (2008) for guidance.[218] All items in 2.6.2.2 should be addressed in the reclamation and closure plan. It is expected that details on particular aspects of the plan will change or become more detailed as the mine life cycle progresses. Re: 2.6.2.2.a, this sub-requirement should include or otherwise address the requirement for 2.6.2.1. Re: 2.6.2.2.b and 2.6.2.2.c, the site location and background information and a description of the entire facility and site features should be informed by IRMA Chapter 4.1, requirements 4.1.3.1 and 4.1.3.2. Re: 2.6.2.2.d, engagement of the community in reviewing the reclamation and closure plan should be consistent with engagement requirements IRMA Chapter 1.2. Re: 2.6.2.2.e, the agreed upon post-mining land use and facility use should be informed by the environmental and social impact assessment (ESIA) process in IRMA Chapter 2.1. During the ESIA stakeholders provide input on potential impacts, and mitigation of impacts. Stakeholder preferences and

[218] E.g., ICMM, 2008. Planning for Integrated Closure: Toolkit. p. 37. Available at: www.icmm.com/document/310

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXPLANATORY NOTES
i. Plans for concurrent or progressive reclamation and revegetation, which should be employed wherever practicable; j. Earthwork: i. Stabilization and final topography of the reclaimed mine lands; ii. Stormwater runoff/run-on management; iii. Topsoil salvage to the maximum extent practicable; iv. Topsoil storage in a manner that preserves its capability to support plant regeneration; and, k. Revegetation/Ecological Restoration: i. Plant material selection, prioritizing native species as appropriate for the agreed post-mine land use; ii. Quantitative revegetation standards with clear measures to be implemented if these standards are not met within a specified time; and; iii. A defined period, no longer than 10 years, when planned revegetation tasks shall be completed; iv. Measures for control of noxious weeds; v. Planned activities to restore natural habitats (as well as biodiversity, ecosystem services		expectations of post-mining land uses will influence the types of mitigation being discussed. Stakeholder consultation during the ESIA process should be used as an indication of post-mining land uses. However, separate stakeholder consultation processes must be conducted during the development and updating of the mine reclamation and closure plan as the time period may be significant between the ESIA and reclamation and closure planning processes, and during the time lag there may have been changes in the opinions of affected peoples. Re: 2.6.2.2.f, source and pathway characterization should be informed by IRMA Chapter 4.1, requirement 4.1.3.2. and Chapter 4.2, requirement 4.2.2.3. Re: 2.6.2.2.g, source mitigation programs should be informed by IRMA Chapter 4.1, requirement 4.1.5.2 and Chapter 4.2, requirement 4.2.2.4. Re: 2.6.2.2.h, information on interim operations and maintenance may be included in an interim operations and maintenance plan or its equivalent (e.g., as a section of the reclamation and closure plan). The purpose of such a plan is to provide information on how process water systems, interceptor wells, seepage collection systems and stormwater management systems as well as stability monitoring programs are operated and maintained to prevent discharges in the event that regulators must assume management of a mine facility. An operating company should include in the plan process water flow charts showing electrical system requirements, pump operations, seepage collection and interceptor well operations and applicable operation and maintenance requirements. The interim process water management plan shall be updated as major process water system changes occur that would affect the interim emergency water management plan. The interim water management plan shall be maintained on site and be available for regulatory and public review. Re: 2.6.2.2.i, concurrent or progressive reclamation and revegetation is the act of reclaiming land that is no longer required for operations while mining or other operations continue on other areas. Instead of waiting until all mining is finished, concurrent reclamation occurs within the same year or at

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXPLANATORY NOTES
and other conservation values as per Chapter 4.6); l. Hazardous materials disposal; m. Facility demolition and disposal, if not used for other purposes; n. Long-term maintenance; o. Post-closure monitoring plan; p. The role of the community in long-term monitoring and maintenance (if any); and q. A schedule for all activities indicated in the plan.		most within two years of it no longer being used and it is accessible for reclamation. Re: 2.6.2.2.j: (i) The plan should describe how stabilization of the reclaimed mined lands will occur such as moving, resloping or otherwise stabilizing mine slopes to appropriate factors of safety or other suitable criteria. The plan should include a map that provides the final individual facility as well as overall site topography; (ii) Stormwater run-on/runoff management is typically included with earthwork activities. Run-on features are intended to divert water around a facility or site. Runoff features are intended to address water that falls onto the facility or site that has the potential to be contaminated and is also referred to as contact water. The plan should provide the design criteria (100 to 500-year 24-hr storm event or Probable Maximum Precipitation (or Flood) event) for both run-on prevention and contact water runoff and demonstrate for the facility that they represent current best practice. (iii) Soil covers in most cases consist of natural earth materials including salvaged topsoil and mined rock of suitable quality. Unless otherwise justified, the expectation for IRMA certification would be that all available topsoil or other suitable growth medium as required to support the reclamation plan in terms of soil cover will be salvaged or otherwise clearly identified. (iv), Topsoil, once stockpiled, should not be re-disturbed until final reclamation. Wide, shallow soil stockpiles crossed as little as possible by earthmoving equipment will be the least compacted and will retain more microflora, bacteria, earthworms and viable seeds for plant reestablishment. Incorporate plant materials on the surface with the topsoil into the topsoil piles, including grasses, shrubs, and chipped woody materials. Topsoil piles should be placed in a manner that minimizes sun exposure, maximizes surface area and minimizes soil depth. They should also be isolated from dust and weeds, as well as seeded promptly because plants and their residue control wind and water erosion, and maintain microbial activity. Re: 2.6.2.2.k:

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXPLANATORY NOTES
		(i) Vegetation maps are of value in designing approximate original contour (AOC), in selecting/applying seed mixes, in planning the post-mining land use, and in establishing success standards for landscape (gamma) diversity. The plan should include a proposed seed/plant mix that includes identification of all native species as well as any introduced species, and provide justification for any introduced species as well as the approach to support native species succession. (ii) The success of revegetation on reclaimed lands is measured against either an unmined reference area or technical (numeric) standards, and any other regulatory revegetation requirements. A reference area is a land unit maintained under appropriate management for the purpose of measuring vegetation ground cover, productivity and plant species composition that are produced naturally or by crop production methods. Reference areas must be representative of geology, soil, slope, and vegetation in the permit area. Technical standards are numeric values developed using vegetation data from several sources: pre-mine baseline studies, historical data, and range site descriptions. Both reference areas and technical standards must be field validated. If technical success standards rather than reference areas are proposed, a minimum of five years of data must be collected for validation. (iii) Recontouring, topsoil placement and revegetation should all occur within the same reclamation period unless otherwise justified. (iv) The reclamation and closure plan should include measures to control noxious weeds consistent with applicable regulatory requirements or based on demonstrated best practices. Use of chemical means to control weeds should only be proposed if no other effective means can be demonstrated. (v) Planned activities to restore natural habitats are highly site-specific and may include: wetlands replacement, enhancement or construction; stream restoration; stream flow augmentation; fisheries habitat enhancement; wildlife habitat enhancement; correcting subsidence-related damage; replacing contaminated or diverted water supplies; supplemental water (e.g., for pit backfilling).Re: 2.2.5.2.l, see also IRMA Chapter 4.1, requirement 4.1.2.1 for requirements related to hazardous materials disposal.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
			Re: 2.6.2.2.m, demolition and disposal includes the demolition, removal and disposal of all mine facilities, equipment and materials including the following: mine, process, administration and ancillary buildings; building foundations and containment structures; mining, process and ancillary equipment; storage and water tanks; utility (power, gas, water) lines and stations; materials and supplies; explosives storage facilities; general site debris; fences and cattle guards; culverts, bridges, road signs. Re: 2.6.2.2.n, the plan should describe the long-term maintenance tasks for the site such as: periodic cleanout, repair and replacement of stormwater ditches; repair and/or replacement of covers; periodic repair and replacement of public safety items; periodic reseeding, nutrient addition and weed control; periodic (yearly in most cases where applicable) road maintenance and snow removal; evaluation and maintenance or other mitigation as necessary to maintain structural stability. 2.6.2.2.o, the plan should describe the monitoring purpose, locations, frequency, and reporting for: surface water quality and flow monitoring; groundwater quality and level monitoring; revegetation performance monitoring; stability and erosion monitoring; wildlife monitoring; other site-specific monitoring; reporting. 2.6.2.2.p, the role of the community in the long-term monitoring and maintenance plan should be described if community involvement, in particularly community responsibility, is planned. This should address the need for institutional controls to protect reclamation and other mitigation measures and to address future land development if that is to be allowed. 2.6.2.2.q, the reclamation and closure plan should include a schedule that shows when the various reclamation and closure activities will occur for each facility and for the site overall. The schedule should include proposed ending and beginning dates and duration. Time critical items and milestones should be indicated.
2.6.2.3. The reclamation and closure plan shall include a detailed determination of the estimated costs of reclamation and closure, and post-	Auditing Note for 2.6.2.3: Review IRMA guidance for Chapter 2.6, 2.6.2.3.	For 2.6.2.3: • Reclamation and closure plan including estimated costs.	Explanatory Note for 2.6.2.3: This information will feed into the financial surety calculations for mine closure in 2.6.4 and the post-closure financial surety calculations in 2.6.5

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
closure, based on the assumption that reclamation and closure will be completed by a third party, using costs associated with the reclamation and closure plan as implemented by a regulatory agency. These costs shall include, at minimum: a. Mobilization/demobilization; b. Engineering redesign, procurement, and construction management; c. Earthwork; d. Revegetation/Ecological Restoration; e. Disposal of hazardous materials; f. Facility demolition and disposal; g. Holding costs that would be incurred by the regulatory agency following a bankruptcy in the first two years before actual reclamation begins, including: i. Interim process water and site management; and ii. Short-term water treatment; h. Post-closure costs for: i. Long-term water treatment; and ii. Long-term monitoring and maintenance; i. Indirect Costs: i. Mobilization/demobilization; ii. Engineering redesign, procurement and construction management; iii. Contractor overhead and profit;	Reclamation and Closure Financial Assurance Cost Estimate. **For 2.6.2.3:** Review financial surety calculations in the reclamation and closure plan to ensure the specified categories are included, and that reasonable assumptions have been utilized in calculating the financial surety. Re: Subpart (g) Estimates of holding costs should include a minimum of one-year funding, but two years is recommended.	• Supplemental documentation, if certain required information is not included in the reclamation and closure plan.	Re: 2.6.2.3.a, see 2.6.2.3.i. "Indirect Costs: i. Mobilization/Demobilization." Re: 2.6.2.3.b, see 2.6.2.3.i. "Indirect Costs: ii. Engineering redesign, procurement, and construction management." Re: 2.6.2.3.c, earthwork financial security includes, but is not limited to the cost of, roads, reclamation material stockpiles, low grade ore or sulfidic stockpiles, waste rock dumps, tailings, spent ore and other constructed features; closure of mine openings; material source development for covers; drainage or armor layers; backfilling (diversions, ditches, sediment ponds, etc.); and placement of topsoil or other growth medium. Construction of facilities like diversions channels and drains, stream channels, wetlands and special purpose facilities is also considered to be earthwork. Re: 2.6.2.3.d, revegetation financial security must include the cost of obtaining the seed mix specified in the reclamation plan and the cost of soil preparation, such as ripping or harrowing, soil amendments such as mulching or fertilizer, application of the seed mix, noxious weed control, and placement of tree and shrub seedlings, if required in the plan. Re: 2.6.2.3.e, hazardous materials costs to be considered include the following: maintenance shop chemicals and petroleum products; mill buildings, labs, vehicle maintenance and wash facilities; mill reagents, chemicals and petroleum products; laboratory reagents, chemicals and waste products; mine explosives and petroleum products; chemicals and reagents in storage areas; residues and other contents in storage tanks and barrels; water treatment plant sludge and residues; contaminated soils or other materials. Re: 2.6.2.3.f, demolition and disposal includes the demolition, removal and disposal of all mine facilities, equipment and materials including the following: mine, process, administration and ancillary buildings; building foundations and containment structures; mining, process and ancillary equipment; storage and water tanks; utility (power, gas, water) lines and stations; materials and supplies; explosives storage facilities; general site debris; fences and cattle guards; culverts, bridges, road signs. Re: 2.6.2.3.g, this sub-requirement assumes all reclamation costs/financial assurances are current, and that it will take the government two years from

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iv. Agency administration; v. Contingency; and j. Either: i. A multi-year inflation increase in the financial surety; or ii. An annual review and update of the financial surety.		the date of bankruptcy to get reclamation underway in the event of an unplanned/immediate mine closure. Holding costs, which may also be identified in the financial assurance as "Interim Operations" or "Emergency Operations" (or similar), can be calculated by assuming that the next category, interim process water and site management, is for a two-year period. (i) Interim process water and site management costs should include the following tasks: provide labor (operations, security, maintenance, monitoring); provide electrical power and other utilities; supply replacement pumps, piping and maintenance materials and supplies; purchase necessary chemicals and reagents; replace security items; supply vehicles and equipment. Additional operations and maintenance tasks may include: develop/update and implement Health and Safety Plan; develop/update and implement interim operations and maintenance plan or its equivalent; recirculation (pumping) of process fluids 24/7 to prevent overtopping of process ponds during a shutdown (no routing of fluids to tailings impoundments); impoundment dewatering or drain-down; ongoing treatment of any existing water treatment operations related to groundwater or surface water discharges; interim monitoring; sludge management; and explosives management. (ii) Short-term, or closure water management and treatment describe any additional water treatment required to address water quality issues over a finite predicted time, typically no greater than 50 years. Examples include dewatering of tailings facilities and treatment of reactive and mobile contaminants such as nitrates or cyanide in groundwater. This may also include treatment of contaminants associated with acid rock drainage (sulfates and metals) and neutral mine drainage (arsenic and selenium) which are predicted to require relatively short-term treatment only. Re: 2.6.2.3.h: (i) Long-term, or post-closure water management and treatment includes any additional water treatment required to address water quality issues over an indefinite predicted time, typically that exceeding 50 years and often times based on 100-year predictions. In most cases post-closure water management and treatment is predicted to be required for 1,000 years or

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		more and may be described as “in perpetuity” treatment. It most often involves the treatment of contaminants associated with acid rock drainage (sulfates and metals) and neutral mine drainage (arsenic and selenium), and may also involve mercury and other site-specific contaminants.; and (ii) Long-term monitoring and maintenance costs should be included for the following tasks. The tasks for monitoring include: Surface water quality and flow monitoring; Groundwater quality and level monitoring; Vegetation performance monitoring; Stability and erosion monitoring; Wildlife monitoring; Other site-specific monitoring; Reporting. The tasks for maintenance include: Periodic cleanout, repair and replacement of storm water ditches; Repair and/or replacement of covers; Periodic repair and replacement of public safety items; Periodic reseeding, nutrient addition and weed control; Periodic (yearly in most cases where applicable) road maintenance and snow removal; Evaluation and maintenance or other mitigation as necessary to maintain structural stability. Re: 2.6.2.3.i, indirect costs are typically calculated as a percentage of the direct costs as follows: (i) Mobilization and demobilization are indirect costs for moving personnel, equipment, supplies and incidentals to and from the reclamation site. These costs will be incurred by the engineering, construction and operations contractors. It also includes the establishment of field offices, shop buildings, warehouses, sanitary facilities, utilities and other facilities needed to proceed with the project work. Important factors influencing these costs are the remoteness of the site, availability of equipment, road use restrictions and permits. Unusual time constraints, a need for special equipment, the presence of non-standard features or conditions that hinder equipment mobility, or a remote location may require actual cost estimates that could result in the use of a higher percentage. (ii) Engineering Design/Redesign costs are for the following tasks: • Prepare maps and plans to show the extent of required reclamation; • Survey of topsoil and growth medium stockpiles to determine amount of material available; • Sample and analyze waste rock, tails, heap material, surface and ground

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		water, etc.; • Sample and analyze topsoil and waste piles to determine whether special handling or treatment is necessary; • Evaluate structures to determine requirements for demolition and removal; • Evaluate stormwater facilities and process solutions or water impoundments to determine if treatment, clean out, or other improvements are necessary; • Prepare an environmental analysis or site studies before reclamation may commence. • Engineering redesign costs typically range between 2% and 10% of the total direct costs. (iii) Contractor overhead and profit: Contractor's profit and overhead is a large portion of cost when contracting for mine reclamation. It will therefore make up a large portion of the indirect costs to be included in every bond estimate and should account for: Contractor Profit – Government contracts generally include a line item for prime contractor's profit over and above the estimated reclamation O&M costs; Liability Insurance – the cost of obtaining contractor's liability insurance; Payment and Performance Bonds. Contractors overhead and profit cost typically range between 15% and 25% of the total direct costs. (iv) Agency administration: Agency contract administration costs include the agencies labor and operations costs for the offices to administer the contract. These costs must be included in the FA, and the amount required to cover the contract administration costs will depend to a great extent on the specifics, including reclamation complexities, of the proposed operation. Estimate the agency's contract administration and inspection cost for reclamation and closure contracts use 6-10 percent of the direct costs. (v) Contingency: The contingency allowance is for cost overruns that regularly occur but cannot be ascertained when an operation is being reviewed. Contingency costs generally reflect the level of detail and completeness of the cost estimate, as well as the level of uncertainty in the assumptions used for the reclamation plan and FA. Calculate the contingency allowance as a percentage of the total direct costs. New

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			operations with conceptual plans and cost estimate should use a 20% contingency allowance. Plans not yet prepared for final implementation should use a 10% contingency allowance. Plans prepared for final implementation should use a 5% contingency allowance.
2.6.2.4. The operating company shall review and update the reclamation and closure plan and/or financial assurance when there is a significant change to the mine plan, but at least every 5 years,[219] and at the request of stakeholders provide them with an interim reclamation progress report.	For 2.6.2.4: Review the most recent version of reclamation and closure plan and confirm that the previous version was written fewer than five years before the current version.	For 2.6.2.4: • Reclamation and closure plan and updates. • Financial assurance reviews and updates (covering immediate/unplanned closure). • Records of stakeholder communications with the company, public comment, other dialogue (e.g., meeting minutes or notes, emails or written correspondence, etc.) requesting information on interim reclamation progress. • Records of meetings held by the company (e.g., public presentations, smaller meetings with stakeholders) or correspondence (e.g., emails, letters) with stakeholders where company provides them with an update on interim reclamation progress. • Records of complaints and grievances related lack of access to information filed with the operational-level grievance mechanism.	Explanatory Note for 2.6.2.4: The five-year review period comes from ICMM.[220] Interim progress reports to stakeholders could be delivered verbally, e.g., in community meetings, or could be written reports, as agreed with stakeholders. Interim reports need not be updated more frequently than annually.
2.6.2.5. If not otherwise provided for through a regulatory process, prior to the commencement of the construction	For 2.6.2.5: Interview operating company and relevant stakeholders, and review documentation to confirm	For 2.6.2.5: • Records of meetings held by the company (e.g., meeting minutes,	Explanatory Note for 2.6.2.5: If there is no regulatory process in place, there should be explicit outreach to stakeholders inviting them to comment on the reclamation plan, and letting them know they have at least 60 days to

[219] ICMM, 2008. Planning for Integrated Closure: Toolkit. p. 37. Available at: www.icmm.com/document/310

[220] International Council on Mining and Metals (ICMM), 2008. Planning for Integrated Closure: Toolkit. p. 37. Available at: www.icmm.com/document/310

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of the mine and prior to completing the final reclamation plan the operating company shall provide stakeholders with at least 60 days to comment on the reclamation plan. Additionally: a. If necessary, the operating company shall provide resources for capacity building and training to enable meaningful stakeholder engagement;[221] and b. Prior to completing the final reclamation plan, the operating company shall provide affected communities and interested stakeholders with the opportunity to propose independent experts to provide input to the operating company on the design and implementation of the plan and on the adequacy of the completion of reclamation activities prior to release of part or all of the financial surety.	that stakeholders were consulted in the revision of the reclamation and closure plan, and that any relevant capacity building, training or access to independent experts occurred.	attendee lists), correspondence (e.g., emails, letters) with stakeholders and public notices (e.g. newspaper advertisements) where company invites them to comment on the reclamation plan. • Records of stakeholder communications with the company, (e.g., meeting minutes or notes, emails or written correspondence, etc.) providing comments on the reclamation plan. • Records of stakeholder requests to the company for capacity building or training to enable meaningful participation. • Records of stakeholder complaints and grievances related to the comment period or lack of ability to engage meaningfully in the comment process.	do so. If the regulatory process provides a stakeholder comment period that is shorter than 60 days, the operating company should still take stakeholder feedback on the plan for up to 60 days. As per Chapter 1.2 (criterion 1.2.3), companies are required to collaborate with stakeholders from affected communities to assess their capacity to effectively engage in consultations, assessments, etc., and where capacity gaps are identified, the operating company shall offer appropriate assistance to facilitate effective stakeholder engagement. This could be through provision of training or access to independent experts, etc. As per Chapter 1.2, "meaningful engagement" includes a two-way exchange of information between the company and stakeholders, with stakeholders' views being taken into account in decision-making; engagement is conducted in good faith (i.e., the company genuinely intends to understand how stakeholder interests are affected by their actions and to address adverse impacts, and stakeholders honestly represent their interests, intentions and concerns); and companies are responsive to stakeholder input and follow through on commitments.[222]
2.6.2.6. (Critical Requirement) The most recent version of the reclamation and mine closure plan, including the results of all reclamation and closure plan updates, shall be publicly available or available to stakeholders upon request.	For 2.6.2.6: Confirm that the reclamation and closure plan for the mine is available on the company website, and if not, confirm that it is made available to stakeholders upon request.	For 2.6.2.6: • Records of where and how the reclamation plan is made available to stakeholders/the public.	Explanatory Note for 2.6.2.6: In this case, "publicly available" means that the reclamation and closure plan should either be readily accessible on a regulatory agency website (some host countries/jurisdictions publish these plans) or on the operating company/corporate owner website, or be available in hard copy at a public facility (e.g., a public library, government office, etc.) within affected communities, or upon request at the operating company's premises.

[221] For more on meaningful stakeholder engagement see Chapter 1.2, requirement 1.2.2.2.

[222] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* p. 18. Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

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2.6.3. Backfilling as a Part of Reclamation 2.6.3.1. Open pits shall be partially or completely backfilled if: a. A pit lake is predicted to exceed the water quality criteria in IRMA Chapter 4.2;[223] b. The company and key stakeholders have agreed that backfilling would have socioeconomic and environmental benefits; and c. It is economically viable.	**Auditing Note for 2.6.3.1:** For more discussion on this evaluation see IRMA Guidance for Chapter 2.6, 2.6.3.1. Open Pits. **For 2.6.3.1:** Review the plans for new or expanded open pits. To verify whether a thorough evaluation of the potential for the backfill of open pits has been conducted in a socially, environmentally, and economically practicable manner, at a minimum the following factors should be examined: • Are there environmental advantages and/or environmental liabilities associated with backfilling? • Is there an opportunity for sequential backfill of multiple open pits to return the area to usable post-mind land use; • Would backfilling enhance the stability of pit walls required to ensure protection of human health and the environment? • What are the potential impacts on wildlife? • What are the potential impacts on surface or groundwater quality? If relevant, confirm that a risk assessment was undertaken that analyzed the alternatives for minimizing long-term impacts such as acid rock drainage/metals leaching	**For 2.6.3.1:** • Reclamation and closure plan that includes information on and plan for backfilling open pits (e.g., material that will be used to backfill pits, the volume of material needed, where it will be obtained from, backfilling schedule, and annual cost estimates). • Documentation in the closure plan of costs of backfilling. • Records of pit backfilling. • Documentation of analysis to determine if pit lake will form, and pit lake water quality (e.g., conceptual site model, numerical modeling results/predictions). • Documentation of risk assessment or analysis that determines potential risks, benefits and cost estimates of backfilling pits. • Records of meetings (e.g., meeting minutes or notes) or correspondence (e.g., email exchanges, letters) with key stakeholders on the topic of backfilling open pits, and the potential risks and benefits of the practice.	**Explanatory Note for 2.6.3.1:** Re: 2.6.3.1.a, see Chapter 4.2, requirement 4.2.2.2 and 4.2.2.3 for prediction of water quality, and requirement 4.2.3.3 for requirements related to maintaining water quality at water quality/background water quality, or at levels protective of current and future end uses of water (i.e., IRMA Water Quality Criteria by End-Use Tables. (View Tables). Re: 2.6.3.1.b, "key stakeholders" should include community representatives (e.g., local governments, but also interested members of affected communities or their technical advisers), representatives of governmental agencies that regulate mining in the host country, and potentially NGOs, academics or others that have expertise related to backfilling. This requirement assumes that a risk assessment or equivalent analysis is undertaken to determine the potential risks, benefit and cost estimates of backfilling pits. That analysis should be shared with key stakeholders so that they are informed of the potential risks and can then discuss with the company whether or not the socioeconomic and environmental benefits outweigh the risks.

[223] See Chapter 4.2, requirement 4.2.2.2 and 4.2.2.3 for prediction of water quality, and requirement 4.2.3.3 for requirements related to maintaining water quality at baseline/background or at levels protective of current and future end uses of water.

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	from exposed rock in pit walls. • What are the potential greenhouse gas emissions associated with backfilling? • Is backfilling economically viable? • In locations where evapotranspiration exceeds precipitation, either backfilling to the water table level or agreed-upon compensation to affected users for the water being lost to evaporation should be ensured. For 2.6.3.1.c: Determine if a company has done cost calculations for backfilling to determine whether or not backfilling is an economically viable option.		
2.6.3.2. Underground mines shall be backfilled if: a. Subsidence is predicted on lands not owned by the mining company; and b. If the mining method allows.	For 2.6.3.2: Review documentation, e.g., closure and reclamation plan or other analyses that predict whether or not subsidence is expected on lands not owned by the company. If it is predicted, interview operating company to determine if backfilling is technically feasible based on mining method, and if so, confirm that it is occurring or is planned to occur.	For 2.6.3.2: Documentation of risk assessment or some similar analysis that determines potential risks, benefits and cost estimates of backfilling pits.	Explanatory Note for 2.6.3.2: This applies to new or expanded underground mines. The requirement is only relevant if subsidence is predicted.
2.6.4. Financial Surety for Mine Closure 2.6.4.1. (Critical Requirement) Financial surety instruments shall be in place for mine closure and post-closure.	For 2.6.4.1: Confirm that financial surety instruments exist for closure and post-closure.	For 2.6.4.1: • Documentation for the financial surety instruments that are in place (e.g., form of financial surety, initial date when surety instruments were put in place, etc.).	Explanatory Note for 2.6.4: NOTE: Although this criterion heading says Financial Surety for Mine Closure, these requirements are applicable to financial surety for mine closure and post-closure. Additional requirements that apply only during post-closure can be found in 2.6.7. We will more clearly reflect this in the next version of the Standard.

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2.6.4.2. Financial surety instruments shall be: a. Independently guaranteed, reliable, and readily liquid; b. Reviewed by third-party analysts, using accepted accounting methods, at least every five years or when there is a significant change to the mine plan; c. In place before ground disturbance begins; and d. Sufficient to cover the reclamation and closure expenses for the period until the next financial surety review is completed.	For 2.6.4.2.a: Review documentation for financial surety instruments to confirm they are independently guaranteed, and readily liquid. For 2.6.4.2.b: Review documentation from third-party reviews of financial surety instruments to confirm dates of reviews. Review documentation of reviewer credentials. For 2.6.4.2.c: Review documentation for financial surety instruments to determine the commencement date. For 2.6.4.2.d: Review documentation for financial surety instruments and compare with estimated costs in the reclamation and closure plans (see 2.6.2.3 and 2.6.2.4).	For 2.6.4.2: • Documentation for the financial surety instruments that are in place (e.g., form of financial surety, initial date when surety instruments were put in place, etc.) • Documentation of a financial surety review carried out by a qualified third-party consultant or suitable government review. • Reclamation and closure plan including estimated costs. • Updates to reclamation and closure plan. • Financial assurance reviews and updates.	Explanatory Note for 2.6.4.2: Re: 2.6.4.2.a, financial surety instruments that are independently guaranteed, reliable, and readily liquid include forms of cash (commercial deposits, trusts), irrevocable letters of credit from an established bank, and surety bonds and insurance policies from bonded insurers. Self-bonding or corporate guarantees are not independently guaranteed, reliable, and readily liquid. Re: 2.6.4.2.b, use of a qualified third-party consultant is anticipated for the analysis. Government agency review is also acceptable if the agency has a registered professional that has placed their credential on the review document. Re: 2.6.4.2.d, the financial surety should be sufficient to cover the maximum estimated reclamation and closure expenses for the period until the next financial surety review is completed. These costs are required to be estimated in 2.6.2.3 and 2.6.2.4.
2.6.4.3. Self-bonding or corporate guarantees shall not be used.	For 2.6.4.3: Confirm that the financial surety is not in the form of a self-bond or corporate guarantee.	For 2.6.4.3: • Documentation for the financial surety instruments that are in place (e.g., form of financial surety, initial date when surety instruments were put in place, etc.)	Explanatory Note for 2.6.4.3: Self-bonding or corporate guarantees—also called a company guarantee, corporate financial test, a balance sheet test, or a self-guarantee—is based on an evaluation of the assets and liabilities of the company and its ability to pay the total rehabilitation costs. ICMM refers to self-bonding and corporate guarantees as soft options.[224] Many jurisdictions no longer accept corporate guarantees as a form of financial surety due to public concerns that even very large mining companies can fail, not matter what their financial health when the mining project started.[225] Acceptable forms of financial assurance may include, for example: Insurance policies; letters of credit (i.e., bank guarantee), surety bonds, cash deposits,

[224] ICMM. 2006. Financial Assurance for Mine Closure and Reclamation: Guidance Paper. p. 7. https://www.icmm.com/website/publications/pdfs/mine-closure/23.pdf

[225] Sasoon, M. 2009. Financial Surety: Guidelines for the Implementation of Financial Surety for Mine Closure. (World Bank Group's Oil, Gas, and Mining Policy Division). pp. 7, 9, 10 and 41. http://siteresources.worldbank.org/INTOGMC/Resources/7_eifd_financial_surety.pdf

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			and trust funds.[226] These are referred to by ICMM as hard forms of assurance, which provide a higher level of security than soft forms.[227]
2.6.4.4. The results of all approved financial surety reviews, with the exception of confidential business information, shall be made available to stakeholders upon request.	**For 2.6.4.4:** Determine if approved surety reviews are available on the company website or if not publicly accessible, confirm that they are available to stakeholders upon request.	**For 2.6.4.4:** • Where financial surety reviews are made public by the competent authority the operating company can reference that availability as conformance with this requirement. • Records of stakeholder requests for copies of approved financial surety reviews, and company responses to such requests. • Policy or procedures on disclosure or provision of information to stakeholders.	**Explanatory Note for 2.6.4.4:** Approved financial surety reviews means that reviews have been undertaken and approved by competent authorities (i.e., relevant government regulatory agencies).
2.6.4.5. Prior to the commencement of the construction of the mine, prior to any renewal of the financial surety, and prior to final release of the financial surety the operating company shall provide the public with at least 60 days to comment on the adequacy of the financial surety. Additionally: a. Where the company deems certain financial surety information to be confidential business information it shall make the data available to the IRMA auditor and satisfy the auditor that the grounds for confidentiality are reasonable. If	**For 2.6.4.5:** Interview operating company and relevant stakeholders, and review documentation to confirm that stakeholders were consulted in the revision of the financial surety, and that any relevant capacity building, training or access to independent experts occurred.	**For 2.6.4.5:** • Where competent authorities provide for public review of financial surety proposals, and those periods are at least 60 days, the operating company can reference that process. • Records of meetings held by the company (e.g., meeting minutes, attendee lists) or correspondence (e.g., emails, letters) with stakeholders where company invites them to comment on financial sureties. • Records of stakeholder communications with the company, (e.g., meeting minutes or notes, emails or written	**Explanatory Note for 2.6.4.5:** Re: 2.6.4.5.a, as per IRMA Chapter 1.4, companies are required to have an operational-level grievance mechanism, which would provide a means for stakeholders to initiate dialogue and seek a resolution with a company if the withholding of confidential business information makes it difficult or impossible for stakeholders to adequately review the company's calculations. Re: 2.6.4.5.b, as per Chapter 1.2 (criteria 1.2.3), companies are required to collaborate with stakeholders from affected communities to assess their capacity to effectively engage in consultations, assessments, etc., and where capacity gaps are identified, the operating company shall offer appropriate assistance to facilitate effective stakeholder engagement. This could be through provision of training or access to independent experts, etc. "meaningful engagement" includes a two-way exchange of information between the company and stakeholders, with stakeholders' views being taken into account in decision-making; engagement is conducted in good

[226] See Sassoon (ibid) for more details on each of these types of financial assurance instruments.

[227] See ICMM. 2006. p. 7, above.

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certain information is not included for confidential reasons, the fact that the information has been withheld shall be disclosed along with the financial surety.[228] b. If necessary, the operating company shall provide resources for capacity building and training to enable meaningful stakeholder engagement; and c. Prior to the beginning of closure reclamation activities the operating company shall provide affected communities and interested stakeholders with the opportunity to propose independent experts to review the financial surety.		correspondence, etc.) providing comments on the adequacy of financial sureties. • Records of stakeholder requests to the company for capacity building or training to enable meaningful participation. • Records of stakeholder complaints and grievances related to the comment period or lack of ability to engage meaningfully in the comment process. • Policy or procedures on disclosure or provision of information to stakeholders.	faith (i.e., the company genuinely intends to understand how stakeholder interests are affected by their actions and to address adverse impacts, and stakeholders honestly represent their interests, intentions and concerns); and companies are responsive to stakeholder input and follow through on commitments.[229]
2.6.4.6. The terms of the financial surety shall guarantee that the surety is not released until: a. Revegetation/ecological restoration and reclamation of mine and waste sites and have been shown to be effective and stable; and b. Public comment has been taken before partial or final surety release.	For 2.6.4.6: Review financial surety terms and conditions. Partial bond releases are anticipated, but with public comment.	For 2.6.4.6: • Regulatory requirements or company policy or statement that the surety will not be released until the requirements are met.	Explanatory Note for 2.6.4.6: Typically, regulations require that the surety is not released until certain requirements are met, but this may not be a term of the financial surety itself. Where regulations do not require financial surety or this is not a requirement of release of financial surety by the regulator, the operating company shall state that the surety is not released until the requirements are met.

[228] As per IRMA Chapter 1.4, companies are required to have an operational-level grievance mechanism, which would provide a means for stakeholders to initiate dialogue and seek a resolution with a company if the withholding of confidential information makes it difficult or impossible for stakeholders to adequately review the company's calculations.

[229] OECD. 2017. *OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector.* p. 18. Available at: http://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm

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2.6.5. Post-Closure Planning and Monitoring 2.6.5.1. Monitoring of closed mine facilities for geotechnical stability and routine maintenance is required in post-closure. The reclamation and closure plan shall include specifications for the post-closure monitoring and maintenance of all mine facilities, including, but not limited to: a. Inspection of surface (open pits) and underground mine workings; b. Inspection and maintenance of mine waste facilities including effectiveness of cover and any seepage capture systems; and c. Mechanisms for contingency and response planning and implementation.	Auditing Note for 2.6.5: Review IRMA Guidance for Chapter 2.6, Long-Term Maintenance. **For 2.6.5.1:** Review reclamation and closure plan for post-closure mine facility monitoring requirements and funding provisions.	**For 2.6.5.1:** • Reclamation and closure plan. • Annual closure cost estimate report (sections: post-closure monitoring and residual costs, contingency)	Explanatory Note for 2.6.5.1: The requirements described in this section should be included as part of the reclamation and closure tasks and activities mentioned in requirement 2.6.2.2 (see sub-requirements 2.6.2.2.n. Long-term maintenance and 2.6.2.2.o. Post-closure monitoring plan). The post-closure monitoring plan may be a standalone plan, or it may be integrated into the reclamation and closure plan. Re: 2.6.5.1.c, mechanisms could include a plan for what actions to take if reclamation activities are not effective (e.g., adaptive management strategies), and are funds available for the planning and potential response actions.
2.6.5.2. Monitoring locations for surface and groundwater shall be sufficient to detect off-site contamination from all closed mine facilities, as well as at the points of compliance.	**For 2.6.5.2, 2.6.5.3, and 2.6.5.4:** Review Reclamation and Closure Plan for post-closure surface, groundwater and biologic monitoring requirements, if relevant, and funding provisions. Confirm that plans for water monitoring are in place for reclamation and closure that include monitoring locations that will be sufficient to detect off-site contamination.	**For 2.6.5.2:** • Reclamation and closure plan/post-closure monitoring plan.	Explanatory Note for 2.6.5.2: Post-closure monitoring should be consistent with the requirements of IRMA Chapter 4.2, "Water Management," criterion 4.2.4 Monitoring and Adaptive Management. In particular, requirement 4.2.4.1 similarly requires that there be a sufficient number of monitoring locations to detect changes in water quality/contamination. As explained in the note for requirement 4.2.4.1: establishing what constitutes an “adequate” number of monitoring locations is somewhat arbitrary. At a minimum, point discharges of contaminants need to be monitored (usually this is required by regulatory agencies). Internal monitoring of sources like tailings and waste rock groundwater interception systems is strongly encouraged." To ensure reliability of data, sites should be located as close as practicable to mine related contaminant sources (point source and non-point).

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
			Additional points of monitoring could be located inside the mine site boundary as a best practice measure. Regardless of regulatory requirements, points of compliance for surface water and ground water discharges should be established and monitored for each source of treated or untreated contaminants. For IRMA purposes a point of compliance is the physical location where water quality must meet IRMA end-use water quality criteria. (View IRMA end-use tables) The location will vary with the type of discharge (surface, groundwater, mixing zone, etc.).
2.6.5.3. Water quality monitoring locations shall be sampled until IRMA Water Quality Criteria have been met for at least 5 years, with a minimum of 25 years of post-closure data.[230] The 25-year minimum may be waived if ongoing water quality monitoring demonstrates and modeling predicts that no contamination of surface or ground waters is occurring or will occur, respectively.	**For 2.6.5.2, 2.6.5.3, and 2.6.5.4:** Review Reclamation and Closure Plan for post-closure surface, groundwater and biologic monitoring requirements, if relevant, and funding provisions. Confirm that plans for water monitoring are in place for reclamation and closure that include monitoring locations that will be sufficient to detect off-site contamination.	**For 2.6.5.3:** • Reclamation and closure plan/post-closure monitoring plan. • Annual closure cost estimate report (sections: post-closure monitoring and residual costs, contingency)	**Explanatory Note for 2.6.5.3:** IRMA's tables of water quality criteria are found in Chapter 4.2, Tables 4.2.a to h. Alternatively, the mine may meet baseline water quality or background water quality values as per Chapter 4.2, requirement 4.2.2.3.
2.6.5.4. Biologic monitoring shall be included in post-closure monitoring if required to ensure there is no ongoing post-closure damage to aquatic and terrestrial resources.	**For 2.6.5.2, 2.6.5.3, and 2.6.5.4:** Review Reclamation and Closure Plan for post-closure surface, groundwater and biologic monitoring requirements, if relevant, and funding provisions. Confirm that plans for water monitoring are in place for reclamation and closure that include monitoring locations that will be sufficient to detect off-site contamination.	**For 2.6.5.4:** • Reclamation and closure plan/post-closure monitoring plan. • Annual closure cost estimate report (sections: post-closure monitoring and residual costs, contingency) • Records of meetings with stakeholders (e.g., meeting minutes, correspondence from stakeholders) where they contributed input on the current and	**Explanatory Note for 2.6.5.4:** Biologic monitoring of aquatic ecosystems should be included in post-closure monitoring if aquatic ecosystems or the resources they sustain were identified as a current or future end-uses of surface waters (as per Chapter 4.2, requirement 4.2.1.2). Post-closure monitoring of terrestrial resources or organisms may be required if a risk to terrestrial resources was identified in the ESIA (IRMA Chapter 2.1), biodiversity impact assessment (Chapter 4.6), during the course of operational monitoring (e.g., there were bird or livestock mortalities related to pit lakes, tailings or other facilities that will continue to exist post-closure), or from other sources of information.

[230] IRMA criteria are found in Chapter 4.2, Tables 3.1a to h. Alternatively, the mine may meet baseline or background water quality values as per Chapter 4.2, requirement 4.2.2.3..

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
		potential future uses of water locally and regionally. • Environmental and social impact assessment. • Biodiversity, ecosystem services and protected area impact assessment. • Operational monitoring data (water quality, surveillance of mine waste facilities, etc.).	
2.6.5.5. If a pit lake is present, pit lake water quality shall be monitored, and if potentially harmful to people, wildlife, livestock, birds, or agricultural uses, adequate measures shall be taken to protect these organisms.	For 2.6.5.5: Review reclamation and closure plan for pit lake water quality monitoring requirements, and the presence of appropriate measures to protect wildlife if pit lake water will be potentially harmful.	For 2.6.5.5: • Post-closure monitoring plan. • Annual closure cost estimate report (sections: post-closure monitoring and residual costs, contingency) • Documentation of analysis to determine if pit lake will form, and pit lake water quality (e.g., conceptual site model, numerical modeling results/predictions). • Operational monitoring data (water quality, surveillance of open pit facilities, etc.). • Documentation of risk assessment or some similar analysis that determines potential risks, benefits and cost estimates of backfilling pits.	Explanatory Note for 2.6.5.5: Pit lake water quality testing should be consistent with the requirements of IRMA Chapter 4.2, criterion 4.2.4 Monitoring and Adaptive Management. Depending on the situation, adequate measures might include early warning systems alerting mines to the movement of migratory birds or wildlife, hazing (using noise, drones, lasers to ward off animals), or backfilling of pit lakes.
2.6.6. Post-Closure Water Treatment 2.6.6.1. Long-term water treatment shall not take place unless:[231]	For 2.6.6.1.a: Review the closure plan to ensure that all technically feasible options (covers, etc.) have been investigated and weighed before the	For 2.6.6.1: • Long-term water treatment engineering and risk assessment. • Annual closure cost estimate report	Explanatory Note for 2.6.6.1: The intent of this requirement is to avoid, if possible, the need for water treatment in perpetuity. As long as treatment systems are needed there will be risks to downstream communities if treatment systems were to fail (e.g., due to catastrophic events or lack of funding to keep treatment systems operating effectively).

[231] This requirement applies to new or expanded mines.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
a. All practicable efforts to implement best practice water and waste management methods to avoid long-term treatment have been made; and b. The operating company funds an engineering and risk assessment that: i. Is carried out by an independent third-party: ii. Evaluates the environmental and financial advantages/disadvantages and risks of long-term water treatment versus other mitigation methods; iii. Incorporates data on the failure rates of the proposed mitigation measures and water treatment mechanisms; iv. Determines that the contaminated water to be treated perpetually poses no significant risk to human health or to the livelihoods of communities if the discharge were to go untreated; and v. Includes consultations with stakeholders and their technical representatives during the design of the study, and discussion of findings with affected communities prior to	option of long-term water treatment is employed. For 2.6.6.1.b: Review independent third-party engineering & risk assessment. Confirm that requirements have been met to assure that the affected community is aware of the risks associated with long-term water treatment. Confirm that the independent third-party assessment was paid for by the operating company and that technical representatives selected by stakeholders from affected communities had the opportunity to contribute input into the study design and review/discussion of findings.	(sections: post-closure water treatment and residual costs, contingency)	A determination of whether or not long-term water treatment will be necessary is required in Chapter 4.2, requirement 4.2.2.3.d. If treatment is deemed necessary, the rationale underpinning 2.6.6.1 is that affected communities should be engaged in discussions of the risks and benefits of long-term treatment before a decision is made by the company about proceeding with a mining project that will require long-term water treatment. This requirement applies to new mines. Existing mines that currently require long-term water treatment are not required to comply with this section, as the studies and consultations that are required in 2.6.6.1 are unlikely to have taken place at existing mines. Existing mines, however, will be expected to conform with 2.6.6.2 if expansions are proposed and long-term water treatment might be needed as a result of the expansion. In those cases, mines will be expected to meet this requirement at that stage. Re: 2.6.6.1.a, mitigation strategies should comply with Chapter 2.6, requirement 2.6.2.2.g (source mitigation to prevent water degradation); Chapter 4.1, requirement 4.1.5.1 and 4.1.5.2 (use of BAT/BAP and prioritizing source control measures). Re: 2.6.6.1.b: As typical environmental and social impact assessments carried out for regulatory purposes or as otherwise described by IRMA Chapter 2.1 do not require this specific analysis, operators that require long-term water treatment will need to have a study conducted specifically for this purpose as described herein in order to be certified. Re: 2.6.6.1.b.ii.-iii, see requirement 2.6.6.1.a. Re: 2.6.6.1.b.iv, discharges that require long-term treatment generally either exceed human health standards or aquatic/wildlife standards that protect the ecology upon which communities' livelihoods depend. Risks may be more or less significant depending on the contaminants being treated, the uses of the receiving waters, the distance of communities from the water treatment facility, the ability to quickly remedy a problem (access to equipment, funding, expertise) should something arise, etc.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
mine construction or expansion.[232]			A determination of whether or discharges pose a "significant risk" to health or livelihoods will vary depending on the circumstances, and should be determined with input from potentially affected communities. Re: 2.6.6.1.b.v, if indigenous peoples' rights or interests may be affected by long-term water treatment (including potential risks of accidents or incidents related to long-term water treatment facilities) then the operating company must obtain the free, prior and informed consent from indigenous peoples as per IRMA Chapter 2.2. For all other communities, at minimum they must be involved in the risk assessment and be consulted before a company decides to move forward with a mining project that will require long-term water treatment.
2.6.6.2. If a decision is made to proceed with long-term water treatment, the operating company shall take all practicable efforts to minimize the volume of water to be treated.	For 2.6.6.2: Review and/or reclamation and closure plan and other relevant documentation (E.g., perhaps a water management plan, or waste management plan) to confirm that steps have been taken to minimize the water being treated (e.g., through mitigation measures such water diversions, caps on waste materials to reduce infiltration, etc.).	For 2.6.6.2: • Documentation of evaluation of options to minimize the volume of water to be treated in a long-term water treatment system. • Documentation of mitigation strategies implemented at waste management facilities (see 4.1.5.2). • Adaptive management plan for water or equivalent that outlines planned actions to mitigate predicted impacts on water (see 4.2.4.4).	Explanatory Note for 2.6.6.2: This is similar to requirement 2.6.6.1.a, which requires that "All practicable efforts to implement best practice water and waste management methods to avoid long-term treatment." That requirement is targeted, however, at early-project steps that can be taken to prevent the generation of contamination in hopes of avoiding the need for long-term water treatment. Once it is clear that long-term treatment will be necessary, the operating company at new mines or existing mines should do what they can to reduce the volume of water that needs to be treated. This could include source control measures, caps, water diversions, etc. Reducing the volume of treated water will reduce the costs of long-term water treatment (e.g., a smaller treatment plant can be constructed), and may also decrease the potential risks if long-term water treatment were to temporarily fail (i.e., a smaller volume of polluted water entering the environment may have less impact on water resources that large volumes, depending, of course, on the relative concentrations of contaminants in each case). See also Chapter 4.1, requirement 4.1.5.2, which requires companies to implement source control measures to prevent or minimize generation of contamination where possible. Similarly, see Chapter 4.2, requirement

[232] If indigenous peoples' rights or interests may be affected by long-term water treatment (including potential risks of accidents or incidents related to long-term water treatment facilities) then the operating company must obtain FPIC from indigenous peoples as per IRMA Chapter 2.2.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
			4.2.4.4., which requires companies to document mitigation strategies to reduce impacts on water.
2.6.7. Post-Closure Financial Surety 2.6.7.1. The operating company shall provide sufficient financial surety for all long-term activities, including: mine closure and post-closure site monitoring, maintenance, and water treatment operations. Financial assurance shall guarantee that funds will be available, irrespective of the operating company's finances at the time of mine closure or bankruptcy.	Auditing Note for 2.6.7: See IRMA Guidance for Chapter 2.6, 2.6.7. Post-Closure Financial Assurance Cost Estimate. For 2.6.7.1: Review financial surety calculations and associated reports.	For 2.6.7.1: • Documentation for the financial surety instruments that are in place (e.g., form of financial surety, initial date when surety instruments were put in place, etc.) • Documentation of a financial surety review carried out by a qualified third-party consultant or suitable government review, determining financial surety to be sufficient to cover estimated costs. • Financial assurance audit reports from an independent accounting organization • Reclamation and closure plan including estimated costs.	Explanatory Note for 2.6.7.1: Post-closure financial surety is defined as "A trust fund or other similar suitable interest accruing cash or equivalent long-term security that covers all costs associated with the long-term activities, including: post-closure site monitoring and maintenance; and, water treatment operations. It should be held by a governmental or other entity with the ability to accept financial responsibility for the site." The post-closure financial surety cost estimate should be based on tasks and activities described in site monitoring, maintenance, and water treatment as per requirements 2.6.2.2 n. Long-term maintenance; o. Post-closure monitoring plan and 2.6.2.3 h. Post-closure costs for: i. Long-term water treatment; and ii. Long-term monitoring and maintenance. A form of financial surety that ensures that funds will be available regardless of the operating company's finances could be, for example, funds in a trust account.
2.6.7.2. If long-term water treatment is required post-closure: a. The water treatment cost component of the post-closure financial surety shall be calculated conservatively, and cost calculations based on treatment technology proven to be effective under similar climatic conditions and at a similar scale as the proposed operation; and b. When mine construction commences, or whenever the commitment for long-term water	For 2.6.7.2.a: Review water treatment cost component of finance surety to confirm that treatment costs have been conservatively estimated, using costs for proven technologies. For 2.6.7.2.b: When the obligation for long-term water treatment is incurred, confirm that funding is sufficient to fully financially protect the public in the event that the company were to go bankrupt. To do so, confirm that the company has included the appropriate factors in their calculations to know what "sufficient" funding will be (e.g.,	For 2.6.7.2: • Documentation for the financial surety instruments that are in place (e.g., form of financial surety, initial date when surety instruments were put in place, etc.) • Documentation of a financial surety review carried out by a qualified third-party consultant or suitable government review, determining financial surety to be sufficient to cover estimated costs. • Documentation in reclamation and closure plan or other materials of estimated costs for long-term water	Explanatory Note for 2.6.7.2: Re: 2.6.7.2.a, "Conservative" treatment costs estimates should be based on maximum possible mine-related contaminant concentrations, or the highest observed concentrations in relevant mine waters during mine operation. A proven treatment technology, e.g. mechanical water treatment, should be proposed for cost analysis. Less-proven technologies, e.g. most passive biologic treatment systems, should not be considered for post-closure financial surety purposes until their effectiveness on site has been demonstrated. Re: 2.6.7.2.b, IRMA Water Quality Criteria are found in Chapter 4.2, Tables 3.1a to h. Alternatively, the mine may meet baseline water quality or background water quality values as per Chapter 4.2, requirement 4.2.2.3.

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treatment is initiated, sufficient funding shall be established in full for long-term water treatment and for conducting post-closure monitoring and maintenance for as long as IRMA Water Quality Criteria are predicted to be exceeded.[233]	carried out conservative calculation of cost of treatment technology), likely length of time monitoring will be needed, and cost to carry out that monitoring. Confirm that financial security has been established in that amount.	treatment (and assumptions, basis for calculations, etc.).	
2.6.7.3. The post-closure financial surety shall be recalculated and reviewed by an independent analyst at the same time as the reclamation financial surety.	For 2.6.7.3: Confirm that both the reclamation and post-closure financial sureties are recalculated at least every 5 years, as required by this chapter (See 2.6.4.2.b), and that all recalculations are reviewed by independent analysts.	For 2.6.7.3: • Documentation of credentials of independent analyst. • Documentation of most recent financial surety review carried out by a qualified third-party consultant or suitable government reviewer.	Explanatory Note for 2.6.7.3: Independent analysis should be carried out by a registered professional engineer. Government agency review is also acceptable if the agency has a registered professional engineer that has placed her or his credential on the review document. The frequency of the review will be at least every five years (see Section 2.6.2.4)
2.6.7.4. Long-term Net Present Value (NPV) calculations utilized to estimate the value of any financial surety shall use conservative assumptions, including: a. A real interest rate of 3% or less;[234] unless the entity holding the financial surety can document that a higher long-term real interest rate can be achieved; and b. NPV calculation will be carried out until the difference in the NPV between the last two years in the	For 2.6.7.4: Review financial surety calculations to confirm that conservation assumptions have been made in the calculations.	For 2.6.7.4: • The audit record should include the post-closure cost estimate including the detailed long-term costs and showing the Real Interest Rate and NPV calculations.	Explanatory Note for 2.6.7.4: Re: 2.6.7.4.a, "real interest rate" is the difference between the rate of return (i.e. interest rate) and inflation. This is sometimes called a discount rate, or an interest rate that has been adjusted to remove the effects of inflation to reflect the real cost of funds to the borrower, and the real yield to the lender). The Real Interest Rate is also referred to as the Net Discounted Rate of Return (NDROR) in economics. A 3% real interest rate is a generally accepted conservative assumption for NPV calculations. 2.6.7.4.b, most jurisdictions require that the basis of NPV is long-term costs be carried out to 100-years, and in some cases up to 500-years. IRMA's approach is to carry out the calculation until the NPV for two years in the calculation is US$10 or less. In most cases this will require setting up a

[233] IRMA criteria are found in Chapter 4.2, Tables 3.1a to h. Alternatively, the mine may meet baseline or background water quality values as per Chapter 4.2, requirement 4.2.2.3..

[234] Real Interest Rate – the difference between the rate of return and inflation (An interest rate that has been adjusted to remove the effects of inflation to reflect the real cost of funds to the borrower, and the real yield to the lender). A 3% real interest rate is a realistic but conservative assumption for NPV calculations.

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calculations is US $10.00 or less (or its equivalent in other currencies).		cost estimate and corresponding calculation that goes out to 500-years. If the estimated costs exceed costs required by the competent authority / regulations, the operating company can provide the additional financial security providing a temporary financial surety, like a letter of credit, while the mine is operating, until sufficient cash or equivalent can be placed in a fund to guarantee post-closure payment.

NOTES

There is a great deal of literature available on reclamation planning, and these sources provide the necessary detail to guide such planning.[235] Details on how to calculate financial sureties and different forms of financial surety are also available.[236] IRMA auditors should be familiar with the guidance included in these sources, assisted by an IRMA guidance materials, and their audits of the reclamation and closure plans and financial sureties will reflect this knowledge. This is why there isn't more prescriptive detail on reclamation plans and financial sureties in the IRMA Standard. It will be up to IRMA to monitor whether the intent of the IRMA Standard is being met in the field, and if it is not, then changes to the standard will be made.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	Some host countries may have laws relating to the reclamation and closure of mines. As per Chapter 1.1, if host country laws related to reclamation and closure exist, a company is required to abide by those laws. However, if IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to violate host country law.
1.2—Community and Stakeholder Engagement	Engagement with stakeholders during reclamation and closure, including prior to and during the risk assessment of long-term water treatment options (2.6.7.1), shall conform to the requirements in Chapter 1.2. The need for meaningful stakeholder engagement is found in requirement 1.2.2.2. Criterion 1.2.3 is important to ensure that stakeholders have the capacity to fully engage in the review of financial surety information and reclamation and closure plans. Also, 1.2.4.2 ensures that communications and information are in formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely, culturally appropriate manner. The disclosure requirements in 2.6.2 and 2.6.4 should conform with 1.2.4.2.

[235] E.g., ICMM. 2008. Planning for Integrated Mine Closure: Toolkit. https://www.icmm.com/website/publications/pdfs/mine-closure/310.pdf

[236] E.g., ICMM. 2005. Financial Assurance for Mine Closure and Reclamation. https://www.icmm.com/website/publications/pdfs/mine-closure/282.pdf; ICMM. 2006. Financial Assurance for Mine Closure and Reclamation: Guidance Paper. https://www.icmm.com/website/publications/pdfs/mine-closure/23.pdf; Sasoon, M. 2009. Financial Surety: Guidelines for the Implementation of Financial Surety for Mine Closure. (World Bank Group's Oil, Gas, and Mining Policy Division). pp. 7, 9, 10 and 41. http://siteresources.worldbank.org/INTOGMC/Resources/7_eifd_financial_surety.pdf; Kuipers, J. 2000. Hardrock Reclamation Bonding Practices in the Western United States. https://www.csp2.org/files/reports/Hardrock%20Bonding%20Report.pdf; USDA. 2004. Training Guide for Reclamation Bond Estimation and Administration. https://www.fs.fed.us/geology/bond_guide_042004.pdf

Cross References to Other Chapters	
1.4—Complaints and Grievance Mechanism and Access to Remedy	As per Chapter 1.4, the company is required to have an operational-level grievance mechanism available to stakeholders, including procedures for filing complaints, and having complaints recorded, investigated and resolved in a timely manner. Stakeholders who have complaints related to an operating company's reclamation and closure planning or implementation, including complaints related to reclamation activities from the exploration phase, can raise complaints through the company's operational-level grievance mechanism.
2.1—Environmental and Social Impact Assessment and Management	A reclamation plan and an estimated financial assurance for mine closure and post-closure are required as an integral part of an ESIA. If potential impacts related to long-term water quality are significant, the operating company shall provide affected stakeholders with the opportunity to propose independent experts to collaborate with the company on the company on the design and implementation of its monitoring program; and shall facilitate the independent monitoring of key impact indicators where this would not interfere with the safe operation of the project as per 2.1.8.
2.2—Free, Prior and Informed Consent	If there are indigenous peoples potentially impacted by long-term water treatment (2.6.7.1), that treatment shall not take place without the free, prior and informed consent of indigenous peoples.
2.3—Obtaining Community Support and Delivering Benefits	Chapter 2.3 includes the requirement (2.3.3.4) for a company to undertake efforts to ensure that its contributions to some community development initiatives and other can be sustained after mine closure.
3.6—Artisanal and Small-Scale Mining	Chapter 2.6 requires that affected communities be involved in assessments/closure planning. If present in the area, Chapter 3.6 requires that ASM entities be involved in mine closure planning (see 3.6.2.1.b), as they should be considered members of affected communities.
4.1— Waste and Materials Management	See Chapter 4.1 for requirements related to pit and underground backfill, liners, and lake-riverine-ocean waste disposal, which all have relevance to reclamation and closure. Also, some of the information in the reclamation and closure plan (2.6.2) will be informed by or include information gathered for Chapter 4.1 (E.g., site facility information, source and pathway characterization for contaminants; source mitigation measures; and hazardous materials disposal).
4.2—Water Management	Some of the information in the reclamation and closure plan (2.6.2) will be informed by or include information gathered for Chapter 4.2 (E.g., source and pathway characterization for contaminants; source mitigation measures. Water Quality Criteria in Chapter 4.2 will apply during mine closure and post-closure. Also, in the determination of whether or not to backfill pits, the predicted quality of pit water should be compared to IRMA Water Quality Criteria.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Acid Rock Drainage (ARD)

The drainage produced when rocks with sulfide or other acid-producing minerals are under oxidizing conditions (exposed to water and oxygen) and generate an acidic water stream. Acid rock drainage generally contains elevated concentrations of metals, sulfate, and other constituents and has a pH < 6. The terms acid mine drainage and acid and metalliferous drainage (both AMD) are sometimes used as synonyms for ARD.

Affected Community

A community that is subject to risks or impacts from a project.

Background Water Quality

Established after mining has commenced, it is the water quality in a similarly mineralized area outside of the mine's influence (e.g., surface water quality upstream of the mine site or upgradient for groundwater).

Biodiversity

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Confidential Business Information

Material that contains trade secrets or commercial or financial information that has been claimed as confidential by its source. The information must be secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; it must have commercial value because it is secret; and it must have been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.

Conservation Values

The ecological, biological, geomorphological, geological, cultural, spiritual, scenic or amenity values, features, processes or attributes that are being conserved.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Contractor

An individual, company, or other legal entity that carries out duties related to a mining project that are subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Corporate Owner(s)

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Ecosystem Services

The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Exploration Activity

Any landscape disturbance by a mining company to ascertain whether a deposit is economically viable, including drilling, trenching and road construction.

Facility

The term facility is widely utilized in this Standard, and for the most part is associated with a specific type of facility that is that is self-described (e.g., stormwater facilities, waste rock facilities, tailings facility, etc.). However, in a number of instances the term facility is used more generically. For example, "mine facilities" include any facilities owned by the operating company that are located on the mine-lease property, and "associated facilities" are facilities essential to and developed because of the mining project. See "Associated Facility" elsewhere in the Glossary.

Financial Surety

Reclamation Financial Surety – a financial surety instrument that covers all costs associated with mine closure, at a minimum for the cost of existing and anticipated/predicted mine facilities for the subsequent 12 months, and which shall be independently guaranteed, reliable, and readily liquid.

Post-Closure Financial Surety – a trust fund or other similar suitable interest accruing cash or equivalent long-term security, held by a governmental or other entity with the ability to accept financial responsibility for the site over the long-term, for all long-term activities, including: post-closure site monitoring and maintenance; and, water treatment operations.

Free, Prior and Informed Consent (FPIC)

Consent based on: engagement that is free from external manipulation, coercion and intimidation; notification, sufficiently in advance of commencement of any activities, that consent will be sought; full disclosure of information regarding all aspects of a proposed project or activity in a manner that is accessible and understandable to the people whose consent is being sought; acknowledgment that the people whose consent is being sought can approve or reject a project or activity, and that the entities seeking consent will abide by the decision.

Holding Costs

The costs that would be incurred by a regulatory agency immediately after bankruptcy of a company responsible for maintaining a mine site, and before reclamation begins. Examples of such costs include continuing water treatment, routine maintenance, and the other operating costs involved with holding a piece of severely disturbed land.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Landscape

A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area.

Long-Term Water Treatment

Long-term water treatment is defined as any water treatment that requires active water treatment after mine closure. After mine closure long-term water treatment is assumed to be required until it can be empirically demonstrated that water treatment is no longer needed.

Metals Leaching

The extraction of soluble metals by percolating solvents. Leaching may be natural or induced. Primary mineral weathering commonly accelerates metal dissolution and removal in mine site drainage. Metals leaching can also be referred to as "neutral" leaching, or "contaminant" leaching.

Mine Closure

A period of time when ore-extracting and processing activities of a mine have ceased, and final decommissioning and mine reclamation are occurring. It typically includes pre-closure (detailed closure design and planning), closure (actual activities of closure of mine workings and construction/decommissioning) and post-closure (mainly long-term reclamation, monitoring, and treatment) periods, each with its own specific activities.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mitigation

Actions taken to reduce the likelihood of a certain adverse impact occurring.

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operational-Level Grievance Mechanism

A formalized means through which individuals or groups can raise concerns about the impact an enterprise has on them —including, but not exclusively, on their human rights— and can seek remedy.

Pit Lake

Lake formed in the site of a mine pit when mine dewatering pumpage ceases.

Post-Closure

The period after the reclamation surety holder declares the activities required by the reclamation and closure plan are complete; any significant objections raised during the public comment period on the final release of the financial surety have been resolved; and the reclamation surety has been returned to the operator, or it has been converted to a post-closure trust fund or equivalent (i.e. if there is a need to fund long-term management and monitoring of the site). This phase continues until final sign-off and relinquishment can be obtained from the regulator and stakeholders.

Practicable

Giving equal weight to environmental, social, and economic benefits and costs. This is not a technical definition. It is the discussion between the affected parties on the balance between these interrelated costs and benefits that is important.

Process Water

Water that is used to process ore using hydrometallurgical extraction techniques. It commonly contains process chemicals.

Restoration

Measures taken to assist the recovery of ecosystems that have been degraded, damaged or destroyed. Involves altering an area in such a way as to re-establish an ecosystem's composition, structure and function, usually bringing it back to its original (pre-disturbance) state or to a healthy state close to the original.

Revegetation

Revegetation is the task of reseeding or replanting forbs, grasses, legumes and other plants (sometimes including shrubs and trees) so as to provide cover to decrease erosion, provide for soil stability and provide forage for wildlife or livestock or to otherwise return the site to a useable state.

Stakeholders

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Stormwater

Industrial stormwater (also known as contact water) is runoff of rainfall, snow or snowmelt that has contacted mined materials (e.g., waste rock, tailings, mine openings, mine processing facilities and associated mining roads). Non-industrial stormwater (also known as non-contact water) is runoff of rainfall, snow or snowmelt from land and impervious surface areas such as non-mining related roads that do not contain mined materials.

Subsidence

Subsidence is a sinking of the ground surface that results in a fracture of the surface, which could change surface water hydrology, or pose a threat to human health or property.

Water Quality Criteria

Numerical concentrations or a narrative statement recommended to support and maintain a designated water use. Criteria are based on scientific information about the effects of water pollutants on a specific water use

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

The IRMA Standard:

Requirements

Social Responsibility

Chapter 3.1—Fair Labor and Terms of Work

BACKGROUND

Responsible employers provide fair wages and respectful workplaces. However, historically, a portion of the labor force has been the subject of mistreatment such as child and forced labor, discrimination, inadequate wages, and lack of respect for workers' rights.

In 1919, the International Labour Organization (ILO) was formed to protect workers' rights. Since that time, a number of internationally recognized human rights of workers have been enumerated and incorporated into laws world-wide. These include the UN *International Bill of Human Rights*, and the ILO *Declaration on Fundamental Principles and Rights at Work* and eight core ILO conventions that cover: freedom of association and the right to collective bargaining; the elimination of all forms of forced or compulsory labor; the abolition of child labor; and the elimination of discrimination in respect of employment and occupation. In addition to acknowledging the need to safeguard those human rights of workers, companies are increasingly recognizing the need to provide working hours and wages that promote a high quality of life for workers and their families.

The fundamental principles and rights of workers have been incorporated into various voluntary standards to protect labor rights and ensure fair working conditions (e.g., International Finance Corporation Performance Standard 2; Social Accountability International SA8000; Global Reporting Initiative). Within any responsible labor standard and verification system, there is an inextricable link between the role of workers and the practice of freedom of association. Workers with first-hand knowledge of environmental, human rights and labor practices must have the right to participate in the verification process without fear of employer retribution. This can be best guaranteed by workers having the right to freely establish or join trade unions of their choosing without employer interference and through protections provided in collective bargaining agreements.

TERMS USED IN THIS CHAPTER

Child Labor ■ Company Union ■ Consultation ■ Contractors ■ Corporate Owner ■ Forced Labor ■ Grievance ■ Grievance Mechanism ■ Hazardous Work ■ Host Country Law ■ Indigenous Peoples ■ Living Wage ■ Mining Project ■ Mining-Related Activities ■ Operating Company ■ Practicable ■ Remediation/Remedy ■ Retrenchment ■ Stakeholders ■ Suppliers ■ Trafficking in Persons ■ Worker ■ Workers' Organizations ■ Workers' Representative ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To maintain or enhance the social and economic wellbeing of mine workers and respect internationally recognized workers' rights.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is applicable to all mines applying for IRMA certification. IRMA recognizes that some of the requirements of this chapter may be included in a collective bargaining agreement (CBA). If such an agreement is in place, the operating company will not be expected to meet the IRMA requirements that overlap with those in the CBA.

As per IRMA Chapter 1.1, the operating company is responsible for ensuring that its contractors and subcontractors involved in mining-related activities comply with the IRMA Standard.

CRITICAL REQUIREMENTS IN THIS CHAPTER

Workers' freedom of association is respected (3.1.2.1).

Measures are in place to prevent and address harassment, intimidation, and/or exploitation, especially in regard to female workers (3.1.3.3).

Workers have access to operational-level mechanisms that allows them to raise and seek resolution or remedy for complaints and grievances that may occur in relation to workplace-related issues (3.1.5.1).

No children (i.e., persons under the age of 18) are employed to do hazardous work (3.1.7.2) and no children under the age of 15 are employed to do non-hazardous work (3.1.7.3).

There is no forced labor at the mine site or used by the operating company (3.1.8.1).

Fair Labor and Terms of Work Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.1.1. Human Resources Policy 3.1.1.1. The operating company[237] shall adopt and implement human resources policies and procedures applicable to the mining project that set out its approach to managing workers in a manner that is consistent with the requirements of this chapter and national (i.e., host country) law.	**Auditing Note for Chapter 3.1:** Throughout this chapter verification relies heavily on interviews with operating company management that have human resources responsibilities as well as workers and workers' representatives (may include labor unions, if they are active at the site). Auditors shall be able to interview workers and their representatives without management present. Verification will also involve first-hand observations of the workplace and review of company documentation by auditors. **For 3.1.1.1:** Confirm, through interviews with relevant operating company management and through document reviews, that the operating company (or its corporate owner) has human resources policies and procedures in place that are consistent with national laws/host country laws and this chapter's requirements.	**For 3.1.1.1:** • Human resources policies and procedures that include the elements in this chapter (i.e., Workers Organizations and Agreements, Non-Discrimination and Equal Opportunity, Retrenchment, Grievance Mechanism, Disciplinary Procedures, Child Labor, Forced Labor, Wages and Working Hours). • Documented evidence of implementation of the human resources policies and procedures. • Proof of communication of policies and procedures to workers and management. • Employee Handbook.	**Explanatory Note for 3.1.1.1:** IRMA recognizes that for larger companies, human resources policies may be developed at the corporate owner level. In these cases, IRMA does not expect the operating company to have developed its own policies, but it will be expected to demonstrate that the mining project is operating in compliance with the corporate policies (e.g., mine-site-level management understand the corporate policies and have integrated them into the site's procedures).
3.1.2. Workers' Organizations and Agreements 3.1.2.1. (Critical Requirement) The operating company shall respect the	**Auditing Note for 3.1.2:** Relevant documentation for this criterion may include: • Policies and procedures (e.g. hiring) on human resources related matters	**For 3.1.2.1:** • Freedom of association policy (or equivalent) that allows employees to exercise their right to freedom of association.	**Explanatory Note for 3.1.2.1:** The operating company can demonstrate this through a policy or public statement that the company respects workers' rights to freedom of association and collective bargaining. Such a statement may be in a standalone policy, e.g., a Freedom of Association policy, or integrated into a larger Employment policy, or even the company's Human Rights policy, as the rights to Freedom of

[237] IRMA recognizes that for larger companies, human resources policies may be developed at the corporate level. In these cases, IRMA does not expect the operating company to have developed its own policies, but it will be expected to demonstrate that the mine site is operating in compliance with the corporate policies (e.g., site-level management understand the corporate policies, and have integrated them into the mine site's procedures).

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
rights of workers to freedom of association and collective bargaining.	• Employee Handbook • Collective Bargaining Agreement • Written records of the employment terms • Written employment contracts, if applicable • Communications (memos, etc.) with workers • Job descriptions • Contracts with recruitment agencies • Internal audit reports • Worker grievance records • Disciplinary records • Government inspection reports • Media or other reports Relevant interviewees for this criterion include: relevant operating company management (may include human resources, security); workers' representatives; workers. For 3.1.2.1: Review regulatory documents and media or other reports related to workers' organizations, collective bargaining, strikes and interactions between workers' organizations and the operating company. Confirm, through interviews with workers' representatives and company representatives, that workers' rights are	• Employment contract that allows employees to exercise their right to freedom of association. • Records of communication/training of employees on freedom of association policy. • Evidence that the operating company informs workers that they are free to join a workers' organization of their choosing without any negative consequences or retaliation from the operating company (see 3.1.2.6). • Collective bargaining agreement or equivalent where applicable. • Records of worker grievances (e.g., complaints or lack thereof regarding freedom of association or collective bargaining), and any company follow-up.	Association and Collective Bargaining are core labor rights that are also viewed as being human rights.[238] If no policy exists, the operating company may demonstrate, through its practices that it respects human rights. This would be done by meeting the remaining requirements in criterion 3.1.2 which are all meant to ensure that the rights to freedom of association and collective bargaining are being implemented.

[238] International Labour Organization website: "Freedom of Association." http://www.ilo.org/empent/areas/business-helpdesk/WCMS_DOC_ENT_HLP_FOA_EN/lang--en/index.htm and Ruggie, J. 2011. Guiding Principles on Business and Human Rights. p. 14. http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	being respected by the company. If collective bargaining agreements exist, confirm with workers' representatives that the agreement was freely negotiated, i.e., not negotiated as a result of coercion, intimidation or duress.		
3.1.2.2. Where national law substantially restricts workers' organizations, the operating company shall not restrict workers from developing alternative mechanisms to express their grievances and protect their rights regarding working conditions and terms of employment. The operating company shall not seek to influence or control these mechanisms.	For 3.1.2.2: If relevant, confirm that workers are able to develop mechanisms to express their grievances (see also 3.1.5) and protect their rights.	For 3.1.2.2: • A policy that allows employees to develop alternative mechanisms to express their grievances and protect their rights regarding working conditions and terms of employment. • Employment contracts or Employee Handbook that allow employees to develop alternative mechanisms to express their grievances and protect their rights regarding working conditions and terms of employment. • Training records/evidence of communication to employees that they are allowed to develop alternative mechanisms to express their grievances and protect their rights regarding working conditions and terms of employment. • Documented evidence that a workers' organization(s) exists (e.g., evidence of the worker representative election or equivalent), and that there are opportunities for workers to express their grievances and protect their rights regarding working conditions and terms of	Explanatory Note for 3.1.2.2: According to the IFC: "In a number of countries, or in particular sectors, workers' freedom of association and/or collective bargaining is substantially restricted by law. This may occur in a number of ways. In some countries unions are prohibited, while in others, workers' organizations may exist but are controlled or subject to approval by the state. There are some instances where either particular categories of workers (e.g., non-nationals) or workers in particular sectors, such as export processing zones, are excluded from the right to associate freely and bargain collectively. In any of these circumstances, the client should engage with workers to address issues relating to their working conditions and terms of employment. Methods to enable alternative mechanisms include but are not limited to recognizing worker committees, and allowing workers to choose their own representatives for dialogue and negotiation over terms and conditions of employment with the employer in a manner that does not contravene national law."[239] Similarly, the Ethical Trading Initiative says that, "Where rights to freedom of association and collective bargaining are restricted under law (for example in China, Jordan, Vietnam and other countries), operating companies should facilitate and not hinder the development of parallel means for independent and free association and bargaining. This may include the facilitation of free choice by workers to elect their own workplace representatives; education of workforce on worker representation framework prior to elections; formation of issues

[239] International Finance Corporation (IFC). 2012. Performance Standard 2: Labor and Working Conditions. Guidance Note. GN39. https://www.ifc.org/wps/wcm/connect/0d7a4480498007faa1f7f3336b93d75f/Updated_GN2-2012.pdf?MOD=AJPERES

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
		employment. • Records of complaints and grievances (e.g., complaints or lack thereof related to company interference in the workers' organizations), any company follow-up.	committees; and external independent training for elected worker representatives."[240]
3.1.2.3. The operating company shall engage with workers' representatives and workers' organizations and provide them with information needed for meaningful negotiation in a timely manner.	For 3.1.2.3: Confirm with workers' representatives that they have the information needed for meaningful negotiation, with the company. Interview relevant operating company staff (e.g., human resources personnel, other directly engaged in collective bargaining or other discussions with workers' representatives) to determine what materials were provided prior to discussions/negotiations.	For 3.1.2.3: • Minutes or documents of meetings between mine management and workers' representatives and workers' organizations. • Records of agreements with workers representatives and workers' organizations. • Collective bargaining agreement or equivalent where applicable. • Documentary evidence of scheduled meetings with employee representatives and workers' organizations. • Documented evidence (e.g., communications) that the operating company provides workers' representatives and workers' organizations with information needed for meaningful negotiation in a timely manner. • Records of complaints or grievances, or lack thereof, filed by workers' representatives related to lack of information or failure to provide information in a timely manner, and any company follow-up.	Explanatory Note for 3.1.2.3: "In a timely manner" will vary based on the issues being discussed. The operating company and workers' representatives should agree on the timeframes for receipt of information that is critical to any negotiations. The frequency of engagement should also be agreed by the operating company and workers' representatives.

[240] Ethical Trading Initiative (ETI). 2013. Freedom of Association in Company Supply Chains: A practical guide. p. 23. https://ethicaltrade.org/sites/default/files/shared_resources/foa_in_company_supply_chains.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.1.2.4. Workers' representatives shall have access to facilities needed to carry out their functions in the workplace. This includes access to designated non-work areas during organizing efforts for the purposes of communicating with workers, as well as accommodations for workers' representatives at fly-in/fly-out or other remotely located mine sites, where relevant.	For 3.1.2.4: Confirm with workers' representatives that they have access to facilities and accommodations needed to carry out their functions in the workplace.	For 3.1.2.4: • Evidence of access to facilities needed to carry out their functions in the workplace by worker representatives. • Meeting minutes between mine management and worker representatives. • Collective bargaining agreement or equivalent where applicable. • Records of complaints or grievances, or lack thereof, filed by workers' representatives related to lack of access to facilities necessary to do their work, and any company follow-up.	Explanatory Note for 3.1.2.4: Both the International Labour Organization (ILO) and the International Finance Corporation (IFC) have guidance on this point. ILO Convention 135, which concerns the protection and facilities to be afforded workers' representatives in an undertaking, came into force in 1973. The convention includes the provision that: "Such facilities in the undertaking shall be afforded to workers' representatives as may be appropriate in order to enable them to carry out their functions promptly and efficiently."[241] According to IFC: "Clients [i.e., companies] should also provide access for representatives of workers' organizations to the workers they represent. Workers should be free to meet and discuss workplace issues on the premises during scheduled breaks, and before and after work. Furthermore, workers should be allowed to choose representatives to speak with management, inspect working conditions in an appropriate manner and in a way that does not disrupt productivity, and carry out other organizing activities."[242]
3.1.2.5. The operating company shall remain neutral in any legitimate unionizing or worker-organizing effort; shall not produce or distribute material meant to disparage legitimate trade unions; shall not establish or support a company union for the purpose of undermining legitimate worker representation; and shall not impose	For 3.1.2.5: Confirm that no unions have been established or supported by the company that undermine legitimate worker representation; the company has not disparaged legitimate trade unions; or discriminated against workers' representatives including during legal strikes.	For 3.1.2.5: • Operating company freedom of association policy (or equivalent) that allows workers to exercise their right to freedom of association. • Meeting minutes between mine management and workers' representatives. • Collective bargaining agreement or equivalent where applicable.	Explanatory Note for 3.1.2.5: "Remain neutral" in a legitimate worker organizing effort is the same as not interfering. According to ILO: "Interference is any act designed to promote the establishment of workers' organizations under the domination of employers or employers' organizations, or to support workers' organizations by financial or other means, with the object of placing them under the control of employers or their organizations. ILO Convention No. 98 concerning the Right to Organize and Collective Bargaining includes protection against anti-union discrimination and interference.

[241] International Labour Organization (ILO). 1973. Workers' Representatives Convention, 1971 (No. 135). Article 2. https://www.ilo.org/dyn/normlex/en/f?p=1000:12100:::NO:12100:P12100_INSTRUMENT_ID:312280

[242] International Finance Corporation (IFC). 2012. Performance Standard 2: Labor and Working Conditions. Guidance Note. GN38. https://www.ifc.org/wps/wcm/connect/0d7a4480498007faa1f7f3336b93d75f/Updated_GN2-2012.pdf?MOD=AJPERES

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
sanctions on workers' organizations participating in a legal strike.[243]		• Records of complaints or grievances, or lack thereof, filed by workers or their representatives related to company interference in worker organizing efforts or sanctions on workers' organizations during legal strikes, and any company follow-up.	Protection from employers' interference includes all stages of the employment relationship, from hiring to termination. . . Anti-union discrimination includes any action that makes a worker's employment dependent on giving up union membership or not joining a union. It also includes actions that cause the dismissal or prejudice a worker because of union membership or participation in union activities." (ILO website) A company union is a workers' organization that is dominated or controlled by an employer. According to the Ethical Trading Initiative some companies arrange the appearance without the substance of freedom of association by sponsoring, controlling and often financing a worker association. Such associations – often called 'yellow unions', 'white unions' (in Latin America), 'pocket unions' or 'paper unions' – may look like representational structures but are not based on employees' free choice.[244] Company unions are contrary to international labor law.[245] Nothing in this requirement shall remove the right of an operating company to seek enforcement action when workers, workers' representatives or workers' organizations are operating in contravention to laws or regulations.
3.1.2.6. Upon employment, the operating company shall: a. Inform workers of their rights under national labor and employment law; b. Inform workers that they are free to join a workers' organization of their choosing without any negative	For 3.1.2.6.a and b: Confirm that employees have been provided with information on their labor rights (review documentation), and that they are free to join a trade union/workers' organization without any negative consequences from the company.	For 3.1.2.6: • Evidence that the operating company informs workers of their rights when they are hired (e.g., materials provided to workers upon hiring, Employees Handbook) and that they are free to join a workers' organization of their choosing without any negative consequences or	Explanatory Note for 3.1.2.6: There may be workers of different ethnicities who speak different languages, and some workers may not be literate. Companies need to ensure that relevant information is conveyed to workers in a manner that they understand. According to IFC: "The working conditions and terms of employment should be communicated to the workers orally or in writing. . . Where there is a

[243] Nothing in this requirement shall remove the right of an operating company to seek enforcement action when workers, workers' representatives or workers' organizations are operating in contravention to laws or regulations.

[244] Ethical Trading Initiative (ETI). 2013. Freedom of Association in Company Supply Chains: A practical guide. p. 6. https://ethicaltrade.org/sites/default/files/shared_resources/foa_in_company_supply_chains.pdf

[245] ". . . acts which are designed to promote the establishment of workers' organisations under the domination of employers or employers' organisations, or to support workers' organisations by financial or other means, with the object of placing such organisations under the control of employers or employers' organisations, shall be deemed to constitute acts of interference." (Source: Article 2 of Convention 98, International Labour Organisation Right to Organise and Collective Bargaining Convention, 1949 (No. 98). http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312243)

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
consequences or retaliation from the operating company; c. If relevant, inform workers of their rights under any applicable collective agreement; and d. If relevant, provide workers with a copy of the collective agreement and the contact information for the appropriate trade union (or workers' organization) representative.	**For 3.1.2.6.c and d:** The requirements are relevant if there is a collective bargaining agreement in place. If there is one, confirm that workers have been informed of its existence and provided with a copy of the agreement and contact information for the trade union representative.	retaliation from the operating company. • Freedom of association policy (or equivalent) that allows employees to exercise their right to freedom of association. • Employment contract that allows employees to exercise their right to freedom of association. • Evidence of communication/training of employees on freedom of association policy. • Collective bargaining agreement or equivalent where applicable. • Records of worker grievances (e.g., complaints or lack thereof regarding freedom of association or collective bargaining), and any company follow-up.	collective agreement that applies to the workers, this should be communicated to them as well. . . Documentation should be clear, easily understandable, and accurate." (IFC, 2012, GN16 and GN17) Re: 3.1.2.6.c and d, these sub-requirements are relevant only if there is a collective bargaining agreement in place.
3.1.2.7. The operating company shall not discriminate or retaliate against workers who participate, or seek to participate, in legitimate workers' organizations or in a legal strike.[246]	**For 3.1.2.7:** Confirm that the operating company has not discouraged workers from electing workers' representatives, joining workers' organizations or bargaining collectively, or retaliated against those who have participated in any of the above.	**For 3.1.2.7:** • Freedom of association policy, or its equivalent, that allows workers to exercise their right to freedom of association without any negative consequences or retaliation from the operating company. • Records of communications with workers and/or trainings on the freedom of association policy, informing workers that there will without any negative consequences to workers or retaliation from the operating company if workers	**Explanatory Note for 3.1.2.7:** This requirement does not remove the right of an operating company to seek enforcement action when workers, workers' representatives or workers' organizations are operating in contravention to laws or regulations. According to ILO: "Anti-union discrimination includes any action that makes a worker's employment dependent on giving up union membership or not joining a union. It also includes actions that cause the dismissal or prejudice a worker because of union membership or participation in union activities."[247] The ILO Committee on Freedom of Association considers illegitimate any discriminatory act against union leaders for organizing legitimate

[246] Nothing in this requirement shall remove the right of an operating company to seek enforcement action when workers, workers' representatives or workers' organizations are operating in contravention to laws or regulations.

[247] International Labour Organization (ILO) website: "What constitutes anti-union discrimination?" https://www.ilo.org/empent/areas/business-helpdesk/faqs/WCMS_DOC_ENT_HLP_FOA_FAQ_EN/lang--en/index.htm#Q8\

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
		participate in legal strikes. • Documented evidence that the operating company does not discriminate or retaliate against workers who participate, or seek to participate, in legitimate workers' organizations or in a legal strike. • Anti-discrimination policy. • Records of agreements with workers' representatives. • Collective bargaining agreement or equivalent where applicable. • Recruitment and dismissal procedures and records. • Records of worker grievances (e.g., complaints or lack thereof regarding discrimination or retaliation in relation to participation in workers' organizations or participation in legal strikes), and any company follow-up.	strikes; such protection also covers trade union members and workers who participate in strikes. . . The use of extremely serious measures, such as dismissal of workers for having participated in a strike and refusal to re-employ them, implies a serious risk of abuse and constitutes a violation of freedom of association.[248]
3.1.2.8. Where the operating company is a party to a collective bargaining agreement with a workers' organization, the terms of the agreement shall be respected. Where such an agreement does not exist, or an agreement does not address specific requirements in this chapter, the operating company shall meet the relevant IRMA requirements.	For 3.1.2.8: If a collective bargaining agreement (CBA) is in place, review the agreement and determine its scope and if it does not cover all of the IRMA requirements, ensure that those requirements are verified. Confirm that terms of CBA are being upheld.	For 3.1.2.8: • Collective bargaining agreement or equivalent where applicable. • Evidence of implementation of the agreements in the collective bargaining agreement/agreements with workers' representatives. • Records of worker grievances (e.g., complaints or lack thereof regarding breach of collective bargaining agreements), and any company follow-up.	

[248] Gernigon et al. 1998. ILO Principles Concerning the Right to Strike. pp. 37, 38. (International Labour Organization. Geneva). http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/publication/wcms_087987.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.1.2.9. The operating company shall not make use of short-term contracts or other measures to undermine a collective bargaining agreement or worker organizing effort, or to avoid or reduce obligations to workers under applicable labor and social security laws and regulations.	For 3.1.2.9: Determine if the company uses short-term contracts. Interview workers' representatives to confirm that if used, these short-term contracts are not used so frequently that they enable the mine to avoid legal obligations to employees or undermine a CBA or worker organizing efforts.	For 3.1.2.9: • Recruitment and dismissal procedures and records. Employment contracts (e.g., permanent employees, contractors and temporary workers). • Collective bargaining agreement (CBA) or equivalent where applicable. • Records of worker grievances (e.g., complaints or lack thereof related to mis-use of short-term contracts or other measures to undermine CBAs or avoid labour and social security obligations), and any company follow-up. • Records or documentation demonstrating compliance with labor and social security laws and regulations. • Records of worker grievances (e.g., complaints or lack thereof related to hiring of replacement workers to prevent, undermine or break up a legal strike), and any company follow-up. • Employment contracts.	Explanatory Note for 3.1.2.9: According to the Responsible Jewellery Council (RJC): "The employment relationship is the legal link between employers and employees. It exists when a person performs work or services under certain conditions in return for remuneration. The corresponding legal instrument is a contract of employment, which may be expressed or implied, in writing or verbal. . . It is also the main vehicle through which workers gain access to the rights and benefits associated with employment in the areas of labour law and social security. . . The traditional employment relationship used to be based on full time work with a single employer, under a contract of employment for unlimited duration, with protection against unjustified dismissal. Over the last thirty years, new patterns of employment have emerged in the global economy. These include an increasing use of fixed term contracts and contractual arrangements where workers are not strictly employees. Some workers under these arrangements may have weak protection under labour or social security law, particularly migrant workers and home-workers. Exploitative working arrangements have also emerged, such as false apprenticeship schemes where workers are on lower wages during a 'training period' but there is no real intent to impart skills or provide regular or ongoing employment once that period ends. Home-working, successive short-term contracts, apprenticeships, sub-contracting and labour-only contracting can all be legitimately used within employment relationships. However these kinds of arrangements can present higher risks that legal obligations to workers are not being upheld. Therefore the RJC Code of Practices does not unduly restrict general use of these working arrangements, but does require that they not be used as a means to avoid labour and social security obligations."[249] Similar to RJC, IRMA does not ban the use of short-term or other contracts, but requires that they not be used to either undermine a

[249] Responsible Jewellery Council. 2013. Standards Guidance. p. 73. https://www.responsiblejewellery.com/files/RJC_Standards_Guidance_2013_eng.pdf

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			collective bargaining agreement or to avoid/reduce labor and social security laws and regulations.
3.1.2.10. The operating company shall not hire replacement workers in order to prevent, undermine or break up a legal strike, support a lockout, or avoid negotiating in good faith. The company may, however, hire replacement workers to ensure that critical maintenance, health and safety, and environmental control measures are maintained during a legal strike.	For 3.1.2.10: If relevant (i.e., if replacement workers have ever been hired), confirm that the replacement workers were not hired to prevent, undermine or break up a legal strike (replacement workers okay if hired to carry out work that if not continued could endanger health, safety, or environment).	For 3.1.2.10: • Recruitment and dismissal procedures and records.	Explanatory Note for 3.1.2.10: According to the International Labour Organization (ILO): "National legislation frequently places some form of limitation on the right to strike in certain activities, usually defined as essential services. In this respect, the ILO's supervisory bodies have taken the position that it is admissible to limit or prohibit the right to strike in essential services, defined as those the interruption of which would endanger the life, personal safety or health of the whole or part of the population."[250]
3.1.3. Non-Discrimination and Equal Opportunity 3.1.3.1. The operating company shall base employment relationships on the principles of equal opportunity and fair treatment, and shall not discriminate or make employment decisions on the basis of personal characteristics unrelated to inherent job requirements.	Auditing Note for 3.1.3: Relevant documentation for this criterion may include: • Policies and procedures (e.g. recruitment, promotion, remuneration, professional development, termination) • Job advertisements • Job descriptions and wage rates • New employee selection criteria • Hiring records from recruitment process • Employment contracts • Payroll, time and training records • Performance reviews, including disciplinary and promotion records; • Grievance records	For 3.1.3.1: • Employment or other policy that contains information on anti-discrimination, equal opportunity and fair treatment in employment. • Recruitment and dismissal procedures and records. • Employment contracts or agreements, including with recruitment agencies. • Performance reviews. • Records of worker grievances (e.g., complaints or lack thereof related to discrimination based on personal characteristics unrelated to the job requirements), and any company follow-up.	Explanatory Note for 3.1.3.1: "Employment relationships" include: recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices. "Personal characteristics unrelated to inherent job requirements" may include: gender, race, nationality, ethnicity, social and indigenous origin, religion or belief, disability, HIV status, age, sexual orientation, marital status, parental status, worker status (e.g., local vs. migrant workers, temporary versus permanent workers), political affiliation, union membership and veteran status. There are a number of International Labor Organization conventions that are relevant in relation to non-discrimination and equality of opportunity and treatment.[251] These include, but are not limited to: • ILO Convention 100, **Equal Remuneration Convention**, 1951, outlines principles and requirements related to the principle of equal

[250] International Labour Organization (ILO). 2001. Labour Legislation Guidelines. Chapter V: Substantive provisions of labour legislation - the right to strike. http://www.ilo.org/legacy/english/dialogue/ifpdial/llg/noframes/ch5.htm

[251] International Labour Organization (ILO) website: "International Labour Standards on Equality of Opportunity and Treatment." https://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/equality-of-opportunity-and-treatment/lang--en/index.htm

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	• Termination records Relevant interviewees for this criterion may include: operating company management (including human resources and security); workers' representatives; and workers. For 3.1.3.1: Review relevant documentation to determine how the operating company integrates the principles of equal opportunity and fair treatment and non-discrimination into its hiring and recruitment, compensation, working conditions and terms of employment and other employment relationships. Through interviews, confirm that such procedures or practices have been implemented.		remuneration for female and male workers for work of equal value. The principle is that rates of remuneration be established without discrimination based on the gender of the worker.[252] • ILO Convention 111, **Discrimination (Employment and Occupation) Convention**, 1958, promotes equality of opportunity and elimination of discrimination in relation to vocational training, access to employment and in terms and conditions of employment.[253] • ILO Convention 156, **Workers with Family Responsibilities Convention**, 1981, is intended to create effective equality of opportunity and treatment for men and women workers by enabling persons with family responsibilities who are engaged or wish to engage in employment to exercise their right to do so without being subject to discrimination and, to the extent possible, without conflict between their employment and family responsibilities.[254] • ILO Convention 190, **Violence and Harassment Convention**, 2019 and Recommendation No. 206, recognizes the right of everyone to a world of work free from violence and harassment, including gender-based violence and harassment.[255]
3.1.3.2. Exceptions to 2.1.3.1 may be made with respect to hiring and recruitment in the case of: a. Targets or quotas mandated by law; b. Targets developed through local agreements for the employment of local residents, indigenous peoples, or individuals who have been historically disadvantaged; or	For 3.1.3.2: If there are some employment decisions that are based on personal characteristics unrelated to inherent job requirements, determine if 3.1.3.2.a, b or c apply. These are the only acceptable reasons why discrimination may occur in employment decisions.	For 3.1.3.2: • Employment or other policy that contains information on the operating company's approach to anti-discrimination, equal opportunity and fair treatment in employment. • Employment or other policy that contains operating company targets for training and employing individuals who have been	Explanatory Note for 3.1.3.2: Increasingly, proactive efforts are being made by mining companies to increase diversity in the workplace, and create employment opportunities for historically disadvantaged groups who may not have the education, training or skills needed to gain permanent employment at mine sites. For example, diversity targets are being set throughout all levels of some companies, from the boardroom to senior management positions, to mine workers. These targets are being set not only to demonstrate a commitment to non-discrimination, but also because

[252] ILO. 1951. Equal Remuneration Convention, 1951 (No. 100). http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C100

[253] ILO. 1958. Discrimination (Employment and Occupation) Convention, 1958 (No. 111). https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C111

[254] ILO. 1981. Workers with Family Responsibilities Convention, 1981 (No. 156). https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C156

[255] ILO. 2019. Violence and Harassment Convention, 2019 (No. 190). https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C190

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c. Operating company targets for the employment of local residents, indigenous peoples, or individuals who have been historically disadvantaged that are expressed in publicly accessible policies with explicit goals and justification for such targets.		historically disadvantaged in the mining sector, such as women, unskilled workers, indigenous peoples or others. • Agreements with communities that include targets for employment.	there is growing evidence of a correlation between increased gender diversity and improved productivity and environmental and social performance, safer work environments, improved community relations, better financial performance and numerous other positive outcomes.[256] In other cases, mines are setting targets for training and employment of local indigenous peoples. These targets may be independently set by the mining company, or they may be a result of agreements between the mine and local communities and/or host country governments.[257] While these proactive provisions provide an important means for mining operations to address some historic inequalities, the International Institute for Sustainable Development cautions that: "Provisions that require companies to give preference to women, Indigenous People or other marginalized groups through direct employment should also seek to address the contextual factors that obstruct access to opportunities. For example, quotas for women should be supported by policy provisions that require companies to implement strong anti-discrimination and anti-harassment mechanisms."[258] Non-discrimination and anti-harassment are addressed elsewhere in this chapter (see 3.1.3.1 and 3.1.3.3).
3.1.3.3. (Critical Requirement) The operating company shall take measures to prevent and address harassment, intimidation, and/or exploitation, especially in regard to female workers.	For 3.1.3.3: Confirm that the operating company has taken measures to prevent and address harassment, intimidation and/or exploitation, especially women (e.g., through a company policy, memos, records of trainings, etc.). Interview workers of different genders and races/ethnicities, as well as migrant workers and/or children (if any) or their	For 3.1.3.3: • Documented anti-harassment policy/procedure. • Anti-discrimination policy. • Records of communications and/or trainings on anti-harassment and anti-discrimination for workers and management.	Explanatory Note for 3.1.3.3: According to the Responsible Jewellery Council (RJC): "Discrimination may be direct or indirect, and it does not have to be intentional. Practices that appear neutral but result in unequal treatment of people with certain characteristics are considered indirect discrimination. Harassment (behaviour that creates an intimidating, hostile or humiliating working environment) also is considered discrimination when it is based on discriminatory grounds. All workers

[256] International Finance Corporation. 2018. Unlocking Opportunities for Women and Business: A Toolkit of Actions and Strategies for Oil, Gas and Mining Companies. pp. 12, 13. https://www.commdev.org/pdf/publications/ToolSuite1_Interior_FIN-05-16_LoRes.pdf

[257] International Institute for Sustainable Development. 2018. Local Content Policies in the Mining Sector: Stimulating direct local employment. p. 23. https://www.iisd.org/sites/default/files/publications/local-content-policies-mining-direct-local-employment.pdf

[258] Ibid. p. 24.

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	representatives. Review complaint or grievances related to harassment, etc., and records of how the company remedied or resolved them. Confirm that no relevant complaints are unresolved at the time of the IRMA audit (with the exception of recent complaints, e.g., those filed within the previous few months prior to the audit).	• Records of worker grievances (e.g., complaints or lack thereof related to harassment, intimidation or exploitation), and any company follow-up.	must be free from discrimination, including nationals, non-nationals, migrants, home-based workers, and job applicants."[259] Violence and harassment against women and men in the world of work is an abuse of power that affects the most marginalised workers. Women are disproportionately affected where unequal power relations, low pay, non-standard working conditions and other workplace abuses expose them to violence in the world of work.[260] Sexual harassment in the workplace is a growing concern. Sexual harassment may take two forms: 1) Quid Pro Quo, when a job benefit - such as a pay rise, a promotion, or even continued employment - is made conditional on the victim acceding to demands to engage in some form of sexual behavior; or 2) hostile working environment in which the conduct creates conditions that are intimidating or humiliating for the victim. Behavior that qualifies as sexual harassment includes physical violence, touching, unnecessary close proximity, comments and questions about appearance, life-style, sexual orientation, whistling, sexually-suggestive gestures or display of sexual materials.[261]
3.1.4. Retrenchment 3.1.4.1. Prior to implementing any collective dismissals, the operating company shall carry out an analysis of alternatives to retrenchment. If the analysis does not identify viable alternatives to retrenchment, a retrenchment plan shall be developed in consultation with workers, their organizations, and, where appropriate,	For 3.1.4.1: If this requirement is applicable, review documents, such as the operating company analysis of alternatives to retrenchment, and retrenchment plan to determine if efforts have been made to reduce adverse impacts of retrenchment on workers. Interview workers' representatives to ensure that workers and workers'	For 3.1.4.1: • Retrenchment policy/procedures. • Retrenchment plan. • Records of consultations and communications with workers (e.g., meetings, correspondence) during the development of retrenchment plans. • Documentation of analysis of alternatives to retrenchment. • Documentation of steps taken to reduce	Explanatory Note for 3.1.4.1: "Collective dismissals" cover all multiple dismissals that are a result of an economic, technical, or organizational reason; or other reasons that are not related to performance or other personal reasons. Mitigation measures to reduce the impact on workers of collective dismissals or retrenchment might include, for example, provision of re-training and building of transferable skills; and providing assistance with placement at other mines or industries. Examples of "alternatives to retrenchment" may include negotiated reduction in hours for existing workers, internal transfers, ending use of

[259] Responsible Jewellery Council (RJC). 2013. Standards Guidance. p. 110. https://www.responsiblejewellery.com/files/RJC_Standards_Guidance_2013_eng.pdf

[260] Pillinger, J. 2017. Violence and Harassment Against Women and Men in the World of Work. p. 1. (International Labour Organization, Geneva). http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---actrav/documents/publication/wcms_546645.pdf

[261] International Labour Organization. No Date. Sexual Harassment at Work. Fact Sheet. p. 1. http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_decl_fs_96_en.pdf

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the government. The plan shall be based on the principle of non-discrimination, and be implemented to reduce the adverse impacts of retrenchment on workers.	organizations were consulted during development of the retrenchment plan.	impact of retrenchment on workers. • Collective bargaining agreement or equivalent. • Records of agreements with workers representatives. • Anti-discrimination procedure. • Records of worker grievances (e.g., complaints or lack thereof related to retrenchment), and any company follow-up.	contract workers, reduction in salaries, voluntary early retirement, etc.[262] The "principle of non-discrimination" means that selection criteria for those to be laid off should be objective, fair, and transparent. The retrenchment should not be based on personal characteristics unrelated to inherent job requirements.[263]
3.1.4.2. The operating company shall ensure that all workers receive notice of dismissal and severance payments mandated by law and collective agreements in a timely manner. All outstanding back pay, social security benefits, and pension contributions and benefits shall be paid on or before termination of the working relationship, or in accordance with a timeline agreed through a collective agreement. Payments shall be made directly to workers, or to appropriate institutions for the benefit of workers. Where payments are made for the benefit of workers, they shall be provided with evidence of such payments.	For 3.1.4.2: If applicable, interview workers' representatives to confirm that workers were provided with due notice of dismissal, and review payroll and other termination-related records to verify that workers received severance payments (and back pay/benefits) mandated by law or collective agreement in a timely manner.	For 3.1.4.2: • Retrenchment policy/procedures. • Records of communications with workers providing them notice of termination of employment contracts. • Payroll records. • Records of full and final settlement payments for outstanding back pay, social security benefits, and pension contributions to affected employees.	Explanatory Note for 3.1.4.2: According to IFC: "In many countries, national law requires advance notice to affected workers, and/or governments of plant closings or layoffs above specified numerical thresholds. Some national laws require that retrenchments be negotiated with workers' organizations through collective bargaining. Severance payments to affected workers may be required by national law or existing collective bargaining agreements."[264] Additionally: "In some jurisdictions companies may be obligated by law to transfer certain payments to specific institutions such as pension fund administration, health funds, etc. In such cases companies would not provide payments directly to the worker but for the benefit of the worker to the appropriate institution. In cases where payments to certain institutions are optional the client will provide options to the worker who might choose either a direct cash payment or payment to a defined institution." [265]

[262] International Finance Corporation (IFC). 2005. Good Practice Note: Managing Retrenchment. p. 3. https://www.ifc.org/wps/wcm/connect/8b14b6004885555db65cf66a6515bb18/Retrenchment.pdf?MOD=AJPERES&CACHEID=8b14b6004885555db65cf66a6515bb18

[263] IFC. 2012. Performance Standard 2: Labor and Working Conditions. Guidance Note. GN51. https://www.ifc.org/wps/wcm/connect/0d7a4480498007faa1f7f3336b93d75f/Updated_GN2-2012.pdf?MOD=AJPERES

[264] International Finance Corporation (IFC). 2012. Performance Standard 2: Labor and Working Conditions. Guidance Note. GN50. https://www.ifc.org/wps/wcm/connect/0d7a4480498007faa1f7f3336b93d75f/Updated_GN2-2012.pdf?MOD=AJPERES

[265] International Finance Corporation (IFC). 2012. Performance Standard 2: Labor and Working Conditions. Guidance Note. GN56. https://www.ifc.org/wps/wcm/connect/0d7a4480498007faa1f7f3336b93d75f/Updated_GN2-2012.pdf?MOD=AJPERES

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3.1.5. Grievance Mechanism 3.1.5.1. (Critical Requirement) The operating company shall provide a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns. The mechanism, at minimum: a. Shall involve an appropriate level of management and address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned, without any retribution; b. Shall allow for anonymous complaints to be raised and addressed; c. Shall allow workers' representatives to be present, if requested by the aggrieved worker; and d. Shall not impede access to other judicial or administrative remedies that might be available under the law or through existing arbitration procedures, or substitute for grievance mechanisms provided through collective agreements.	**Auditing Note for 3.1.5:** Relevant interviewees for this criterion include: relevant operating company management (including human resources or others); workers' representatives; and workers. **For 3.1.5.1:** Confirm, through interviews and documentation review, that a grievance mechanism exists, and that the mechanism and procedures are transparent, provide for timely resolution, and allow for complaints and grievances to be filed without retribution; enables complaints to be filed anonymous; allows workers' representatives to be present if requested by workers; and allows that using the mechanism does not bar a worker from seeking remedy for that issue through other mechanisms.	**For 3.1.5.1:** • Grievance policy/procedures. • Demonstrated ways to lodge grievances, e.g., hotlines, grievances boxes, etc. • Records of grievances lodged/investigated. • Collective bargaining agreement.	**Explanatory Note for 3.1.5.1:** It is possible that one grievance mechanism (e.g. referred to in Chapter 1.4) may be suitable to address all types of grievances raised in relation to the mining project, including workers, although typically labor grievances are dealt with through a separate mechanism established through collective bargaining agreements or human resources policies. If worker complaints/grievances involve the infringement of human rights, they should either be handled through the general operational grievance mechanism (see Chapter 1.4), which is required to conform with the effectiveness criteria laid out in the UN Guiding Principles on Business and Human Rights (UNGP), or be addressed through a different procedure that compatible with the UNGP effectiveness criteria.[266] If the worker grievance mechanism in 3.1.5.1 meets the UNGP effectiveness criteria, then that shall suffice. Worker complaints/grievances may include, but are not limited to concerns about working conditions, health, safety, terms of work, potential violations of host country laws or company policies and procedures by the company or employees, the conduct of other workers or management, etc. Sub-requirements 3.1.5.1.a and 3.1.5.1.b require that the mechanism allow for complaints to be raised without fear of retribution, and for companies to be filed anonymously. These attributes are essential for any "whistleblower"-type complaint, which typically relates to illegal, unethical or fraudulent activities. Re: 3.1.5.1.d, according to IFC, "Most countries have judicial or administrative processes to address labor complaints; the client's mechanism should not delay or hinder access to other judicial or administrative remedies that are available under law."[267]

[266] Ruggie, J. 2011. Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework. March 21, 2011. A/HRC/17/31. pp. 33-35. www.ohchr.org/Documents/Issues/Business/A-HRC-17-31_AEV.pdf

[267] International Finance Corporation (IFC). 2012. Performance Standard 2: Labor and Working Conditions. Guidance Note. GN57. https://www.ifc.org/wps/wcm/connect/0d7a4480498007faa1f7f3336b93d75f/Updated_GN2-2012.pdf?MOD=AJPERES

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3.1.5.2. The operating company shall inform the workers of the grievance mechanism at the time of recruitment and make it easily accessible to them.	For 3.1.5.2: Confirm, through interviews and documentation review, that a grievance mechanism exists, workers are aware of it, and that the mechanism is accessible to all workers.	For 3.1.5.2: • Grievance procedures. • Demonstrated ways to lodge grievances, e.g., hotlines, grievances boxes, etc. • Evidence that the operating company informs workers of grievance mechanism when they are hired (e.g., materials provided to workers upon hiring, Employees Handbook). • Documented evidence of accessibility of the grievance mechanism to all workers, or efforts to improve accessibility (e.g., trainings, revising mechanisms based on worker input, etc.). • Records of grievances lodged/investigated.	Explanatory Note for 3.1.5.2: According to the UN Guiding Principles on Business and Human Rights, accessibility means that grievance mechanisms are known to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access.[268] Barriers that may prevent use of the mechanism could be that it is not available in formats or language that work for affected stakeholders, or the information on how to access and utilize the mechanism are not understandable to stakeholders. Other barriers to access "relate to trust and confidence – complainants may be afraid or uncertain about remote or complicated mechanisms, distrust the institutions where they're located and/or fear retaliation."[269] There may be the need to offer more than one type of mechanism, including various options for confidential filing of grievances, and/or provide better information and assistance so that workers trust and make use of the grievance mechanism.
3.1.5.3. The operating company shall maintain a record of grievances and the company's actions taken to respond to and/or resolve the issues.	For 3.1.5.3: Confirm, through review of grievance documentation review, that records are kept of grievances and the company's actions taken in response to the grievances.	For 3.1.5.3: • Grievance policy/procedures. • Records of grievances lodged/investigated.	
3.1.6. Disciplinary Procedures 3.1.6.1. The operating company shall have documented disciplinary procedures (or their equivalent) that are made available to all workers.	For 3.1.6.1: Review operating company documents to confirm that disciplinary procedures are written down and available to workers.	For 3.1.6.1: • Disciplinary procedures. • Documented evidence of communications with all workers informing them of the disciplinary procedures.	

[268] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. p. 33. http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

[269] Rees, C. 2008. Grievance Mechanisms for Business and Human Rights: Strengths, Weakness and Gaps. p. 14. https://www.business-humanrights.org/sites/default/files/reports-and-materials/Rees-Existing-grievance-mechanisms-Jan-2008.pdf

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3.1.6.2. The operating company shall not use corporal punishment, harsh or degrading treatment, sexual or physical harassment, mental, physical or verbal abuse, coercion or intimidation of workers during disciplinary actions.	For 3.1.6.2: Interview management, workers and workers' representatives to confirm the respectful treatment of workers involved in disciplinary actions.	For 3.1.6.2: • Anti-harassment policy or disciplinary procedure or equivalent that prohibits the use of corporal punishment, harsh or degrading treatment, sexual or physical harassment, mental, physical or verbal abuse, coercion or intimidation of workers during disciplinary actions. • Documented evidence of communication/training workers and management on the disciplinary procedure. • Documented disciplinary notices, hearings, minutes or equivalent. • Records of worker grievances (e.g., complaints or lack thereof related to use of corporal punishment, harsh or degrading treatment, sexual or physical harassment, mental, physical or verbal abuse, coercion or intimidation during disciplinary actions), and company follow-up.	Explanatory Note for 3.1.6.2: According to the Responsible Jewellery Council (RJC): "Discipline in the workplace should be viewed as a way to correct problem behaviours or performance issues. It should not be viewed simply as a way to punish employees. Supervisors and other persons in authority should be aware that the object of disciplinary action is to correct the problem, action, or behaviour, not the person. In some workplaces discipline can take an extreme form. This can include physical (corporal) punishment and mental, psychological, or sexual abuse. Examples of unreasonable practices that have been documented in workplaces include: being forced to do push-ups or run laps; standing in the sun for extended periods; being beaten or hit over the head; threats of violence; sexual or racial harassment; or withholding of wages, food or services. These and similar actions are considered to be violations of basic human dignity and human rights."[270]
3.1.6.3. The operating company shall keep records of all disciplinary actions taken.	For 3.1.6.3: Review records retained by operating company for disciplinary actions taken.	For 3.1.6.3: • Disciplinary procedures • Documented disciplinary records, notices, hearings, minutes or equivalent. • Log of all disciplinary actions taken where applicable.	
3.1.7. Child Labor	Auditing Note for 3.1.7: Relevant interviewees may include: operating	For 3.1.7.1:	

[270] Responsible Jewellery Council. 2013. Standards Guidance. p. 88. https://www.responsiblejewellery.com/files/RJC_Standards_Guidance_2013_eng.pdf

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3.1.7.1. The operating company shall document the ages of all workers.	company management; workers' representatives; workers (including child workers, if any); representatives of child workers; and stakeholders, e.g., NGOs or others that track child labor in the region. **For 3.1.7.1:** Review company procedures and documentation confirming age verification in hiring.	• Recruitment / hiring procedure. • Age verification procedure. • Age verification records.	
3.1.7.2. (Critical Requirement) Children (i.e., persons under the age of 18[271]) shall not be hired to do hazardous work (e.g., working underground, or where there is exposure to hazardous substances[272]).	**For 3.1.7.2:** Through review of company procedures, documentation confirming age verification in hiring, interviews and observation, determine if children are employed by the company/contractors.	**For 3.1.7.2 and 3.1.7.3:** • Recruitment / hiring procedure. • Age-verification procedure. • Age verification records. • Risk assessment of workplace hazards. • Documented job descriptions. • Employment contracts.	**Explanatory Note for 3.1.7.2:** Age 18 is the dividing line between childhood and adulthood according to the major ILO child labor Conventions, Nos. 138 and 182, and the United Nations Convention on the Rights of the Child (CRC).[273] Although many cultural traditions and personal characteristics could argue for a higher or lower age, in first crafting and then in ratifying these Conventions the international community have determined that persons under 18 are children and have the right to special protection.[274] Examples of hazardous work activities include work (i) with exposure to physical, psychological, or sexual abuse; (ii) underground, underwater, working at heights, or in confined spaces; (iii) with dangerous machinery, equipment, or tools, or involving handling of heavy loads; (iv) in unhealthy environments exposing the worker to hazardous substances, agents, processes, temperatures, noise, or vibration

[271] Age 18 is the dividing line between childhood and adulthood according to the major ILO child labour conventions (Nos. 138 and 182), and the United Nations Convention on the Rights of the Child (CRC). Although many cultural traditions and personal characteristics could argue for a higher or lower age, in first crafting and then in ratifying these Conventions the international community has determined that persons under 18 are children and have the right to special protection. (International Labour Organization. 2011. Children in Hazardous Work: what we know, what we need to know. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_155428.pdf)

[272] Examples of hazardous work activities include work (i) with exposure to physical, psychological, or sexual abuse; (ii) underground, underwater, working at heights, or in confined spaces; (iii) with dangerous machinery, equipment, or tools, or involving handling of heavy loads; (iv) in unhealthy environments exposing the worker to hazardous substances, agents, processes, temperatures, noise, or vibration damaging to health; or (v) under difficult conditions such as long hours, late night, or confinement by employer. (Source: IFC. 2012. Performance Standard 2: Labor and Working Conditions. Footnote 12. https://www.ifc.org/wps/wcm/connect/2408320049a78e5db7f4f7a8c6a8312a/PS2_English_2012.pdf?MOD=AJPERES)

[273] ILO. 1973. Minimum Age Convention (No. 138). https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312283:NO and ILO. 1999. Worst Forms of Child Labour Convention. (No. 182). https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C182 and United Nations. 1990. Convention on the Rights of the Child. https://www.ohchr.org/en/professionalinterest/pages/crc.aspx

[274] International Labor Organization (ILO). 2011. Children in Hazardous Work: what we know, what we need to know. p. 3. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_155428.pdf

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			damaging to health; or (v) under difficult conditions such as long hours, late night, or confinement by employer.[275] As per IRMA Chapter 1.1, requirement 1.1.4.1, the operating company is required to demonstrate that it takes appropriate steps to ensure compliance with the IRMA Standard by contractors engaged in activities relevant to the mining project. So operating companies should have in place some due diligence procedures to verify that contractors working on the mining project are not employing persons under the age of 18 to perform hazardous work.
3.1.7.3. (Critical Requirement) The minimum age for non-hazardous work shall be 15, or the minimum age outlined in national law, whichever is higher.	For 3.1.7.3: Review company procedures for assessing and minimizing risk to child workers, and monitoring their health, working conditions and hours. Confirm through document review that if children are employed monitoring has been undertaken. If relevant, review documents related to remediation of children under 15 that have been discovered to be employed at the operation, or under 18 if found to be employed in hazardous work; confirm that children were removed from age-inappropriate, harmful or dangerous work situations. Review information not protected by privacy laws that relates to complaints/grievances filed in relation to child labor, and records of how the company remedied or responded to them.	For 3.1.7.2 and 3.1.7.3: • Recruitment / hiring procedure. • Age-verification procedure. • Age verification records. • Risk assessment of workplace hazards. • Documented job descriptions. • Employment contracts.	Explanatory Note for 3.1.7.3: The International Labour Organization's Convention No. 138 states that the minimum age for work "shall not be less than the age of completion of compulsory schooling, and in any case, shall not be less than 15."[276] Convention 138 allows temporary exceptions for countries enacting the convention.[277] IRMA is not allowing this exception.

[275] International Finance Corporation (IFC). 2012. Performance Standard 2: Labor and Working Conditions. Guidance Note. Para 21. Footnote 12. https://www.ifc.org/wps/wcm/connect/0d7a4480498007faa1f7f3336b93d75f/Updated_GN2-2012.pdf?MOD=AJPERES

[276] International Labor Organization (ILO). 1973. Minimum Age Convention, 1973 (No. 138). Article 2.3. https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C138

[277] International Labor Organization (ILO). 1973. Minimum Age Convention, 1973 (No. 138). Article 2.5. https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C138

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3.1.7.4. When a child is legally performing non-hazardous work, the company shall assess and minimize the risks to their physical or mental health, and ensure that regular monitoring of the child's health, working conditions and hours of work occurs by the national labor authority, or if that is not possible, by the company itself.	For 3.1.7.4: Confirm that the company has assessed the risk of child labor in its supply chain. The determination of whether or not there is a high risk of child labor in the supply chain should occur as part of the operating company's human rights due diligence in Chapter 1.3. Also, through review of company documentation and interviews with operating company and relevant stakeholders (e.g., workers' representatives, NGOs) confirm that the operating company has procedures in place to determine if child workers below the minimum age for hazardous /non-hazardous work are being employed by its suppliers; and if cases are found, remedy was provided or the company shifted its supplier.	For 3.1.7.4: • Occupational health and safety risk assessment that includes risks to children's physical and mental health. • Employment contracts. • Job descriptions.	
3.1.7.5. If the operating company discovers that a child under the minimum age outlined in 3.1.7.2 and 3.1.7.3 is performing hazardous or non-hazardous work: a. The child shall be removed immediately from his or her job; and b. Remediation procedures shall be developed and implemented that provide the child with support in his or her transition to legal work or schooling, and that take into consideration the welfare of the child and the financial situation of the child's family.	For 3.1.7.5: Determine if any incidents of child labor have been found. If so, confirm that the child was removed immediately from the job, and that appropriate remediation was implemented.	For 3.1.7.5: • Remediation procedures. • Documentation of actions considered and taken to remediate any incident involving child labor (i.e., a child under the minimum age for hazardous or non-hazardous work discovered working at the mining project). • Documentation of meetings and/or correspondence with those carrying out judicial or State-based investigations of child labor at the mining project. • Records of worker or stakeholder grievances (e.g., reports of under-age persons in age-inappropriate jobs), and	Explanatory Note for 3.1.7.5: If there are incidents of children being employed at the mining project who are under the minimum ages outlined in 3.1.7.2 and 3.1.7.3, remediation should also align with IRMA Chapter 1.3, requirement 1.3.3.3. In particular, the operating company must cooperate with other legitimate processes such as judicial or State-based investigations that may result if the use of child labor is discovered at the mining project.

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		company follow-up.	
3.1.7.6. Where there is a high risk of child labor in the mine's supply chain,[278] the operating company shall develop and implement procedures to monitor its suppliers to determine if children below the minimum age for hazardous or non-hazardous work are being employed. If any cases are identified, the operating company shall ensure that appropriate steps are taken to remedy them. Where remedy is not possible, the operating company shall shift the project's supply chain over time to suppliers that can demonstrate that they are complying with this chapter.	For 3.1.7.6: Through review of company documentation and interviews with operating company and relevant stakeholders (e.g., worker representatives, NGOs, children's representatives) confirm that the operating company has procedures in place to determine if child workers below the minimum age for hazardous /non-hazardous work are being employed by its suppliers; and if cases have been found, that remedy was provided or the company shifted its supplier.	For 3.1.7.6: • Supply chain mapping records. • Risk assessment of supply chain (this may have been done as part of the assessment of potential human rights risks and impacts in Chapter 1.3). • Supply chain due diligence reports. • Supplier monitoring procedures. • Supplier monitoring records. • Contracts or agreements with suppliers including recruitment agencies where applicable. • Records of worker grievances or stakeholder grievances (e.g., reports of child labor being used in the mining project supply chain), and company follow-up.	Explanatory Note for 3.1.7.6: Requirement 3.1.7.6 requires a company to take steps to identify instances of child labor within its supply chain. The determination of whether or not there is a high risk of child labor in the supply chain should have occurred as part of the operating company's human rights due diligence in IRMA Chapter 1.3. If child labor in the supply chain is identified as being a salient human rights risk during the human rights impact assessment, the company is required to carry out the remaining due diligence as per Chapter 1.3, and also the requirements in 3.1.7.6. If cases are of child labor in the supply chain are identified, the operating company should take steps to ensure that appropriate remediation occurs. Appropriate remediation is remediation that is consistent with requirement 3.1.7.5. Additionally, if the mine is operating in or sourcing minerals from a conflict-affected and high-risk area, child labor should be one of the issues assessed in the conflict risk assessment. If child labor is identified as a risk, the due diligence steps outlined in IRMA Chapter 3.4 apply. The due diligence steps in Chapter 3.4 are intended to align with the OECD Due Diligence Guidance on Responsible Mineral Supply Chains from Conflict-Affected and High-Risk Areas.[279]
3.1.8. Forced Labor 3.1.8.1. (Critical Requirement) The operating company shall not employ	Auditing Note for 3.1.8: Relevant interviewees may include: operating company management; workers' representatives; workers; and	For 3.1.8.1: • Forced labor and human trafficking prevention procedure. • Employment contracts.	Explanatory Note for 3.1.8.1: If there are instances of forced labor, operating companies shall ensure that remediation is followed as per IRMA Chapter 1.3, requirements 1.3.3.2. and 1.3.3.3. According to the International Labour Organization (ILO), forced labor can be understood as work that is performed involuntarily and under

[278] The determination of whether or not there is a high risk of child labor in the supply chain should occur as part of the operating company's human rights due diligence in Chapter 1.3. If child labor in the supply chain is identified as being a salient risk during the human rights impact assessment, the company will be required to carry out the remaining due diligence as per Chapter 1.3, and also the requirements in 3.1.7.6.

Additionally, if the mine is operating in or sourcing minerals from a conflict-affected and high-risk area, child labor should be one of the issues assessed in the conflict risk assessment. If child labor is identified as a risk, the due diligence outlined in Chapter 3.4 apply. The due diligence steps in Chapter 3.4 are intended to align with the OECD Due Diligence Guidance on Responsible Mineral Supply Chains from Conflict Affected and High Risk Areas (2016). https://mneguidelines.oecd.org/mining.htm

[279] OECD. 2016. OECD Due Diligence Guidance on Responsible Mineral Supply Chains from Conflict Affected and High Risk Areas. (3rd Ed.). http://www.oecd.org/daf/inv/mne/OECD-Due-Diligence-Guidance-Minerals-Edition3.pdf

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forced labor or participate in the trafficking of persons.	stakeholders, e.g., NGOs or others that track forced labor in the region. For 3.1.8.1: Interview relevant operating company management, workers and workers' representative(s), and other stakeholders if deemed necessary (e.g., NGOs) to confirm that the company does not employ forced labor or trafficked persons. Review hiring documentation and any agreements with labor brokers about employment conditions for supplied labor. Relevant questions to ask include:[280] • Have any workers been the subject of a threat or menace of penalty? • Have workers provided consent to work freely and are they free to leave? The absence of these freedoms is the concept of involuntariness.	• Payroll records showing wage deductions. • Workplace internal rules and regulations. • Accommodation rules if applicable. • Contracts with recruitment agencies if applicable. • Disciplinary procedures. • Disciplinary punishment records. • Termination records. • Records of worker grievances or stakeholder grievances (e.g., reports of forced labor being used in the mining project), and company follow-up.	the menace of any penalty. It refers to situations in which persons are coerced to work through the use of violence or intimidation, or by more subtle means such as manipulated debt, retention of identity papers or threats of denunciation to immigration authorities. The forced labor definition encompasses: "traditional practices of forced labour, such as vestiges of slavery or slave-like practices, and various forms of debt bondage, as well as new forms of forced labour that have emerged in recent decades, such as human trafficking."[281] Forced labor can take different forms such as: restrictions on workers' freedom of movement during or after working hours, withholding of wages or identity documents, physical or sexual violence, threats and intimidation or fraudulent debt from which workers cannot escape. As explained above, the trafficking of persons (also referred to as human trafficking or modern slavery) can also be regarded as forced labor. The only exceptions to this are cases of trafficking for organ removal, forced marriage or adoption, unless the latter practices result in forced labor.[282]
3.1.8.2. Where there is a high risk of forced or trafficked labor in the mine's supply chain,[283] the operating company shall develop and implement procedures	For 3.1.8.2: Confirm that the company has assessed the risk of forced or trafficked labor in its supply chain. The determination of whether or not there is a high risk of forced or trafficked labor in the	For 3.1.8.2: • Supply chain mapping records. • Risk assessment of supply chain (this may have been done as part of the assessment	Explanatory Note for 3.1.8.2: This requirement requires companies to take steps to identify instances of forced labor or the trafficking of persons within their supply chain.

[280] See indicators of modern slavery and forced labor in: IFC. 2018. Good Practice Note on Managing Risks Associated with Modern Slavery. Section 1.3 "Using indicators to identify modern slavery risks." https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_modernslavery

[281] International Labour Organization (ILO) website: "What is forced labour, modern slavery and human trafficking." http://www.ilo.org/global/topics/forced-labour/definition/lang--en/index.htm

[282] ILO website: "Questions and answers on forced labour." http://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_181922/lang--en/index.htm

[283] The determination of whether or not there is a high risk of forced labor in the supply chain should occur as part of the operating company's human rights due diligence in Chapter 1.3. If forced labor in the supply chain is identified as being a salient risk during the human rights impact assessment, the company will be required to carry out the remaining due diligence as per Chapter 1.3, and also the requirements in 3.1.8.2.

Additionally, if the mine is operating in or sourcing minerals from a conflict-affected and high-risk area, forced labor should be one of the issues assessed in the conflict risk assessment. If forced labor is identified as a risk, the due diligence outlined in Chapter 3.4 apply. The due diligence steps in Chapter 3.4 are intended to align with the OECD Due Diligence Guidance on Responsible Mineral Supply Chains from Conflict Affected and High Risk Areas (2016). https://mneguidelines.oecd.org/mining.htm

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to monitor its suppliers to determine if forced labor or trafficked workers are being employed. If any cases are identified, the operating company shall ensure that appropriate steps are taken to remedy them. Where remedy is not possible, the operating company shall shift the project's supply chain over time to suppliers that can demonstrate that they are complying with this chapter.	supply chain should occur as part of the operating company's human rights due diligence in IRMA Chapter 1.3. Also, through review of company documentation and interviews with operating company and relevant stakeholders (e.g., worker representatives, NGOs) and documentation, confirm that the company has procedures in place to determine if forced labor or trafficked workers are being employed by its suppliers; and that if cases are found, remedy was provided and/or the company shifted its supplier.	of potential human rights risks and impacts in Chapter 1.3). • Supply chain due diligence reports. • Supplier monitoring procedures. • Supplier monitoring records. • Contracts or agreements with suppliers including recruitment agencies where applicable. • Records of worker grievances or stakeholder grievances (e.g., reports of forced labor in the supply chain), and company follow-up.	The determination of whether or not there is a high risk of forced labor or human trafficking in the supply chain should have occurred as part of the operating company's human rights due diligence in Chapter 1.3. If forced labor in the supply chain is identified as being a salient human rights risk during the human rights impact assessment, the company is required to carry out the remaining due diligence as per Chapter 1.3, and also the requirements in 3.1.8.2. Additionally, if the mine is operating in or sourcing minerals from a conflict-affected and high-risk area, forced labor should be one of the issues assessed in the conflict risk assessment. If forced labor is identified as a risk, the due diligence outlined in Chapter 3.4 apply. The due diligence steps in Chapter 3.4 are intended to align with the OECD Due Diligence Guidance on Responsible Mineral Supply Chains from Conflict-Affected and High-Risk Areas.[284] The International Finance Corporation has developed guidance on modern slavery to help companies carry out an assessment of risks of forced labor in its supply chain.[285]
3.1.9. Wages 3.1.9.1. The operating company shall pay wages to workers that meet or exceed the higher of applicable legal minimum wages, wages agreed through collective wage agreements, or a living wage.	Auditing Note for 3.1.9: Review operating company policies regarding wages, including overtime compensation, review payroll records, methods of payment, etc. Review national laws related to minimum wage (3.1.9.1), overtime (3.1.9.2) and allowance of wage deductions for disciplinary purposes (3.1.9.5). If relevant, interview workers and workers' representatives. For 3.1.9.1: Confirm that the operating company is abiding by minimum-wage-	For 3.1.9.1: • Remuneration policies and procedures. • Collective bargaining agreements. • Documentation on national minimum wage rates. • Employment contracts. • Payroll records. • Pay rates. • Records of worker grievances or stakeholder grievances (e.g., reports that a living wage is not being paid at the	Explanatory Note for 3.1.9.1: Living wage has been defined as: "Remuneration received for a standard work week by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family."[286] Elements of a decent standard of living include food, water, housing, education, health care, transport, clothing, and other essential needs, including provision for unexpected events.

[284] OECD. 2016. OECD Due Diligence Guidance on Responsible Mineral Supply Chains from Conflict Affected and High Risk Areas. (3rd Ed.). http://www.oecd.org/daf/inv/mne/OECD-Due-Diligence-Guidance-Minerals-Edition3.pdf

[285] IFC. 2018. Good Practice Note on Managing Risks Associated with Modern Slavery. https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_modernslavery

[286] Ankar, R. and Ankar, M. 2013. A Shared Approach to Estimating Living Wages. Prepared for the Global Living Wage Coalition. https://www.globallivingwage.org/wp-content/uploads/2018/06/anker_methodology.pdf

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	related provisions in national law, and, if relevant, wage provisions outlined in collective bargaining agreements. If relevant (e.g., if there are questions raised by workers or as a result of the auditor's best judgment) that living wages are not being paid for all workers, discuss with operating company management how it determined living wage rates, and review any wage studies and calculations conducted or commissioned by the company. Interview workers to determine if wages are sufficient to afford a decent standard of living for the worker and her or his family.	mining project), and company follow-up.	
3.1.9.2. Overtime hours shall be paid at a rate defined in a collective bargaining agreement or national law, and if neither exists, at a rate above the regular hourly wage.	For 3.1.9.2: Confirm that the operating company is abiding by overtime wage-related provisions in collective bargaining agreements.	For 3.1.9.2: • Documentation on national overtime wage rates. • Collective Bargaining Agreement. • Payroll records. • Employment contracts. • Remuneration policies and procedures.	
3.1.9.3. All workers shall be provided with written and understandable information about wages (overtime rates, benefits, deductions and bonuses) before they enter employment, and for the pay period each time they are paid.	For 3.1.9.3: Confirm through review of pay stubs or other documents, and/or interviews with workers' representatives and workers, that workers were provided with information on payment of wages prior to employment, and that each wage payment is accompanied by an explanation of overtime rates, benefits, deductions and bonuses, as applicable for that pay period).	For 3.1.9.3: • Pay slips. • Remuneration policies and procedures. • Employment contracts.	Explanatory Note for 3.1.9.3: Companies are expected to provide all workers with information that is understandable to them. There may be workers of different ethnicities who speak different languages, and some workers may not be literate. Companies need to ensure that relevant information is conveyed to workers in a manner that they understand. According to the International Finance Corporation (IFC): "The working conditions and terms of employment should be communicated to the workers orally or in writing. Oral communication

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			may be appropriate for simple short-term jobs or where workers are illiterate. In other cases, clients should provide documentation of the working conditions and terms of employment. Where there is a collective agreement that applies to the workers, this should be communicated to them as well. . . Documentation should be clear, easily understandable, and accurate. The extent of documentation can be appropriate to the length and nature of the employment relationship. For example, a simple public notice of the job to be done, the number of hours, pay, and other key terms and working conditions may be adequate for seasonal workers (with copies available on request), while for longer-term employment, material terms of the employment relationship should be documented. In some countries, individual contracts are a legal requirement."[287]
3.1.9.4. The operating company shall pay wages in a manner that is reasonable for workers (e.g., bank transfer, cash or check).	For 3.1.9.4: Confirm, through interviews workers and workers' representatives, that wages are paid in a manner that is reasonable for them (i.e., the form of payments allows the worker to obtain cash in an easy and timely manner).	For 3.1.9.4: • Payroll records. • Employment contracts. • Documentary evidence of payment to employees through bank transfer, cash or check.	Explanatory Note for 3.1.9.4: According to guidance from the Responsible Jewellery Council (RJC): "In addition to wage levels, it is important that workers receive their payments regularly in order to meet their domestic needs. The frequency of payments – weekly, fortnightly or monthly, for example – should be pre-determined and respected. Wages should be paid either as a bank transfer, in cash or as a cheque, as agreed with workers. It is usually a legal requirement for employers to provide clear information to workers on how their wages are calculated and keep certain time, wage and leave records. . .Regular wage slips should be provided to workers that clearly show the rates of pay, any benefits paid, and any applicable deductions."[288]
3.1.9.5. The operating company shall ensure that deductions from wages are not made for disciplinary purposes unless one of the following conditions exist:	For 3.1.9.5: Confirm that deductions for disciplinary purposes are not made for disciplinary purposes unless permitted by	For 3.1.9.5: • Payroll records. • Disciplinary procedures. • Documentation of national laws, if there	Explanatory Note for 3.1.9.5: According to the International Labour Organization (ILO), international labour standards are silent on the issue of whether it is permissible to make disciplinary deductions from wages. The ILO's Committee of Experts on the Application of Conventions and Recommendations (CEACR) has noted that in many countries the

[287] International Finance Corporation (IFC). 2012. Performance Standard 2: Labor and Working Conditions. Guidance Note. GN16 and GN17. https://www.ifc.org/wps/wcm/connect/0d7a4480498007faa1f7f3336b93d75f/Updated_GN2-2012.pdf?MOD=AJPERES

[288] Responsible Jewellery Council (RJC). 2013. Standards Guidance. p. 83. https://www.responsiblejewellery.com/files/RJC_Standards_Guidance_2013_eng.pdf

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a. Deductions from wages for disciplinary purposes are permitted by national law, and the law guarantees the procedural fairness of the disciplinary action; or b. Deductions from wages for disciplinary purposes are permitted in a freely negotiated collective bargaining agreement or arbitration award.	law or collective agreements with due process. Confirm with workers' representatives that the collective bargaining agreement was not negotiated as a result of coercion, intimidation or duress.	are any applicable to this requirement. • Collective bargaining agreements.	imposition of disciplinary penalties by way of wage deductions is formally prohibited. In countries that authorize disciplinary deductions from wages, the national legislation also contains provisions guaranteeing the procedural fairness of the disciplinary action such as requiring written notification of the worker or recognizing the right to lodge an appeal.[289] The CEACR also has noted that the labour standards concerning protection of wages establish three main principles: • Deductions of any type, to be lawful, need an appropriate legal basis—national laws or regulations, collective agreements or arbitration awards; individual agreement is not sufficient. • All authorized deductions must be limited so that the net amount of wages received by workers should in all cases be sufficient to ensure a decent living income for themselves and their families. All relevant information regarding the grounds on which and the extent to which wages may be subject to deductions must be communicated in advance to the workers concerned so as to avoid any unexpected decrease in their remuneration which would compromise their ability to support themselves and their household. The preferable means is appropriate references in their contracts of employment or the permanent display of the relevant laws, regulations and internal regulations at the workplace, and in any event by means which ensure that workers have advance notice of the nature and extent of all possible deductions, and are aware of their rights concerning procedural safeguards set out in national law.[290]
3.1.10. Working Hours and Leave 3.1.10.1. The operating company shall ensure that:	Auditing Note for 3.1.10: Relevant interviewees for this criterion include: relevant operating company management; workers' representatives; and workers.	For 3.1.10.1: • Collective bargaining agreement. • Time records. • Working hour policy.	Explanatory Note for 3.1.10.1: This requirement also applies to contractors as per Chapter 1.1. Re 3.1.10.1.d, exceptions only apply at mines in remote locations. At all other mines, exceptions are not allowed.

[289] International Labour Organization (ILO) website: "Q&As on Business, Wages and Benefits." http://www.ilo.org/empent/areas/business-helpdesk/faqs/WCMS_DOC_ENT_HLP_WAG_FAQ_EN/lang--en/index.htm#Q6

[290] International Labour Organization (ILO) website: "Q&As on Business, Wages and Benefits." http://www.ilo.org/empent/areas/business-helpdesk/faqs/WCMS_DOC_ENT_HLP_WAG_FAQ_EN/lang--en/index.htm#Q6

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a. Regular working hours do not exceed eight hours per day, or 48 per week. Where workers are employed in shifts the 8-hour day and 48-hour week may be exceeded, provided that the average number of regular hours worked over a 3-week period does not exceed 8 hours per day and 48 hours per week; b. Workers are provided with at least 24 consecutive hours off in every 7-day period; and c. Overtime is consensual and limited to 12 hours a week. d. Exceptions to 3.1.10.1.b and c shall be allowed at mines in remote locations if: i. A freely negotiated collective bargaining agreement is in force that allows variances to the rest and/or overtime hours above; and ii. Through consultations with workers' representatives, a risk management process that includes a risk assessment for extended working hours is established to minimize the impact of longer working hours on the health, safety and welfare of workers.	For 3.1.10.1: Confirm through interviews and documentation review that working hours meet the requirements. If working hours exceed requirements, confirm that a collective bargaining agreement allows for the extended working hours, or that a risk management process has been carried out to minimize health and safety impacts associated with extended working hours. Confirm with workers' representatives that the collective bargaining agreement was not negotiated as a result of coercion, intimidation or duress.	• Employment contracts. • Working hour schedule.	
3.1.10.2. Where neither national law nor a collective bargaining agreement includes provisions for worker leave, the	For 3.1.10.2: Determine if national law or collective bargaining agreements have leave provisions. Through interviews and documentation review, confirm that the	For 3.1.10.2: • Leave policy. • Employment contracts.	Explanatory Note for 3.1.10.2: A worker whose length of service in any year is less than that required for the full entitlement shall be entitled in respect of that year to a holiday with pay proportionate to his or her

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operating company shall, at minimum, provide: a. An annual paid holiday of at least three working weeks per year, after achieving one year of service;[291] and b. A maternity leave period of no less than 14 weeks.	operating company adheres to those provisions or, if relevant, the leave requirements outlined in 3.1.10.2.a and b.	• Documentation of relevant national law. • Collective bargaining agreements where applicable. • Payroll records.	length of service during that year. (This is based on ILO Convention 132.[292])

NOTES

This chapter uses, as its basis, the International Finance Corporation's (IFC) Performance Standard 2 (PS 2) Labor and Working Conditions. In addition to aligning with IFC performance standard requirements, this chapter contains two other criteria related to Wages (3.1.10) and Working Hours and Leave (3.1.11), which contain requirements that are based, in part, on ILO conventions. Where IFC or ILO concepts have been integrated into IRMA criteria, they are referenced in IRMA explanatory notes.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if host country laws are more protective of workers' rights or provide more favorable terms of work, those requirements shall supersede IRMA requirements (i.e., companies are required, at minimum to follow host country law). But if IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the company to violate host country law. Also, the operating company is responsible for ensuring that its contractors and subcontractors involved in mining-related activities comply with the requirements of this chapter of the IRMA Standard, i.e., contract workers and any other workers who provide project-related work and services should be apprised of labor rights and provided fair terms of work. In particular, Chapter 3.1 requires companies to take steps to identify instances of child labor and forced labor within their primary supply chain. This should also apply to contractors and subcontractors as per 1.1.5.1. Similarly, if contractors place worker health and safety at risk, procedures and mitigation measures will be taken to remedy this.
1.2—Community and Stakeholder Engagement	Workers are stakeholders, and also often members of the affected communities. As such, the engagement process with workers on issues related to affected communities should align with the requirements in Chapter 1.2.
1.3—Human Rights Due Diligence	The grievance mechanism in Chapter 1.3 may also be used by workers seeking remedy for perceived infringements of their human rights (e.g., core labor rights are considered human rights). Also, if there are instances of child labor or forced labor at the mine, both of which are considered infringements of human rights, companies shall ensure that he remedy section of Chapter 1.3 is followed (see requirement 1.3.3). The risks that child labor or forced labor might occur at the mine or in its supply chain should be assessed as part of the human rights assessment in Chapter 1.3.

[291] A worker whose length of service in any year is less than that required for the full entitlement shall be entitled in respect of that year to a holiday with pay proportionate to his or her length of service during that year. (Based on ILO C132 – Holidays with Pay Convention (Revised), 1970 (No. 132). http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:::NO:12100:P12100_ILO_CODE:C132:NO)

[292] International Labour Organization (ILO). 1970. Holidays with Pay Convention (Revised), 1970 (No. 132). http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:::NO:12100:P12100_ILO_CODE:C132:NO

Cross References to Other Chapters	
1.4—Complaints and Grievance Mechanism and Access to Remedy	There is potential overlap with Chapter 1.4. It is possible that one grievance mechanism may be suitable to address grievances raised in relation to the mining project from all stakeholders including workers,[293] however, typically labor grievances are dealt with through a separate mechanism established through collective bargaining agreements or human resources policies.[294] If worker-specific grievance mechanisms are developed, they need to be consistent with the effectiveness criteria in Chapter 1.4.
3.2—Occupational Health and Safety	Although there are some requirements in this chapter that have a health and safety aspect (such as child labor and working hours), worker-related issues related to occupational health and safety issues are specifically covered in Chapter 3.2. Compensation for work-related injuries are also addressed in Chapter 3.2 (requirement 3.2.3.5). The grievance mechanism in 3.1.5 may be used to hear worker's OH&S-related grievances.
3.3—Community Health and Safety	Requirement 3.1.3.1 mandates fair treatment in employment relationships, and prohibits operating companies from making discriminatory employment decisions on the basis of personal characteristics unrelated to inherent job requirements, such as HIV/AIDs status, which is also addressed in Chapter 3.3 (see requirement 3.3.4.2).
3.4—Mining and Conflict Affected Areas	Incidents of child labor or forced labor are addressed in Chapter 3.1. However, if the mine is in a conflict-affected or high-risk area the potential for child labor and forced labor should be considered during the conflict risk assessment in Chapter 3.4.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Child Labor

Work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development.

Company Union

A workers' organization that is dominated or controlled by an employer.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle the company should take into account the concerns and views expressed by stakeholders in the final decision.

Contractor

An individual, company, or other legal entity that carries out duties related to a mining project that are subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

[293] The OHCHR has elaborated that, "As discussed in the context of Guiding Principle 22, it is fairly usual to have separate grievance mechanisms for direct employees and for external affected stakeholders, though it is not always necessary to separate the two. (UN Office of the High Commissioner for Human Rights. 2012. The Corporate Responsibility to Respect Human Rights: An Interpretive Guide. pp. 69, 70. www.ohchr.org/Documents/Publications/HR.PUB.12.2_En.pdf)

[294] IFC. 2009. Good Practice Note: Addressing Grievances from Project-Affected Communities. p. 21. www.ifc.org/wps/wcm/connect/cbe7b18048855348ae6cfe6a6515bb18/IFC+Grievance+Mechanisms.pdf?MOD=AJPERES&CACHEID=cbe7b18048855348ae6cfe6a6515bb18

Corporate Owner

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Forced Labor

Any work or service not voluntarily performed that is exacted or coerced from an individual under threat of force or penalty. This covers any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements required to pay off a debt; or slavery or slavery-like practices. It also includes requirements of excessive monetary deposits, excessive limitations on freedom of movement, excessive notice periods, substantial or inappropriate fines, and loss or delay of wages that prevent workers from voluntarily ending employment within their legal rights.

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which complaints or grievances, including business-related human rights abuses, stakeholder complaints and/or labor grievances, can be raised and remedy can be sought.

Hazardous Work (in relation to child labor)

Work that, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.

Indigenous Peoples

A modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions there may be a preference to use other terms such as: tribes, first people, First Nations, aboriginal peoples, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Living Wage

Remuneration received for a standard work week by a worker in a particular place sufficient to afford a decent Standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, health care, transport, clothing, and other essential needs including provision for unexpected events.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Physical activities (e.g., land disturbance and clearing, road building, sampling, airborne surveys, facility construction, ore removal, ore processing, waste management, reclamation, etc.) carried out during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure, post-closure).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Remediation/Remedy

Remediation and remedy refer to both the processes of providing remedy for an adverse (human rights) impact and the substantive outcomes that can counteract, or make good, the adverse impact. These outcomes may take a range of forms, such as apologies, restitution, rehabilitation, financial or non-financial compensation, and punitive sanctions (whether criminal or administrative, such as fines), as well as the prevention of further harm through, for example, injunctions or guarantees of non-repetition.

Retrenchment

The elimination of a number of work positions or the dismissal or layoff of a number of workers by an employer, generally by reason of plant closing or for cost savings. Retrenchment does not cover isolated cases of termination of employment for cause or voluntary departure. Retrenchment is often a consequence of adverse economic circumstances or as a result of a reorganization or restructuring.

Stakeholders

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Suppliers

Those who are provide goods, services and materials to the project.

Trafficking in Persons

The recruitment, transportation, transfer, harboring or receipt of a person by means of the threat or use of force or other means of coercion, or by abduction, fraud, deception, abuse of power or of a position of vulnerability, or by the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation includes, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs. Women and children are particularly vulnerable to trafficking practices.

Worker

All non-management personnel.

Workers' Organizations

Typically called trade unions or labor unions, these organizations are voluntary associations of workers organized on a continuing basis for the purpose of maintaining and improving their terms of employment and workplace conditions.

Workers' Representative

A worker chosen to facilitate communication with senior management on matters related to working conditions, occupational health and safety or other workers' concerns. This is undertaken by the recognized trade union(s) in unionized facilities and, elsewhere, by a worker elected by non-management personnel for that purpose.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 3.2—Occupational Health and Safety

BACKGROUND

Occupational health impacts related to the mining industry may include physical injuries; musculoskeletal disorders; noise-induced hearing loss; hand-arm vibration syndrome; skin cancer; dermatitis; heat exhaustion; hypothermia; eye disorders related to radiation exposure; asphyxiation; pneumonia; respiratory disorders and lung diseases such as silicosis; damage to internal organs and other effects related to chemical/metal exposures; decreased mental health and wellbeing; and others.[295]

Key hazards related to mining include, but are not limited to: rocks falls, ground subsidence, vehicle collisions with other vehicles, equipment, humans or wildlife, explosions, release of noxious gases, catastrophic failure of mine infrastructure.[296]

Due to the many hazards and potential impacts associated with mining, a strong focus on occupational health and safety must be present at responsible mines such as robust health and safety management systems that include participation by workers or their representatives.

In 1995, the International Labour Organization (ILO) adopted *Convention 176–Safety and Health in Mines*.[297] This convention set out international standards with respect to mine-related safety and health inspections, accident reporting, investigation, training, hazard assessment and management, and workers' rights to participate in workplace health and safety decisions, be adequately trained in their tasks, be informed of occupational hazards, and remove themselves from dangerous workplace situations.

TERMS USED IN THIS CHAPTER

Affected Community ■ Associated Facility ■ Biological Exposure Indices (BEI) ■ Competent Authority ■ Competent Professionals ■ Comprehensible Manner ■ Consultation ■ Contractor ■ Corporate Owner ■ Grievance ■ Hazard ■ Health Surveillance ■ Inform ■ Mining Project ■ Mining-Related Activities ■ Occupational Exposure Limit (OEL) ■ Operating Company ■ Stakeholder ■ Supplier ■ Training ■ Worker ■ Workers' Representative ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To identify and avoid or mitigate occupational health and safety hazards; maintain working environments that protect workers' health and working capacity; and promote workplace safety and health.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant for all mines applying for IRMA certification, however, requirements 3.2.1.5.d and e, and 3.2.3.2.c are only applicable for underground mining operations.

CRITICAL REQUIREMENTS IN THIS CHAPTER

Workers are informed of the hazards associated with their work, the health risks involved and relevant preventive and protective measures (3.2.4.1.a and b).

[295] ICMM. 2009. Good Practice Guidance on Occupational Health Risk Assessment. www.icmm.com/document/629

[296] ICMM website: "Preventing Fatalities." https://www.icmm.com/en-gb/health-and-safety/safety/preventing-fatalities

[297] International Labour Organization. See "C176 - Safety and Health in Mines Convention, 1995 (No. 176)" www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_ILO_CODE:C176

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.2.1. Health and Safety Management System 3.2.1.1. The operating company shall implement a health and safety management system for measuring and improving the mining project's health and safety performance.	**Auditing Note for Chapter 3.2:** Throughout this chapter verification relies heavily on interviews with operating company management personnel that have occupational health and safety (OHS) responsibilities (referred to simply as "operating company OHS personnel"), as well as workers and worker health and safety (H&S) representatives. Auditors shall be able to interview workers and their H&S representatives without management present. Verification will also involve first-hand observations of the workplace and review of company documentation by auditors. **For 3.2.1.1:** Review documentation and interview company employees with OHS responsibilities to confirm that there is a health and safety management system in place that enables measurement of health and safety performance and continual improvement. Confirm that the company has established metrics or indicators for measuring the effectiveness of its	**For 3.2.1.1:** • Documented policies regarding occupational health and safety (OH&S) in its organization. • Procedures for maintaining OH&S. • List of assigned OH&S roles within the company / mine site. • Records of OH&S trainings provided to all employees, and specialist trainings for employees who have additional OH&S roles and responsibilities. • Evidence of testing or other means of establishing the competence of all employees to carry out their specific OH&S roles and responsibilities. • List of organizations, legislation and stakeholders involved in consultation of the mine's OH&S management system in the last 12 months. • Evidence of OH&S assessments that are relevant for the mine's current activities of operation. • A list of all OH&S operational controls, whether active or passive, that are in place at the mine. • A list of metrics used to monitor OH&S performance. • The findings of the last review of the OH&S	**Explanatory Note for 3.2.1.1:** According to the Government of Western Australia Department of Mines, Industry Regulation and Safety, "A safety management system (SMS) for a mine is a tool that assists mine operators to systematically achieve and maintain standards for managing safety and health. It brings together the policies and procedures required to effectively mitigate (i.e. lessen the severity) the risks associated with the mining operations. . . to both meet the minimum regulatory requirements and lead to sustained improvement in safety and risk management performance."[298] For more information on suggested components of a health and safety management system see Government of Western Australia website "What is a safety management system?" and other resources.[299] At minimum, a health and safety management system should consist of: • A health and safety policy that sets the goals of the organization to uphold occupational health and safety (OH&S), owning responsibility for its duty of care, which should be enshrined in the responsibility of both management and workers, as well as through a commitment to provide the resources required to carry out these responsibilities. The policy should involve participation and commitment from all employees and be clear in its intent and interpretation. • A health and safety management plan (with procedures, specifications and guidance documents) that defines the requirements of the system; performance criteria; persons responsible; timescales for implementation and review; and desired outcome. The plan and procedures should ensure that: all significant OH&S hazards are identified, and their risk mitigated by undertaking risk assessment and management; all legal requirements are met; and the organization's specific H&S objectives are conformed with

[298] Government of Western Australia Department of Mines, Industry Regulation and Safety, website. "What is safety management system?" http://www.dmp.wa.gov.au/Safety/What-is-a-safety-management-4598.aspx

[299] Ibid. and International Mining for Development Centre. 2012. The Management of Occupational Health and Safety in the Australian Mining Industry. https://im4dc.org/wp-content/uploads/2012/01/UWA_1698_Paper-03.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	OH&S performance (e.g., accident rates, health statistics, training sessions attended by workers, regular inspections and maintenance of equipment, etc.). Confirm that performance is tracked, and results are used to improve the system.	management system, which should at least have been conducted in the last 12 months. • A list of changes made in response to the OH&S management system review in line with findings.	and employees participate in the organization's H&S programs. • Implementation of the system in line with planning that: Clearly assigns and communicates the specific roles, responsibilities and lines of reporting of each individual and holds those individuals to account for discharging their responsibilities; Ensures all personnel are competent to carry out their designated function; Promotes continual review of the OH&S plan through consultation and conversation; Ensures up-to date and relevant documentation relating to the OH&S management system; Demonstrates management of significant risks through operational controls. • Monitoring of OH&S performance using defined procedures to actively scrutinize compliance with the OH&S management system, and reactively reporting and investigating incidents and accidents to identify their root cause. • Review of OH&S performance and making changes to the OH&S management system in line with findings, taking immediate corrective actions in line with the changes.
3.2.2. Health and Safety Risk Assessment and Management 3.2.2.1. The operating company shall implement an ongoing, systematic health and safety risk assessment process that follows a recognized risk assessment methodology for industrial operations.[300]	**For 3.2.2.1 and 3.2.2.2:** Confirm, through interviews and document review, that the operating company has systems in place for the ongoing and systematic assessment of health and safety risks. Relevant documents may include: • Hazard identification analyses and records • Risk assessment documents, including any baseline analyses • Company health and safety policies and procedures	**For 3.2.2.1:** • Documented risk assessments and methodologies that identify hazards at a mine level and task level, including baseline assessments and continuous (updated) assessments over the life of the mine.	**Explanatory Note for 3.2.2.1:** An ongoing, systematic health and safety risk assessment process should include the following elements: • A process to identify potentially hazards • A system to quantify the criticality of the risk associated with development and release of a hazard. • A control framework to identify mitigation measures following the hierarchy of control for all those significant hazards. It assigns each control an owner, who is accountable for the way that they manage that control. • Measures to detect early development of potentially hazardous events and monitoring to check the status of hazard development or control. • A control effectiveness rating system to verify that risk is reduced to within a safe threshold, and alternative measures are taken where

[300] For example, the risk assessment methodologies found in: Risk Assessment - Recommended Practices for Municipalities and Industry prepared by the Risk Assessment Expert Committee of the former Major Industrial Accidents Council of Canada; the process outlined in ICMM's Good Practice Guidance on Occupational Health Risk Assessment. p. 16; or other similar methodologies.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			the initial control is ineffective. According to CDC (2008), examples of recognized risk assessment methodologies include, but are not restricted to:[301] • Workplace Risk Assessment & Control (WRAC) • Job Safety Analysis (JSA) • Failure Modes, Effects and Critical Analysis (FMEA) • Process deviations analysis (such as HAZOP) • Fault / Logic Tree Analysis • Event Tree Analysis • Bow Tie Analysis • SLAM (Stop, Look, Assess, Manage) • Risk Inventory and Evaluation (RI&E) • Health Risk Assessment (see, e.g., ICMM, 2016[302]) Different risk assessment methodologies are applicable at different levels and different phases in a mining project's life cycle. An appropriate methodology should be selected for baseline assessments, issue-based assessments and continuous assessments.
3.2.2.2. The assessment process shall identify and assess the significance/consequence of the full range of potential hazards associated with the mining project, including those related to: a. The design, construction and operation of the workplace, mining-related activities and processes, the physical stability of	For 3.2.2.1 and 3.2.2.2: Confirm, through interviews and document review, that the operating company has systems in place for the ongoing and systematic assessment of health and safety risks. Review documentation to confirm that the assessment is comprehensive and covers the range of issues listed in 3.2.2.2.	For 3.2.2.2: • Documented risk assessments and methodologies that identify hazards at a mine level and task level. • Baseline health and safety risk assessment. • Continuous (updated) health and safety risk assessments over the life of the mine. • Documentation of risk assessment methodologies, specifications and procedures.	Explanatory Note for 3.2.2.2: As per 3.2.2.5, below, the assessment should include identification of key hazards related to: • Mining-related activities and processes; • Ground stabilization in working areas; • Equipment and machinery operation, maintenance and repair; • Waste and chemical management. Some issues related to health and safety of workers are assessed in other chapters, and if relevant, this information should be integrated into the health and safety risk assessment in this chapter:

[301] Centers for Disease Control and Prevention (CDC). 2008. The Application of Major Hazard Risk Assessment (MHRA) to Eliminate Multiple Fatality Occurrences in the U.S. Minerals Industry. IC9508 Information Circular. https://www.cdc.gov/niosh/mining/userfiles/works/pdfs/2009-104.pdf

[302] International Council on Mining and Metals (ICMM). 2016. Good Practice Guidance on Occupational Health Risk Assessment. 2nd Ed. https://www.icmm.com/website/publications/pdfs/health-and-safety/161212_health-and-safety_health-risk-assessment_2nd-edition.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
working areas, the organization of work, use of equipment and machinery, and waste and chemical management;[303] b. All personnel, contractors, business partners, suppliers and visitors; c. Unwanted events;[304] d. Routine and non-routine activities, products, procedures, and services; and e. Changes in duration, personnel, organization, processes, facilities, equipment, procedures, laws, standards, materials, products systems and services.		• Risk assessment guidance documents for relevant personnel. • Documentation of changes or updates made to specifications and guidance documents.	• Workers have the right to health, and so during the human rights assessment in IRMA Chapter 1.3, companies should include an assessment the potential that employees may be exposed to unacceptable health impacts. • IRMA Chapter 3.3 shares similar objectives to Chapter 3.2 of protecting the health and safety of affected communities, of which workers are members. The community health and safety risk and impact assessment process includes collaboration with workers as per requirement 3.3.5.1. Also, Criteria 3.3.4 has requirements that pertain to workers/employees that are triggered if there are significant risks to workers/communities related to HIV/AIDS, TB or malaria. • There may be particular risks to workers when projects are located in conflict-affected or high-risk areas. These risks may include potential impacts on health or safety, as well as risks to human rights. The conflict risk assessment in Chapter 3.4 should evaluate such risks to workers, and any relevant information should be integrated in the H&S assessment process (or vice versa). • As per IRMA Chapter 3.5, there may be risks to workers related to mine security arrangements. These risks may include potential impacts on health or safety, as well as risks to human rights. The security risk assessment in Chapter 3.5 should evaluate such risks to workers, and any relevant information should be integrated in the H&S assessment process (or vice versa). • Re: "waste and chemical management" in 3.2.2.2.a, see also IRMA Chapter 4.1, requirement 4.1.2.1, which requires the identification of all materials, substances, such as chemicals, and wastes (other than mine wastes) associated with the mining project that have the potential to cause impacts on human health, safety, the environment or communities; and also requirement 4.1.3.1, which requires the identification of chemical and physical risks associated

[303] See also IRMA Chapter 4.1, requirement 4.1.2.1, which requires the identification of all materials, substances, such as chemicals, and wastes (other than mine wastes) associated with the mining project that have the potential to cause impacts on human health, safety, the environment or communities; and also requirement 4.1.3.1, which requires the identification of chemical and physical risks associated with mine waste materials (e.g., tailings, waste rock, spent ore from heap leaches, and residues and fluid wastes from mineral processing).

[304] An unwanted event is a situation where a hazard has or could possibly be released in an unplanned way. (ICMM. 2015. Health and Safety Critical Control Management Good Practice Guide)

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			with mine waste facilities and materials (e.g., tailings, waste rock, spent ore from heap leaches, and residues and fluid wastes from mineral processing). Re: 3.2.2.1.c, assessment of significance or consequence should result in a description of the final impact (or maximum foreseeable loss) that could occur from a material unwanted event. An "unwanted event" is a situation where a hazard has or could possibly be released in an unplanned way. A "material unwanted event" is an unwanted event where the potential or real consequence meets a threshold defined by the company as warranting the highest level of attention.[305] Assessment procedures should be put in place to ensure that: • Unwanted events are anticipated; • Risk assessments cover the scope of activities that a group of persons may undertake, both routine and non-routine; • Consideration is given to the experience and familiarity of personnel, contractors, business partners, suppliers and visitors with the workplace and activities undertaken. Re: 3.2.2.2.e, specifications and guidance documents should be periodically renewed to adapt to: • New stages of design, construction and operation; • Changes in processes and procedures; • Changes in facilities and equipment; • Changes in laws and compliance standards; • Change in materials and product-service systems. As per IRMA Chapter 1.1, the operating company is responsible for ensuring that contractors (and subcontractors) involved in mining-related activities comply with the occupational health and safety requirements of the IRMA Standard, i.e., contract workers and any other

[305] ICMM. 2015. Health and Safety Critical Control Management Good Practice Guide). p. 5. https://www.icmm.com/website/publications/pdfs/health-and-safety/8570.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			workers who provide project-related work and services should be afforded a safe and healthful work environment.
3.2.2.3. The operating company shall pay particular attention to identifying and assessing hazards to workers who may be especially susceptible or vulnerable to particular hazards.	For 3.2.2.3: Confirm that the evaluation of risks included particular attention to vulnerable or susceptible workers.	For 3.2.2.3: • Documentation of added risks that persons with specific limitations may experience in relation to particular hazards. • List of activities that people with specific limitations or vulnerabilities should not carry out, and locations that people with specific limitations should not enter due to the heightened risk.	Explanatory Note for 3.2.2.3: Note that there are some requirements in Chapter 3.1 that share the objective of protecting the health and safety of all workers, including vulnerable workers (such as those relating to harassment in 3.1.3.3, child labor in 3.1.7, and working hours in 3.1.9). Vulnerable workers would be those who have one or more specific characteristics that may make them more susceptible to health or safety impacts (e.g., in some cases workers with disabilities, HIV/AIDS or other disease or health impairments, young, older or female workers may be more susceptible to certain health-related impacts, etc.). For example, there may be a greater potential for health or safety impacts if workers have a limited range or reach of movement or stability, speed of movement, height, sensory responses, or lifting strength. Also, some workers may have greater sensitivity or adverse responses to heat, chemicals, gases, sunlight, noise, vibration and/or dust. The Danish Institute for has outlined measures that should be considered for particular vulnerable groups such as night workers, pregnant and nursing women, and young workers (DIHR, 2016).
3.2.2.4. The operating company shall develop, implement and systematically update[306] a risk management plan that prioritizes measures to eliminate significant hazards, and outlines additional controls to effectively minimize negative consequences and protect workers and others from remaining hazards.[307]	For 3.2.2.4: Review risk management plans to confirm that the operating company has developed a risk management process that prioritizes elimination of significant hazards. Review hazards identified, and confirm that where avoidance of significant hazards is not possible (e.g., there is no non-hazardous that can be used in	For 3.2.2.4: • Risk management plan documents. • Records or documentation of guidance documents used to develop risk management plans. • List of specifications used to develop risk management plans. • Schedule of review of risk management	Explanatory Note for 3.2.2.4: The risk management plan in 3.2.2.4 shall be updated, as necessary, based on the outcomes and information from its ongoing risk assessment process, monitoring, and other information. Note that Chapter 3.2 provides requirements related to worker safety that may be partially addressed in the Emergency Response Plan found in IRMA Chapter 2.5. Conversely, emergency-related procedures may be included in the occupational health and safety risk management plan if deemed applicable.

[306] The plan shall be updated, as necessary, based on the outcomes and information from its ongoing risk assessment process, monitoring, and other information.

[307] According to the ILO Convention 176 – Safety and Health in Mines (1995), the hierarchy of control should prioritize: (1) Eliminating the hazard; (2) Controlling the hazard at source; (3) Minimizing risk by means such as design of safe work systems; and (4) In so far as the risk remains, provide for the use of personal protective equipment. http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C176

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	a particular flotation process), that controls are in place to protect workers (e.g., training related to handling, issuance of personal protective equipment (PPE), confirmation that PPE is being used, chemical/material safety data sheets posted in the workplace in languages understandable to workers, etc.). Confirm that the plan is updated based on incidents, accidents, investigations, monitoring, additional assessments, or other information relevant to managing health and safety risks.	plans. • List of measures in place to detect and monitor development and controlled release of identified hazards. • Documentation that explains the process for quantifying the criticality of risks. • A list of persons responsible and accountable for implementation and monitoring controls to mitigate risks and impacts. • Documentation that explains the process for verifying that risk or impact is reduced to within a safe threshold, and alternative measures are taken where the initial control is ineffective. • Records of updates made to mitigation measures/controls.	Re: "prioritizes measures to eliminate significant hazards," according to the ILO Convention on Safety and Health in Mines a hierarchy of controls should be implemented that prioritizes: (1) Eliminating the hazard; (2) Controlling the hazard at source; (3) Minimizing risk by means such as design of safe work systems; and (4) In so far as the risk remains, provide for the use of personal protective equipment.[308] In other words, the operating company should develop a system of controls for the elimination of risk through re-design of the activity or work area to eliminate hazards. Where elimination of the hazard is not possible, control measures should be implemented to reduce the risk at source, and procedural controls developed to limit exposure to the hazard.
3.2.2.5. In particular, the operating company shall demonstrate that it has developed procedures and implemented measures to: a. Ensure that the mine has electrical, mechanical and other equipment, including a communication system, to provide conditions for safe operation and a healthy working environment; b. Ensure that the mine is commissioned, operated, maintained and decommissioned in	For 3.2.2.5: Interview operating company OHS personnel, and review any relevant documentation including maps, plans or written procedures, to confirm that they can demonstrate that efforts have been undertaken to eliminate or minimize the risks related to the particular issues outlined in 3.2.2.5. For 3.2.2.5.g: Evidence of compliance may include documentation and training/education materials and records of worker trainings held	For 3.2.2.5: • Documentation showing safe installation of electrical, mechanical and other equipment; procedures for maintaining systems in safe working conditions. • Inspection and maintenance records showing machinery and equipment are well maintained and in safe working order. • Documentation of testing of communication systems to ensure they are maintained in working condition. • Documented procedures outlining restriction of work or workplaces to or from	Explanatory Note for 3.2.2.5: These requirements are from ILO Convention 176 – Safety and Health in Mines. See Article 7.[309] Re: 3.2.2.5.d and e, these sub-requirements are only relevant if the mining project includes an underground mining component.

[308] International Labour Organization (ILO). 1995. Safety and Health in Mines Convention, 1995 (No. 176). http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C176

[309] International Labour Organization (ILO). 1995. Safety and Health in Mines Convention, 1995 (No. 176). http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C176

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such a way that workers can perform the work assigned to them without endangering their safety and health or that of other persons; c. Maintain the stability of the ground in areas to which persons have access in the context of their work; d. If relevant, whenever practicable provide two exits from every underground workplace, each connected to separate means of egress to the surface; e. If relevant, ensure adequate ventilation for all underground workings to which access is permitted; f. Ensure a safe system of work and the protection of workers in zones susceptible to particular hazards; g. Prevent, detect and combat accumulations of hazardous gases and dusts, and the start and spread of fires and explosions; and h. Ensure that when there is potential high risk of harm to workers, operations are stopped and workers are evacuated to a safe location.	regarding explosion and fire prevention and/or firefighting techniques; that workers are aware of the location of fire extinguishers; confirm that equipment for detecting fire and explosive gas is in place, etc. For 3.2.2.5.h: Confirm, through interviews with workers and worker H&S representatives, that workers are informed of evacuation plans and/or procedures, and that they understand where to go in the event of an evacuation; and confirm that communication systems are in place to alert workers of evacuations.	certain workers to ensure during the mine's commission, operation, maintenance and decommission, workers can perform the work assigned to them without endangering their safety and health or that of other persons. • Documented procedures or policies related to restriction of face angles and exposures, and implementation of active and passive rock stabilization systems to maintain the stability of the ground in areas to which persons have access in the context of their work. • Documented policy and/or records (e.g., maps of facilities) demonstrating provision of two exits from every underground workplace, each connected to a separate means of egress to the surface to increase evacuation options if this is relevant and practicable. • Documented policy requiring installation and use of an effective ventilation system for all underground workings, and records demonstrating installation and maintenance of these systems. • Documented policy requiring safe systems of work and use of personal protective equipment in zones susceptible to particular hazards such as work from heights, confined spaces, or with heavy machinery, and records demonstrating that systems have been implemented and protected equipment is being used appropriately. • Records showing installation of gas and dust monitors to detect accumulations of	

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		hazardous gases and dusts; records of controls implemented to dilute or otherwise control gases and dusts • Documented controls to restrict work until the hazard is within safe limits. • Documented policy or procedures for shutting down or halting operations and evacuating workers to a safe location when there is potential high risk of harm to them. • Records of evacuation drills. • Evidence of evacuation routes posted in the workplace.	
3.2.3. Communication and Engagement with Workers and Others 3.2.3.1. Workers shall be informed of their rights to: a. Report accidents, dangerous occurrences and hazards to the employer and to the competent authority; b. Request and obtain, where there is cause for concern on safety and health grounds, inspections and investigations to be conducted by the employer and the competent authority; c. Know and be informed of workplace hazards that may affect their safety or health; d. Obtain information relevant to their safety or health, held by the	For 3.2.3.1: Interview workers and their H&S representatives to confirm that workers have been informed of their rights as per 3.2.3.1. Review any company documentation provided to workers, or training/education materials, etc. that provides information to workers on their rights. Confirm, through interviews with operating company OHS personnel, workers and worker H&S representatives, that systems are in place to effectively communicate and receive input from the workforce on OHS matters. Review samples of methods of communication (e.g., emails, posters, videos, brochures, others). Confirm with workers and	For 3.2.3.1: • Induction, training and information materials provided to workers. • Records of workers who have received induction. • Records of workers who have received training. • List of workplaces where informational materials are displayed.	Explanatory Note for 3.2.3.1: These requirements are from International Labour Organization (ILO) Convention 176, Safety and Health in Mines. See Articles 9 and 13.[310] Workers are stakeholders, and also often members of affected communities. As such, the requirements of IRMA Chapter 1.2 apply to workers. With respect to this chapter, some particularly important requirements from Chapter 1.2 include that: information provided to mine workers needs to be timely, engagement must be respectful, free from manipulation, interference, coercion or intimidation (see 1.2.2.2), and include participation by marginalized groups of workers, and communications need to be accessible, culturally appropriate and (see 1.2.2.4).

[310] Ibid.

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employer or the competent authority; e. Remove themselves from any location at the mine when circumstances arise that appear, with reasonable justification, to pose a serious danger to their safety or health; and f. Collectively select safety and health representatives.	worker H&S representatives that information provided to workers is comprehensible to workers (e.g., in languages and formats that are understandable).		
3.2.3.2. In all cases a worker attempting to exercise any of the rights referred to in 3.2.2.1 in good faith shall be protected from reprisals of any sort.	For 3.2.3.2: Confirm, through interviews with operating company OHS personnel and worker H&S representatives that worker rights have been free from reprisals. Document review could include review of grievances (see Chapter 3.1, criterion 3.1.5).	For 3.2.3.2: • Policies and/or procedures that include provisions that protect workers from reprisal when exercising their rights. • Training and promotional materials delivered to management and workers affirming worker's rights. • Grievance policy and procedures. • Records of worker grievances (e.g., complaints or lack thereof regarding reprisals for attempting to exercise rights related to protection of worker health and safety), and any company follow-up.	Explanatory Note for 3.2.3.2: According to the Danish Institute for Human Rights: "Employees are in the best position to recognise workplace hazards because of their experience operating directly in the workplace environment. They must be encouraged to share their views and concerns with management. Retaliation against an employee for reporting hazardous workplace concerns violates the right to health as well as the right to just and favourable conditions of work. Accordingly, the company must not punish an employee for removing him/herself from a working environment that he or she reasonably perceives to be dangerous or harmful. . . and if a reasonable difference of opinion arises regarding the actual threat of the situation, and the employee refuses to return to the work site because of these concerns, the company should investigate alternative placements for the individual within the company."[311] The operating company should establish procedures to protect workers from reprisal when exercising their rights, be it the exercise of their rights to protect their health and safety at work or their rights related to freedom of association and other workers' rights outlined in Chapter 3.1. In order for policies/procedures to be effective, there should be consequences for those employees (management or fellow workers) that carry out reprisals on those who exercise their rights; and if incidents do

[311] Danish Institute for Human Rights (DIHR). 2016. The Human Rights Compliance Assessment Tool: Workplace Health and Safety. p. 34. https://www.business-humanrights.org/sites/default/files/3_%20Workplace%20Health%20and%20Safety.pdf

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			occur, actions should be taken by the company to revise policies and procedures to reduce the potential for similar incidents in the future.
3.2.3.3. The operating company shall develop systems to effectively communicate with, and enable input from the workforce on matters relating to occupational health and safety.	For 3.2.3.3: Confirm, through interviews with operating company OHS personnel and worker OHS representatives that systems or processes are in place to enable OHS information to reach workers, and OHS input from workers to reach company OHS personnel.	For 3.2.3.3: • Procedures for workers to communicate the input to OH&S representatives or to the operating company. • Records of meetings between OH&S representative and management (e.g., meeting minutes, attendance sheets, lists of issues raised). • Records of feedback provided and decisions taken the operating company in response to input provided at meetings between OH&S workers' representatives and company representatives. • Records of correspondence between workers and the company on issues of concern, and feedback provided and decisions taken by the company in response to issues raised. • Documentation of procedures in place to protect workers from reprisal when exercising their rights. • Records of worker grievances (e.g., complaints or lack thereof regarding inadequate access to information on occupational health and safety, or lack of opportunity for workers to provide input on OH&S issues), and any company follow-up.	Explanatory Note for 3.2.3.3: There may be multiple ways that companies communicate with workers, and means by which workers can provide input to the operating company on issues related to occupational health and safety (OH&S). For example: • Workers may select representatives who champion OH&S on their behalf. In such situations, there need to be systems in place for workers to communicate their input regarding OH&S to their representatives, who then provide that feedback to company management. • Workers may receive information on OH&S from the company, through trainings and awareness campaigns. • Processes may be in place to allow workers, regardless of their skill level, education, or language, to provide input directly to the company. • Processes are in place for the operating company to provide frequent and regular feedback to workers, to demonstrate that worker safety and health concerns are being heard and addressed. • The operating company authorizes sufficient time and resources to facilitate worker participation. • Processes are in place to ensure that the program protects workers from being retaliated against for reporting injuries, illnesses, and hazards; participating in the program; or exercising their safety and health rights.
3.2.3.4. The operating company shall develop and implement a formal process involving workers'	For 3.2.3.4: Confirm, through interviews with operating company OHS personnel and worker H&S	For 3.2.3.4: • Documentation of the process that enables workers, either individually or through	Explanatory Note for 3.2.3.4: A "formal process involving workers' representatives and company management" could be, for example, a joint health and safety committee or its equivalent.

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representatives and company management to ensure effective worker consultation and participation in matters relating to occupational health and safety including: a. Health and safety hazard identification and assessment; b. Design and implementation of workplace monitoring and worker health surveillance programs; c. Development of strategies to prevent or mitigate risks to workers through the health and safety risk assessments or workplace and workers' health surveillance; and d. Development of appropriate assistance and programs to support worker health and safety, including worker mental health.[312]	representatives that a formal process for engaging workers on issues related to OHS exists. Confirm with worker H&S representatives that they have been involved in: hazard identification and health and safety risk assessments; design of workplace monitoring and worker health surveillance programs; development of mitigation strategies to reduce risks to workers; devising health promotion programs, if relevant, strategies to address the mental health and wellbeing of workers; participation in investigations and monitoring with assistance of independent advisors if necessary. Interview worker H&S representatives regarding whether or not consultations and participation in occupational health and safety processes have been effective (e.g., they allow for genuine worker involvement in occupational health and safety issues on site and timely receipt of information). Review minutes or actions items from meetings held as part of the formal process, and query operating company OHS personnel and worker H&S	workers' representatives, to participate in matters relating to occupational health and safety. For example, this could be terms of reference or procedures governing a joint company/worker health and safety committee or its equivalent. • Records of meetings and correspondence that demonstrate worker participation in matters relating to occupational health and safety (e.g., list of workers who participated in hazard identification and/or risk assessment). • Documentation of the hazards identification and risk assessment process. • Documentation of workplace monitoring and worker health surveillance programs in place. • Documentation of strategies to prevent or mitigate risks to workers through the health and safety risk assessments or workplace and workers' health surveillance. • Documentation of assistance and programs to support worker health and safety, including worker mental health. • Records of worker grievances (e.g., complaints or lack thereof regarding inadequate worker participation in OH&S matters), and any company follow-up.	For 3.2.3.4 d, see CSA, 2013, for guidance on protecting workers' mental health.[313]

[312] E.g., Canadian Standards Association and Bureau de normalisation du Québec. 2013. Psychological Health and Safety in the Workplace – Prevention, promotion, and guidance to staged implementation. https://www.csagroup.org/documents/codes-and-standards/publications/CAN_CSA-Z1003-13_BNQ_9700-803_2013_EN.pdf

[313] Canadian Standards Association (CSA). 2013. Psychological health and safety in the workplace – Prevention, promotion, and guidance to staged implementation. https://www.csagroup.org/documents/codes-and-standards/publications/CAN_CSA-Z1003-13_BNQ_9700-803_2013_EN.pdf

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	representatives to determine if worker recommendations are generally implemented and questions responded to, or whether input rarely affects the operating company's actions.		
3.2.3.5. The operating company shall provide workers' health and safety representatives with the opportunity to: a. Participate in inspections and investigations conducted by the employer and by the competent authority at the workplace; b. Monitor and investigate safety and health matters; c. Have recourse to advisers and independent experts; and d. Receive timely notice of accidents and dangerous occurrences.	For 3.2.3.5: Interview worker H&S representatives to confirm that they have the opportunity to participate in inspections/investigations, monitoring, have access to advisers/experts when necessary, and receive timely notice of accidents and dangerous occurrences. Interview operating company to determine if there are procedures are in place to include or communicate with workers' representatives as per 3.2.2.5.	For 3.2.3.5: • Documentation of the processes or systems that exist to enable workers' representatives to participate in matters relating to occupational health and safety. For example, this could be terms of reference or procedures governing a joint company/worker health and safety committee or its equivalent. • Records of communications with workers' representatives informing them of their ability to participate in processes or systems, or access certain information or resources such as independent experts. • Records of worker grievances (e.g., complaints or lack thereof regarding inadequate worker participation in OH&S matters, or inadequate access to information), and any company follow-up.	Explanatory Note for 3.2.3.5: As part of ILO Convention 176, workers have the right to collectively select safety and health representatives.[314] The sub-requirements in 3.2.3.5 are all contained in the ILO C176.[315]
3.2.3.6. Visitors and other third parties accessing the mining premises shall receive an occupational health and safety briefing, and be provided with	For 3.2.2.6: Confirm with the operating company that they carry out OHS briefings with visitors and other third parties that visit the mining premises or associated facilities, and	For 3.2.3.6: • Documentation or copies of OH&S briefing materials. • Documentation of PPE requirements for	Explanatory Note for 3.2.3.6: Personal protective equipment needs will vary based on whether third parties are visiting underground areas, confined spaces, workshops, general mine administration areas, zones

[314] International Labour Organization (ILO). 1995. Safety and Health in Mines Convention, 1995 (No. 176). Article 13.1.f. http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C176

[315] Ibid (various articles)

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relevant protective equipment for areas of the mine site that or associated facilities that they will be entering.	that protective equipment is provided in areas where such equipment is necessary. Review communication materials related to visitors and third party OHS requirements.	visitors and other third parties based on the facilities that they will be accessing. • Records of persons that have received briefing and full PPE and the work tasks they may undertake or locations that they may enter, which verifies full briefings and PPE have been provided. • Records of worker or stakeholder grievances (e.g., complaints or lack thereof regarding provision of safety briefings and PPE for visitors and other third-parties), and any company follow-up.	with heavy machinery in transit, remote locations, working areas with extreme temperatures, areas with extreme noise, etc.
3.2.4. Measures to Protect Workers 3.2.4.1. (Critical Requirement – a and b only) The operating company shall implement measures to protect the safety and health of workers including: a. Informing workers, in a comprehensible manner, of the hazards associated with their work, the health risks involved and relevant preventive and protective measures; b. Providing and maintaining, at no cost to workers, suitable protective equipment and clothing where exposure to adverse conditions or adequate protection against risk of	**For 3.2.4.1:** Interview operating company OHS personnel, and review any relevant documentation, including worker grievances (see Chapter 3.1, criterion 3.1.5) to confirm that the company has prioritized risk elimination, and when that was not possible, has controlled or mitigated risks in the manner outlined in 3.2.4.1. **For 3.2.4.1.a:** Interview workers to ensure that they have been informed of the associated with their work, health risks, and preventative and protective measures, e.g., information such as signs and labels related to hazards in work areas is provided in a comprehensible manner (i.e., in language/formats understandable to workers). Determine if there have	**For 3.2.4.1:** • Induction, training and information materials communicating all significant hazards associated with the areas may enter and tasks that workers may be undertake. • Evidence that safety instructions and materials (e.g., chemical/material safety data sheets), are provided in languages understandable to workers, and are posted in the workplace as appropriate. • Records of workers that have received briefing and full, functioning PPE and the work tasks they may undertake or locations that they may enter, which verifies full briefings and PPE have been provided. • Records of PPE inspections to verify that PPE is in good working condition. List of locations of first aid kits in workplaces.	**Explanatory Note for 3.2.4.1:** The sub-requirements 3.2.4.1.a through f align with expectations outlined in ILO Convention 176.[317] Re: 3.2.4.1.a, according to the Danish Institute of Human Rights: "The company must provide information to workers about workplace dangers, and means of minimizing danger in a way that workers can understand. Issues such as the language and literacy of labourers must be taken into consideration in devising appropriate information devices."[318] Re: 3.2.4.1.f, this sub-requirement is only relevant at underground mines.

[317] International Labour Organization (ILO). 1995. Safety and Health in Mines Convention, 1995 (No. 176). Article 10 through 13. http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C176

[318] Danish Institute for Human Rights (DIHR). 2016. The Human Rights Compliance Assessment Tool: Workplace Health and Safety. p. 17. https://www.business-humanrights.org/sites/default/files/3_%20Workplace%20Health%20and%20Safety.pdf

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accident or injury to health cannot be ensured by other means; c. Providing workers who have suffered from an injury or illness at the workplace with first aid, and, if necessary, prompt transportation from the workplace and access to appropriate medical facilities; d. Providing, at no cost to workers, training/education and retraining programs and comprehensible instructions on safety and health matters as well as on the work assigned; e. Providing adequate supervision and control on each shift; and f. If relevant, establishing a system to identify and track at any time the probable locations of all persons who are underground.[316]	been OHS-related complaints/grievances (See Chapter 3.1, requirement 3.1.5) related to the failure of the company to eliminate or appropriately control workplace hazards. If grievances have been raised, determine if they were addressed to the satisfaction of workers. For 3.2.4.1.b: Confirm with workers that protective equipment is available to them at no cost. Confirm that the company can justify the implementation of different protective measures (e.g., what prevented companies from eliminating certain risks; why was personal protective gear selected over installing equipment to reduce risk, etc.). For 3.2.4.1.c: Confirm with workers and worker H&S representatives that personnel trained in first aid, and first aid equipment are available at the work site; and that injured or ill workers have access to medical facilities, including transportation to the facilities. For 3.2.4.1.d: Confirm that OHS training programs, education materials and instructions related to their work are provided at no costs and in a manner that is comprehensible to	• Documented procedure of the means for emergency transport from the workplace under normal and perceivable conditions. • Information materials provided to workers on how they can access medical facilities to respond to workplace injuries or occupational illnesses. • Documentation of arrangement with a medical facility to provide the operating company with access medical facilities to respond to workplace injuries or occupational illnesses. • Training materials on safety and health matters in the workplace, and records that workers have attended training sessions. • A policy document explaining they systems used to ensure that adequate supervision is provided each shift. • Documented procedure to identify and track at any time the probable locations of all persons who are underground if applicable. • Records of worker or stakeholder grievances (e.g., complaints or lack thereof regarding implementation of measures to protect the health and safety of workers), and any company follow-up.	

[316] This is only relevant at underground mines.

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	workers; and that workers are compensated for time spent attending trainings that are held outside of normal working hours. For 3.2.4.1.e: Confirm, through review of shift schedules or other documentation and interviews with workers and company representatives that supervisors are present during each shift; and that regulations, if any, for supervision and controls for shift work are being met. For 3.2.4.1.f: If the site is an underground mine, confirm that there is a system for tracking probable locations of every person underground.		
3.2.4.2. If the risk assessment process reveals unique occupational health and safety risks for certain groups of workers (e.g., pregnant women, children, HIV-positive, etc.) the operating company shall ensure that additional protective measures are taken, and trainings and health promotion programs are available to support the health and safety of those workers.	For 3.2.4.2: Interview a sample of vulnerable and/or susceptible workers, including, if relevant, pregnant women or nursing mothers, migrant workers, workers with accessibility challenges, children in age-appropriate jobs, etc., to determine if adequate protections are in place to protect their health and safety; and also to gauge their level of awareness of trainings, health promotion programs and comprehension of health and safety information.	For 3.2.4.2: • Documented risk assessment that includes assessment of risks to vulnerable workers. • A policy document that states intent to ensure no worker undertake work that is hazardous to them as a result of their specific needs. • A policy document that states intent to introduce controls to de-risk all tasks and work areas to accommodate persons with specific needs that present unique occupational health and safety risks. • Training and information materials that are delivered to management and workers to help them to understand the unique occupational health and safety hazards	Explanatory Note for 3.2.4.2: Note that there are some requirements in Chapter 3.1 that share the objective of protecting the health and safety of all workers, including vulnerable workers (such as those relating to harassment in 3.1.3.3, hazards associated with child labor in 3.1.7, and working hours in 3.1.9). Vulnerable workers would be those who have one or more specific characteristics that may make them more susceptible to health or safety impacts (e.g., in some cases workers with disabilities, HIV/AIDS or other disease or health impairments, young or older workers, or female workers may be more susceptible to certain health-related impacts, etc.). For example, there may be a greater potential for health or safety impacts if workers have a limited range or reach of movement or stability, speed of movement, height, sensory responses, or lifting strength. Also, some workers may have greater sensitivity or adverse responses to heat, chemicals, gases, sunlight, noise, vibration and/or dust.

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		associated with a person with specific needs, as well as controls that can reasonably be used to mitigate the risk. • Risk management plan or other document that lists controls that the operating company plans to implement to reduce the risks unique occupational health and safety hazards associated with a person with specific needs. • Documentation of monitoring that has been undertaken to confirm that controls implemented to reduce risks to particular workers are being effective. • Guidance document for management to identify workers with specific needs that might present unique occupational health and safety risks. • Records of worker or stakeholder grievances (e.g., complaints or lack thereof regarding measures taken (or not taken) to protect vulnerable workers that have unique health and safety risks), and any company follow-up.	The Danish Institute for has outlined measures that should be considered for particular vulnerable groups such as night workers, pregnant and nursing women, and young workers. [319] For example, if there are pregnant employees, the operating company should ensure that they are: "adequately trained and equipped when handling chemicals and other materials which could be hazardous to their reproductive organs. The latter includes ensuring that pregnant employees are removed from any work environment which may pose a threat to the development of the unborn child. Relocation to a safer work environment should last throughout the duration of the pregnancy, and if necessary, the nursing period as well."[320]
3.2.4.3. The operating company shall provide workers with clean toilet, washing and locker facilities (commensurate with the number and gender of staff employed), potable drinking water, and where applicable, sanitary facilities for food storage and	For 3.2.4.3: Visit facilities and confirm there are clean toilet/washing facilities available to both genders; that workers have access to potable drinking water and, if relevant, sanitary food storage/prep areas; and, if relevant, accommodations meet the basic needs of workers (they are clean	For 3.2.4.3: • Records of facilities that are available to workers. • Records of the number and gender of employees that have access to the facilities. • Records of worker grievances (e.g., complaints or lack thereof regarding	

[319] Danish Institute for Human Rights (DIHR). 2016. The Human Rights Compliance Assessment Tool: Workplace Health and Safety. pp. 4-15. https://www.business-humanrights.org/sites/default/files/3_%20Workplace%20Health%20and%20Safety.pdf

[320] Danish Institute for Human Rights (DIHR). 2016. The Human Rights Compliance Assessment Tool: Workplace Health and Safety. p. 13. https://www.business-humanrights.org/sites/default/files/3_%20Workplace%20Health%20and%20Safety.pdf

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preparation. Any accommodations provided by the operating company shall be clean, safe, and meet the basic needs of the workers.	and safe, have working electricity, heat, toilet/washing facilities, etc.).	cleanliness, accessibility and safety of facilities), and any company follow-up.	
3.2.4.4. The operating company shall ensure that workers are provided with compensation for work-related injuries and illnesses as follows: a. In countries where workers' compensation is not provided through government schemes or a collective bargaining agreement: i. The operating company shall compensate workers for work-related injuries or illnesses at a rate that, at minimum, covers medical expenses and wages during the recovery and rehabilitation period; ii. If a worker is not able to return to work due to the severity of the work-related injury or illness, the operating company shall compensate for lost earnings until the worker qualifies for an adequate pension (i.e., 2/3 or more of the salary they would otherwise normally receive if healthy and working); or	**For 3.2.4.4.a and b:** If there are national laws for worker compensation, confirm with workers and/or worker health representatives that they have been made aware of government compensation programs. If no program exists, confirm workers are compensated directly by the company as per 3.2.4.4.a., and have access to rehabilitation opportunities per 3.2.4.4.b. **For 3.2.4.4.c:** Interview workers' representatives and the company to determine if procedures are in place and are followed to provide spouses and dependents benefits to cover funeral costs, and compensation equal to at least three month's salary when there is a work-related death.	**For 3.2.4.4:** • A policy document explaining the operating company's compensation package for work related injuries and illnesses. • Records of worker illnesses or injuries incurred as a result of employment at the mine. • Records of remuneration of workers that incurred illnesses or injuries as a result of employment at the mine. • Documentation of worker rehabilitation programs (either in-house or external to the mine, e.g., government-led). • Proof of compensation payments to workers that incurred illnesses or injuries as a result of employment at the mine. • Records of worker or stakeholder grievances (e.g., complaints or lack thereof regarding inadequate compensation for work-related injuries or illnesses), and any company follow-up.	[flag] **3.2.4.4.a.iii (below) Issue in brief:** The IRMA Steering Committee is interested in exploring with mining companies and workers whether or not requirement 3.2.4.4.a.iii, below, as written, is reasonable, and verifiable. In particular, we recognize that illnesses related to occupational exposures or incidents may not manifest until after the worker has stopped being employed by the mine, and at that point it can be extremely difficult for workers to prove that working at the mine caused their illnesses. Mine sites, on the other hand, should be retaining records related to occupational exposures, accidents, workers' medical surveillance, etc., that can establish whether or not there is a probable link between occupational issues and the ex-worker's subsequent illnesses. **Explanatory Note for 3.2.4.4:** Re: 3.2.4.4.a, many, but not all countries have workers compensation schemes. For example, a 2002 report found that 136 countries have worker compensation programs, meaning that approximately 60 do not.[322] No recent references could be found. Re: a.i.: If medical expenses are fully covered by health insurance, then companies are not required to provide additional compensation. Re: a.ii: If the government does not provide for an "adequate pension," the operating company would be expected to supplement the government pension so that a worker was receiving equivalent to 2/3 or more of the salary he or she would otherwise receive; if no government pension program exists, the operating company would be expected to pay compensation equivalent to 2/3 or more of the salary the worker

[322] Eleson, R. 2002. International Workers' Compensation. Prepared for the Indiana Compensation Rating Bureau. http://compclues.icrb.net/file/29dbcff9-2752-4fed-bfdc-422c8c403483)

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
iii. f If an occupational illness manifests after a worker has retired, the operating company or its corporate owner shall, at minimum, compensate the worker for medical expenses,[321] unless the operating company or its corporate owner can establish that the occupational illness was not connected to the worker's employment at the mining project. b. In countries that do not provide for worker rehabilitation as part of their workers' compensation schemes, the operating company shall ensure that workers have free or affordable access to rehabilitation programs to facilitate an expeditious return to work; and c. Where a worker dies as a result of a work-related injury or disease, the operating company shall, at minimum, provide to spouses and dependent children benefits to cover funeral expenses and transportation of the worker's body, if appropriate, as well as compensation that is equal to or greater than three months' salary of the deceased worker.			would otherwise normally receive if healthy and working. Normally, this requirement can be met by providing the appropriate public or private disability insurance coverage. Re: a.iii, see flag description. Also, note that if medical expenses are fully covered by health insurance or relevant compensation schemes covering occupational health matters, then companies are not required to provide additional compensation.

[321] If medical expenses are fully covered by health insurance or relevant compensation schemes covering occupational health matters, then companies are not required to provide additional compensation.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.2.5. Inspections, Monitoring and Investigations 3.2.5.1. The operating company and workers' representatives on a joint health and safety committee, or its equivalent, shall perform regular inspections of the working environment to identify the various hazards to which the workers may be exposed, and to evaluate the effectiveness of occupational health and safety controls and protective measures.	**For 3.2.5.1:** Review procedures and schedules for the regular inspection of the workplace. The frequency of inspections will vary depending on the working environment and potential hazards.	**For 3.2.5.1:** • Records of meetings or communications of the joint health and safety committee (e.g. meeting minutes, written correspondence, agreements). • Records of inspections of the working environment carried out by the operating company and workers' representatives (e.g., date, areas inspected, findings, participants, etc.). • Records of worker grievances (e.g., complaints or lack thereof regarding participation in workplace inspections), and any company follow-up.	**Explanatory Note for 3.2.5.1:** There is no definition for the frequency of "regular inspections." The frequency of inspections should be agreed through the joint health and safety committee, or its equivalent. As a rule of thumb, inspections of the entire work area should occur at least weekly for active, high risk sites, and monthly for low risk sites, and sites under care of maintenance.
3.2.5.2. The operating company shall carry out workplace monitoring and worker health surveillance to measure exposures and evaluate the effectiveness of controls as follows: a. Workplace monitoring and worker health surveillance shall be designed and conducted by certified industrial hygienists or other competent professionals; b. Health surveillance shall be carried out in a manner that protects the right to confidentiality of medical information, and is not used in a manner prejudicial to workers' interests;	**For 3.2.5.2.a and c:** Interview operating company OHS personnel, and review relevant documentation to confirm that the company has a program that includes workplace monitoring and health surveillance of workers, and that the program was designed by competent professionals, and that laboratories used to process samples had the appropriate accreditation. Interview worker H&S representatives to confirm they were consulted re: the health surveillance program (as per 3.2.3.4.b). **For 3.2.5.2.b:** Determine, through interviews with company OHS personnel, how the company protects	**For 3.2.5.2:** • Certificate or recognition of professional competency of the person or company that designed and conducts workplace monitoring and worker health surveillance. • Documentation of health surveillance procedures. • Policy and/or procedures related to disclosure and confidentiality of workers' medical information. • Records of sampling results from a ISO/IEC 17025 certified or nationally accredited laboratory. • Procedure document for identifying where national or ACGIH exposure limits have been exceeded and for notifying affected workers.	**Explanatory Note for 3.2.5.2:** Re: 3.2.5.2.a, for the purposes of this requirement competent professional may be an occupational physician or clinical toxicologist with experience in assessing and diagnosing occupational diseases associated with hazardous substance exposures.[323] Re: 3.2.5.2.b, medical surveillance records "are held by the occupational health clinic and only concern medical examinations and tests done in relation to exposures in the workplace. They thus differ from personal medical records that are held by the employee's personal doctor or primary care records that may be held by the occupational health clinic. Personal medical records are confidential, but there may be some access to anonymised medical surveillance records. In general, consolidated data or information that has had the identification removed may be viewed. Should it be necessary to view an individual's record without

[323] Department of Consumer and Employment Protection (DCEP), W. Australia. 2008. Risk-Based Health Surveillance and Biological Monitoring Guideline. p. 5. http://www.dmp.wa.gov.au/Documents/Safety/MSH_G_RiskBasedHealthSurveillanceAndBiologicalMonitoring.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
c. Samples collected for workplace monitoring and health surveillance purposes shall be analyzed in an ISO/IEC 17025 certified or nationally accredited laboratory; d. Sample results shall be compared against national occupational exposure limits (OELs) and/or biological exposure indices (BEIs), if they exist, or OELs/BEIs developed by the American Conference of Governmental Industrial Hygienists (ACGIH); and e. If an OEL/BEI is exceeded, the affected worker(s) shall be informed immediately, and controls shall be reviewed and revised in a timely manner to ensure that future exposure levels remain within safe limits.	confidentiality of worker medical information; and confirm that health surveillance findings are not used in any manner prejudicial to their interests (e.g., confirm that any tests done are justified from an OHS point of view; and do not cause unwarranted intrusion on the private life of workers). **For 3.2.5.2.d:** Review laboratory accreditation documentation. If not accredited to ISO/IEC 17025, confirm that accreditation by a national body is in place. **For 3.2.5.2.d:** Review health surveillance and monitoring data, analyses or summary reports to confirm results have been compared to appropriate OEL/BEI standards. **For 3.2.5.2.e:** Determine if any OEL/BEI has been exceeded, and interview affected workers and/or review documentation to confirm that workers were immediately informed of the exceedance, and if it posed a risk to their safety or health that they were encouraged to remove themselves from the area as per 3.2.2.5.h and 3.2.3.1.e. Confirm that	• Records of worker grievances (e.g., complaints or lack thereof regarding workplace monitoring and health surveillance activities and confidentiality of information, etc.), and any company follow-up.	removing their identity then the employee's permission will need to be sought."[324] Re: 3.2.5.2.c. ISO/IEC-17025 accredited laboratories have been verified as having an appropriate management system and ability to properly perform certain test methods and calibration. In most countries, ISO/IEC 17025 is the standard for which most labs must hold accreditation in order to be deemed technically competent. If the lab is not accredited to ISO/IEC 17025 then labs must be able to show that they are accredited by a national body. Ideally, the accreditation requirements of the national body would be as stringent and robust as ISO/IEC 17025. Re: 3.2.5.2.d: Some countries have developed occupational hygiene standards for workplaces. The International Labor Organization website provides links to agencies responsible for establishing exposure limits in various countries.[325] The American Conference of Governmental Industrial Hygienists (ACGIH) is a member-based organization composed of independent knowledgeable experts that advances occupational and environmental health. ACGIH develops Threshold Limit Values (TLVs, which are akin to occupational exposure limits) and/or biological exposure indices through a committee process that involves review of peer-reviewed literature and public input.[326]

[324] International Council on Mining and Metals (ICMM). 2016. Good Practice Guidance on Occupational Health Risk Assessment. 2nd Ed. p. 23. https://www.icmm.com/website/publications/pdfs/health-and-safety/161212_health-and-safety_health-risk-assessment_2nd-edition.pdf

[325] International Labour Organization (ILO) website: "Chemical Exposure Limits." http://www.ilo.org/safework/info/publications/WCMS_151534/lang--en/index.htm

[326] American Conference of Governmental Industrial Hygienists (ACGIH) website. http://www.acgih.org/

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	actions were taken to prevent similar future exceedances.		
3.2.5.3. Controls, protective measures, health risk assessments, risk management plans, and training and educational materials shall be updated as necessary based on inspection and monitoring results.	For 3.2.5.3: Interview operating company, and review relevant documentation, to confirm that findings of monitoring and health surveillance were used to assess the effectiveness of health and safety controls and protections, and that changes were made where warranted.	For 3.2.5.3: • A procedure document to explain the process of monitoring the effectiveness of control measures, and updating protective measures, health risk assessments, risk management plans, and training and educational materials when controls have been found to be ineffective. • Inspection and monitoring reports. • Copies of original and updated health risk assessments, risk management plans, and training and educational materials, and any documents outlining controls and protective measures related to worker health and safety.	Explanatory Note for 3.2.5.3: According to the International Council on Mining and Metals (ICMM): "Should there be an incident, for example failure of a control measure, an investigation of the cause of failure should be undertaken to prevent future occurrences or repeats. This information should also be used to update the HRA. . . It is also imperative that training materials are updated when there is new information from an HRA [Health Risk Assessment]. When new control measures are identified, they should become part of the existing monitoring programme."[327]
3.2.5.4. The operating company shall ensure that all workplace injuries, fatalities, accidents and dangerous occurrences, as defined by national laws or regulations, are documented, reported to the competent authority, investigated and that appropriate remedial action is taken.	For 3.2.5.4: Determine relevant national laws related to occupational injuries, fatalities, accidents and dangerous occurrences. Review incident, investigation and remedial action reports; confirm the company filed legally required information. Confirm, through interviews with company, that a system is in place to investigate incidents and undertake remedial action.	For 3.2.5.4: • Procedure(s) for documenting, investigating and reporting all workplace injuries, fatalities, accidents and dangerous occurrences. • Copies of national laws or regulations related documentation, investigation, remediation and reporting of workplace injuries, fatalities, accidents and dangerous occurrences. • Procedure or other documentation to	Explanatory Note for 3.2.5.4: This requirement aligns with ILO Convention 176 (Safety and Health in Mines).[328] "remedial action" should include, as appropriate, immediate medical attention for injuries, compensation for work-related injuries or illnesses, steps to remove hazards prior to allowing workers to return to certain areas or jobs, and steps to prevent occurrence/recurrence of similar types of incidents, etc.

[327] International Council on Mining and Metals (ICMM). 2016. Good Practice Guidance on Occupational Health Risk Assessment. 2nd Ed. pp. 13 and 42. https://www.icmm.com/website/publications/pdfs/health-and-safety/161212_health-and-safety_health-risk-assessment_2nd-edition.pdf

[328] International Labour Organization (ILO). 1995. Safety and Health in Mines Convention, 1995 (No. 176). Article 10. http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C176

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
		explain the process of selecting remedial controls. • Records of workplace injuries, fatalities, accidents and dangerous occurrences (including description of the incidents, investigations, and remedial actions taken in response). • Records of communications (e.g., reports filed) with competent authorities related to workplace injuries, fatalities, accidents and dangerous occurrences as defined by national laws or regulations. • Records of worker grievances (e.g., complaints or lack thereof regarding inadequate documentation, investigation or remediation for workplace injuries, fatalities, accidents and dangerous occurrences), and any company follow-up.	
3.2.6. Health and Safety Data Management and Access to Information 3.2.6.1. The operating company shall maintain accurate records of health and safety risk assessments; workplace monitoring and workers' health surveillance results; and data related to occupational injuries, diseases, accidents, fatalities and dangerous occurrences collected by the company and submitted to competent authorities. This information, except for data protected for medical confidentiality reasons, shall be	**For 3.2.6.1:** Interview operating company OHS personnel, and review documentation related to risk assessments and information management systems in place to collect and track data on occupational injuries, diseases, accidents, fatalities, dangerous occurrences, workplace monitoring and health surveillance. Confirm with worker H&S representatives that they have access to this information. Determine if there are national requirements to file occupational health (e.g., illness, disease, and other) information, and review company	**For 3.2.6.1:** • Copies of health risk assessments and updates to them. • A procedure document to explain the system for maintaining accurate records of workplace monitoring and workers' health surveillance results. • Records of workers' health surveillance results. • A procedure document to explain the system for maintaining accurate records of data related to occupational injuries, diseases, accidents, fatalities and dangerous occurrences collected by the company and submitted to competent authorities.	

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
available to workers' health and safety representatives.	documentation to confirm that the requirements are being met. Confirm with worker H&S representatives that they have access to information submitted to competent authorities.	• Records of communications (e.g., reports filed) with competent authorities related to workplace injuries, fatalities, accidents and dangerous occurrences as defined by national laws or regulations. • A document or outlining the ability of workers' representatives to access health risk assessments, non-confidential workplace monitoring and health surveillance results, and data on occupational injuries, diseases, accidents, fatalities and dangerous occurrences. • Records of worker grievances (e.g., complaints or lack thereof regarding inadequate access to health risk assessments, non-confidential workplace monitoring and health surveillance results, and/or data on occupational injuries, diseases, accidents, fatalities and dangerous occurrences), and any company follow-up.	
3.2.6.2. The operating company shall establish a data management system that enables worker health data to be readily located and retrieved, and data protected by medical confidentiality to be securely stored. Data shall be retained for a minimum of 30 years,[329] and responsible custodians shall be	For 3.2.6.2: Confirm with operating company OHS personnel that the health surveillance data management system enables the secure storage of confidential data (e.g., limits access to trained professionals that have the appropriate clearance to view the data). Confirm there are responsible	For 3.2.6.2: • Health data management system procedures/protocols. • Worker health data records accessible from the data management system. • A procedure document to explain the process of secure storage of worker health data protected by medical confidentiality for	Explanatory Note for 3.2.6.2: According to ICMM, the findings of any exposure monitoring and health surveillance and any actions taken regarding the reporting and investigation of incidents should "be kept for at least 30 years, or as long as required by national laws as these records will enable the evaluation of individual health effects and the accurate assessment of future insurance or liability claims for chronic health risks."[330]

[329] The intention is not that the data should be destroyed after 30 years. Rather, where possible it should be retained indefinitely as the data may be important for future medical research or legal purposes. If a company is sold, provisions should be made for successor custodianship, i.e., transfer of records to the successor company. If a company ceases to operate, it is good practice to notify current employees of their right to access their records before the company goes out of business. (See: U.S. Dept. of Labor. 2001. "Access to Medical and Exposure Records," www.osha.gov/Publications/pub3110text.html)

[330] International Council on Mining and Metals (ICMM). 2016. Good Practice Guidance on Occupational Health Risk Assessment. 2nd Ed. p. 42. https://www.icmm.com/website/publications/pdfs/health-and-safety/161212_health-and-safety_health-risk-assessment_2nd-edition.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
assigned to oversee the heath data management system.	custodians that oversee data management.	at least 30 years. • Documentation of the protections in place to ensure secure storage of confidential information • List of person(s) responsible and accountable for carrying out the procedure for storage and disposal of data.	The intention is not that the data should be destroyed after 30 years. Rather, where possible it should be retained indefinitely as the data may be important for future medical research or legal purposes. If a company is sold, provisions should be made for successor custodianship, i.e., transfer of records to the successor company. If a company ceases to operate, it is good practice to notify current employees of their right to access their records before the company goes out of business.[331]
3.2.6.3. The operating company shall allow workers access to their personal information regarding accidents, dangerous occurrences, inspections, investigations and remedial actions, health surveillance and medical examinations.	For 3.2.6.3: Confirm with workers and worker H&S representatives that workers have access to health and safety data relevant to them.	For 3.2.6.3: • A policy or other document stating the operating company's commitment to allow workers access to their personal information regarding accidents, dangerous occurrences, inspections, investigations and remedial actions, health surveillance and medical examinations. • A procedure document to explain the process for workers to access their personal information regarding accidents, dangerous occurrences, inspections, investigations and remedial actions, health surveillance and medical examinations. • Records of worker grievances (e.g., complaints or lack thereof regarding inadequate access to their personal workplace monitoring and health surveillance results, and/or information on accidents, dangerous occurrences, inspections, investigations and remedial actions that are relevant to the worker), and any company follow-up.	

[331] U.S. Dept. of Labor. 2001. Access to Medical and Exposure Records. https://www.osha.gov/Publications/osha3110.pdf

NOTES

Many of the requirements in this chapter are based on International Labour Organization Convention *C176 - Safety and Health in Mines*. Where recommendations of ILO C176 have been integrated into IRMA requirements, the specific ILO C176 Article number will be referenced in the IRMA Guidance for this chapter (under development).

Cross References to Other Chapters	
CHAPTER	**ISSUES**
1.1—Legal Compliance	As per Chapter 1.1, if host country laws (i.e., national laws) address occupational health and safety, the company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to violate host country law. Also, the operating company is responsible for ensuring that its contractors and subcontractors involved in mining-related activities comply with the requirements of this chapter of the IRMA Standard, i.e., contract workers and any other workers who provide project-related work and services should be afforded a safe and healthful work environment.
1.2—Community and Stakeholder Engagement	Workers are stakeholders, and also often members of the affected communities. As such, the engagement process with workers should align with the requirements in Chapter 1.2.
1.3—Human Rights Due Diligence	Workers have the right to health, and so during the human rights assessment companies should include an assessment the potential that employees may be exposed to unacceptable health impacts.
2.5—Emergency Preparedness and Response	Chapter 2.5 shares similar objectives to Chapter 2.2 of protecting the health and safety of workers, but 2.5 also addresses affected communities. Workers and their representatives are to be consulted in the development of the Emergency Response Plan as per 2.5.2.
3.1—Fair Labor and Terms of Work	Note that there are some requirements in Chapter 2.1 that share the objective of protecting the health and safety of workers (such as those relating to child labor in 3.1.7, and working hours in 3.1.9). The grievance mechanism in Chapter 3.1, criterion 3.1.5, may be used to hear OH&S-related worker grievances.
3.3—Community Health and Safety	Chapter 3.3 shares similar objectives to Chapter 3.2 of protecting the health and safety of communities, of which workers are members. The community health and safety risk and impact assessment process includes collaboration with workers as per criteria 3.3.5. Also, criteria 3.3.4 has requirements that pertain to workers/employees that are triggered if there are significant risks to workers/communities related to HIV/AIDS, TB or malaria.
3.4—Mining in Conflict-Affected or High-Risk Areas	There may be particular risks to workers when projects are located in conflict-affected or high-risk areas. These risks may include potential impacts on health or safety, as well as risks to human rights. The conflict risk assessment should evaluate such risks to workers, and the information should be integrated in the H&S risk assessment (or vice versa).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Communities

A community that is subject to potential risks or impacts from a project.

Associated Facilities

Any facility managed by the operating company that would not have been constructed, expanded or acquired but for the exploration or development of the mine (including ore processing facilities, stationary physical property such as power plants, port sites, roads, railroads, borrow areas, fuel production or preparation facilities, parking areas, shops, offices, housing facilities, storage facilities, etc.).

Biological Exposure Indices (BEI)

The concentration of chemicals in the body that would correspond to inhalation exposure at a specific concentration in air.

Competent Authority

The government department or other authority having power to issue and enforce regulations, orders or other instructions having the force of law in respect of the subject matter of the provision concerned.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Comprehensible Manner

In forms and languages that are easily understood by workers and/or other stakeholders.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Contractor

An individual, company, or other legal entity that carries out duties related to a mining project that are subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Corporate Owner

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Hazard

A potential source of harm or adverse health effect on something or someone under certain conditions at work.

Health Surveillance

Procedures and investigations to assess workers' health in order to detect and identify an abnormality. The results of surveillance should be used to protect and promote health of the individual, collective health at the workplace, and the health of exposed working population. Health assessment procedures may include, but are not limited to, medical examinations, biological monitoring, radiological examinations, questionnaires or a review of health records.

Inform

The provision of information to inform stakeholders of a proposal, activity or decision. The information provided may be designed to help stakeholders in understanding an issue, alternatives, solutions or the decision-making process. Information flows are one-way. Information can flow either from the company to stakeholders or vice versa.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Physical activities (e.g., land disturbance and clearing, road building, sampling, airborne surveys, facility construction, ore removal, ore processing, waste management, reclamation, etc.) carried out during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure, post-closure).

Occupational Exposure Limit (OEL)

An upper limit on the acceptable concentration of a hazardous substance in workplace air for a particular material (e.g., gases, vapors and particles). It is typically set by competent national authorities and enforced by legislation to protect occupational safety and health.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Practicable

Practicable means giving equal weight to environmental, social, and economic benefits and costs. This is not a technical definition. It is the discussion between the affected parties on the balance between these interrelated costs and benefits that is important.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Supplier

Those who are provide goods, services or materials to the project.

Worker

All non-management personnel.

Workers' Representative

A worker chosen to facilitate communication with senior management on matters related to working conditions, occupational health and safety or other workers' concerns. This is undertaken by the recognized trade union(s) in unionized facilities and, elsewhere, by a worker elected by non-management personnel for that purpose.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 3.3—Community Health and Safety

BACKGROUND

Responsibly operated mines can play an important part in improving public health, but poor management of impacts can expose local populations to additional health and safety risks.

Both the identification of potential mining-related health and safety impacts, as well as the mitigation of those impacts will be most successfully achieved when undertaken in partnership with local stakeholders such as local community representatives, government officials, health service providers, public health officials, and community development workers, as well as mine workers who live in communities.[332]

TERMS USED IN THIS CHAPTER

Affected Community ■ Collaborate ■ Contract Workers ■ Contractors ■ Ecosystem Services ■ Host Country Law ■ Mine Closure ■ Mining Project ■ Mining-Related Activities ■ Mitigation ■ Mitigation Hierarchy ■ Operating Company ■ Priority Ecosystem Services ■ Post-Closure ■ Stakeholder ■ Tailings ■ Vulnerable Group ■ Worker ■ Workers' Organizations ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To protect and improve the health and safety of individuals, families, and communities affected by mining projects.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant for any mining projects that may have impacts on community health and/or safety. Operating companies may provide evidence that this chapter is not relevant if they can demonstrate that there are no communities that may be affected by their mining activities, or potential mine expansions. The specific provisions related to HIV/AIDS, tuberculosis and malaria (Criteria 3.3.4) are only relevant at operations where the community health and safety risk and impact assessment has identified that HIV/AIDS, tuberculosis and/or malaria pose a significant risk to worker and/or community health.

CRITICAL REQUIREMENTS IN THIS CHAPTER

The risks to community health and safety posed by the mining operation are evaluated and mitigated (3.3.1.1).

Community Health and Safety Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
3.3.1. Health and Safety Risk and Impact Scoping 3.3.1.1. (Critical Requirement) The operating company shall carry out a scoping exercise to identify significant potential risks and impacts to community	**Auditing Note for 3.3.1.1:** If risks and/or impacts to community health and safety were scoped in other assessments (in addition to or in lieu of a stand-alone, targeted scoping exercise on community health and safety), auditors should confirm	**For 3.3.1.1:** • Scoping document(s) that includes of risks and impacts on community health and safety.	**Explanatory Note for 3.3.1.1:** Some or all of these risks and impacts may have been scoped as part of the ESIA (IRMA Chapter 2.1), risks in 3.3.1.1.d may have been scoped as part of a mine waste risk assessment (Chapter 4.1), and risks to human health and safety related to impacts on priority ecosystem services in 3.3.1.1.e may have been scoped as part of a scoping exercise as per Chapter 4.6. If so, there is no need to re-scope

[332] ICMM. Good Practice Guidance on Health Impact Assessment. p. 32. www.icmm.com/document/792

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXPLANATORY NOTES
health and safety from mining-related activities. At minimum, the following sources of potential risks and impacts to community health and/or safety shall be considered:[333] a. General mining operations; b. Operation of mine-related equipment or vehicles on public roads; c. Operational accidents; d. Failure of structural elements such as tailings dams, impoundments, waste rock dumps (see also IRMA Chapter 4.1);[334] e. Mining-related impacts on priority ecosystem services (see also IRMA Chapter 4.6);[335] f. Mining-related effects on community demographics, including in-migration of mine workers and others;[336] g. Mining-related impacts on availability of services;[337]	that any significant risks to community health and safety identified elsewhere were further assessed as part of a Community Health and Safety or other assessment. **For 3.3.1.1:** Interview operating company and stakeholders, and review documentation to confirm that the mine has scoped whether or not any of the issues listed in 3.3.1.1.a through i pose a potential risk to community health or safety.	the issues in a standalone Community Health and Safety Scoping exercise. If risk and/or impacts were scoped elsewhere, there is no need to re-scope the issues in a standalone Community Health and Safety scoping exercise. Any potential risks to community health and safety identified in any scoping exercise for another chapter should be further assessed for significance as per requirement 3.3.1.1. What is considered as 'significant' will vary from site to site and activity to activity depending on specific circumstances. As a general rule of thumb, however, significant risks are those that are not trivial in nature and are capable of creating a real risk to health and/or safety which any reasonable person would appreciate and would take steps to guard against.[338] The operating company should be able to demonstrate that it carried out an exercise to determine whether or not the potential risks/impacts that were identified may be considered as significant. For example, a risk matrix based on probability versus severity/consequence/impact could be created to determine which issues pose the greatest risk and should be considered significant. Any methods used to evaluate significance should be documented.

[333] More information on these issues will be provided in IRMA Guidance.

[334] It is possible that as part of a mine's waste management approach a scoping assessment may have been undertaken to identify risks to community safety from tailings dams, impoundments, waste rock dumps and other waste facilities. If such a scoping exercise was done, and risks to community health or safety were identified, then these risks should have been (or should be) further assessed to determine the significance of the risks to community health and safety. This may have been (or may be) done as part of the Community Health and Safety Risk and Impact Assessment in section 3.3.2 or another assessment such as an ESIA (see Chapter 2.1).

[335] For example, land use changes or the loss of natural buffer areas such as wetlands, mangroves, and upland forests that mitigate the effects of natural hazards such as flooding, landslides, and fire, may result in increased vulnerability and community safety-related risks and impacts; or the diminution or degradation of freshwater may result in health-related risks and impacts. (IFC. 2012. Performance Standard 2 – Community Health, Safety and Security, Para. 8). Potential impacts on priority ecosystem services should have been identified as part of the scoping exercise for Chapter 3.7. If any of the identified potential impacts on priority ecosystem services created risks to community health or safety, those should have ben (or should be) further assessed to determine the significance of those risks. This may have been (or may be) done as part of the Community Health and Safety Risk and Impact Assessment in section 2.7.2, as part of the ecosystem services impact assessment in Chapter 3.7, or as part of another assessment such as an ESIA (see Chapter 4.1).

[336] The development of mine may bring migrant workers, but also those seeking economic opportunities, into existing communities, creating the potential for cultural conflicts, as well as the potential for sexual violence or exploitation of women and children. (See Guidance for more information)

[337] For example, this may include an influx of migrant workers, which could put pressure on existing water and sewage systems, which may have an effect on community health.

[338] UK Government, Health and Safety Executive (HSE) website: Frequently Asked Questions. http://www.hse.gov.uk/risk/faq.htm

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h. Hazardous materials and substances that may be released as a result of mining-related activities (see also IRMA Chapter 4.1); and i. Increased prevalence of water-borne, water-based, water-related, and vector-borne diseases, and communicable and sexually transmitted diseases (e.g., HIV/AIDs, tuberculosis, malaria, Ebola virus disease) that could occur as a result of the mining project.		Re: 3.3.1.1.a, examples of issues related to general mining operations include subsidence of surface topography into underground workings, or vibrations caused by blasting or passing of heavy mine vehicles. These can have a weakening effect on structures within the surrounding communities, which could eventually contribute to their collapse putting those in the immediate vicinity at safety risk. Also, there may be risks related to mining-related noise and light pollution (e.g., on community sleeping patterns and wellbeing). And there may be risks to community members that trespass on mine property (either due to safety hazards or as a result of incidents with security). Re: 3.3.1.1.b, in addition to dust, noise and vibrations caused by heavy mine vehicles operating on the mine site (mentioned in 3.3.1.1.a), there may be a risk of collisions with vehicular or foot traffic when mining-related vehicles operate on public roads. Re: 3.3.1.1.c, the risks and impacts of operational accidents (e.g., smoke, fumes or noxious odors from fires, or contamination from spills of chemicals or concentrate) on communities need to be scoped. There may also be risks to communities if operational accidents harm workers, as this may have implications for workers' families. (Note: The risks to mine workers should have been scoped and assessed as part of the Occupational Health and Safety scoping exercise in IRMA Chapter 3.2. Health and safety risks to mine workers in the course of their work duties do not need to be considered during Community Health and Safety scoping.) Re: 3.3.1.1.d, the potential risks to communities from the failure of tailings dams, impoundments, waste rock dumps or other mine waste facilities should have been scoped as part of IRMA Chapter 4.1, requirement 4.1.3. If any risks to community health or safety were identified they should have been (or should be) further assessed to determine the significance of those risks. Re: 3.3.1.1.e, land use changes or the loss of natural buffer areas such as wetlands, mangroves, and upland forests that mitigate the effects of natural hazards such as flooding, landslides, and fire may result in increased vulnerability and community safety-related risks and impacts;

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		or the diminution or degradation of freshwater may result in health-related risks and impacts.[339] Potential impacts on priority ecosystem services should have been identified as part of the scoping exercise for Chapter 4.6. If any of the identified potential impacts on priority ecosystem services created risks to community health or safety, those should have been (or should be) further assessed to determine the significance of those risks. Re: 3.3.1.1.f, the development of mine may bring an influx of migrant workers and/or those seeking economic opportunities into existing communities, creating the potential for cultural conflicts, as well as the potential for increased rates of alcoholism and substance abuse, and sexual violence or exploitation of women and children. With increased incomes as a result of mining, a strain can be placed on housing, food and other amenities, driving up the price of living. Re: 3.3.1.1.g, an influx of migrant workers or those seeking economic opportunities, or the mine's demand for water and power, could put pressure on existing water, utility and sewage systems; or in-migration would stress existing school, hospital and social services. Decreased access to services may have an effect on community healthy. Re: 3.3.1.1.h, dust from mining operations can be generated during the course of blasting, drilling, dumping, crushing and grinding, as well from haul routes, conveyors, waste rock areas and tailings impoundments. This dust can affect surrounding communities, crops, and nearby ecosystems. Dusts may contain toxic elements such as heavy metals or radioactive elements. Where toxic fumes are released as a result of the extraction process, or in the result of mine fires, then an analysis of the impact of these fumes on human health should be undertaken. Risk of leaking contaminants from the mine, processing plant, its vehicles or sewerage should be undertaken. Evaluation of potential risk should factor in the likelihood of transportation and dilution of contaminants by water bodies, and the risk of contaminants moving through the system

[339] International Finance Corporation (IFC). 2012. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes. Para. 8. https://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES

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			into water used for human consumption, whether direct or indirect (for example with water used for irrigation of crops). Re: 3.3.1.1.i, due to changing dynamics in water storage and use, diseases transmitted in the water itself, or by flies, mosquitoes and other insects attracted by still bodies of water (in open pits or dumps) can increase. Risk of contamination of water, and the community's ability to treat water should be considered. Sources of contamination might include increased generation of human waste, and stagnation of water bodies, which allows bacteria growth. Alternatively, disease may be related to lack of water. The mine may have an impact on distributable water volumes either through reduction in water availability as a result of its own consumption or lowering of the water table, or as a result of increased numbers of community members to consume a restricted volume of water. Calculation of average availability of clean water per community member should be made to compare water availability with volumes of water required for potable and hygiene purposes to analyze the risk of insufficient water levels. Also, a majority male workforce and increased expendable incomes can lead to an increased level of sexual promiscuity, an increase in the sex trade, potential sex trafficking and/or increased transmission of sexually transmitted diseases. Towns or camps become more crowded, and migrant workers can bring with them new communicable diseases. Some degree of comparison should be undertaken to analyze the risk of sexual and communicable disease transmission by drawing examples from communities in similar geographic and socio-cultural areas, degree of isolation, and number of migrant workers.
3.3.1.2. Scoping shall include an examination of risks and impacts that may occur throughout the mine lifecycle (e.g., construction, operation, reclamation, mine closure and post-closure).	For 3.3.1.2: Confirm that scoping identified potential risks and impacts for all of the phases of mining, from construction through post-closure.	For 3.3.1.2: • A scoping document that includes process map or other description of the mine at each stage of its cycle with risks and impacts highlighted.	Explanatory Note for 3.3.1.2: Some risks may only be present during a certain stage or stages of the mine life cycle. By understanding the timing of the potential impacts, the operating company can better develop and prioritize avoidance and mitigation measures to better protect community health and safety.

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3.3.1.3. Scoping shall include consideration of the differential impacts of mining activities on vulnerable groups or susceptible members of affected communities.	For 3.3.1.3: Review document to confirm that scoping considered potential risks and impacts on vulnerable or susceptible members of affected communities.	For 3.3.1.3: • A scoping document that includes consideration of potential differential impacts of mining activities on health and safety or vulnerable groups and susceptible community members.	Explanatory Note for 3.3.1.3: Depending on the types of risks, vulnerable groups or susceptible members may include children, the elderly, women (especially pregnant women), sex trade workers, ethnic or other minorities, health-compromised individuals, workers (who may be exposed to certain risks at both at work and in the community), those living closest to particular mine facilities, those relying on particular ecosystem services that may be affected by the mine, etc. By understanding the differential risks and impacts on individuals or vulnerable groups within affected communities, the operating company will better be able to target mitigation measures to protect those who are most in need of protection.
3.3.2. Risk and Impact Assessment 3.3.2.1. The operating company shall carry out an assessment of risks and impacts to: a. Predict the nature, magnitude, extent and duration of the potential risks and impacts identified during scoping; and b. Evaluate the significance of each impact, to determine whether it is acceptable, requires mitigation, or is unacceptable.	For 3.3.2.1: Interview operating company and review documentation related to risk and impact assessment, either as part of other assessments or as a standalone community health and safety risk and impact assessment.	For 3.3.2.1: • Risk and impact assessment. • A procedure document explaining the process to quantify the significance and consequence of risks and impacts on community health and safety. • A list of all risks and impacts that were deemed unacceptable, with rationale.	Explanatory Note for 3.3.2.1: Some or all of these risks and impacts may have been assessed as part of the ESIA (IRMA Chapter 2.1), risks in 3.3.1.1.d may have been assessed as part of a mine waste risk assessment (Chapter 4.1), and risks to human health and safety related to impacts on priority ecosystem services in 3.3.1.1.e may have been assessed as part of a scoping exercise as per Chapter 4.6. If the full range of risks to community health and safety were assessed elsewhere, there is no need to duplicate efforts.
3.3.3. Risk and Impact Management and Mitigation 3.3.3.1. The operating company shall document and implement a community health and safety risk management plan that includes: a. Actions to be taken to mitigate the significant risks and impacts	For 3.3.3.1: Interview operating company and review documents to confirm that risks to community health and safety are addressed in management plans (e.g., a community health and safety risk management plan and/or other relevant documents such as an emergency response plan, etc.).	For 3.3.3.1: • Community health and safety risk management plan or its equivalent. • A procedure document explaining the process to identify effective controls to mitigate risks and impacts on community health and safety, which should include a method of quantifying control effectiveness.	Explanatory Note for 3.3.3.1: Ideally, in addition to documenting in a risk management plan the actions to be taken to reduce identified risk and impacts, and then carrying out monitoring of the effectiveness of those actions, the operating company would also assign a person to be responsible and accountable for implementing sufficient controls and monitoring and evaluating their effectiveness to reduce risk or impact to an acceptable level, and for ensuring updates of controls occur if required. While not required in this chapter, this is a recommended best practice.

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identified during its risk and impact assessment; and b. Monitoring that will be conducted to ensure that measures to prevent or mitigate impacts remain effective.		• A list of all controls that have been implemented to mitigate risks and impacts that were deemed unacceptable in the assessment. • A procedure document explaining the process to measure and monitor controls. • A record of the monitoring (internal and/or third party) undertaken to monitor risks. • A list of persons responsible for ensuring effective implementation of controls and monitoring. • A record of updates made to address ineffective controls.	
3.3.3.2. Mitigation measures shall prioritize the avoidance of risks and impacts over minimization and compensation.	For 3.3.3.2: Confirm that prevention/avoidance is prioritized over minimization and compensation.	For 3.3.3.2: • Community health and safety risk management plan or its equivalent. • A decision tree or similar mapping the possible options to mitigate each risk and impact identified in the assessment.	Explanatory Note for 3.3.3.2: This requirement is meant to align with the mitigation hierarchy, which is referred to throughout the IRMA Standard (in particular see IRMA Chapters 2.1 and 4.6). As mentioned in 3.3.5.1, the operating company must collaborate with relevant community members and stakeholders from affected communities in the development of mitigation strategies. If there is a technically and economically feasible option to avoid impacts rather than minimize them, but that option is not preferable to potentially affected stakeholders even after they have been fully informed of the risks related to the various options, then the operating company will not be expected to implement the avoidance measures as a priority.
3.3.3.3. The community health and safety risk management plan shall be updated, as necessary, based on the results of risk and impact monitoring.	For 3.3.3.3: Review any updates to the risk management plan/other relevant documents, and monitoring reports that informed the development of strategies to manage risks to community health and safety. Confirm that if monitoring has	For 3.3.3.3: • Current and past versions of the community health and safety risk management plan (or equivalent).	Explanatory Note for 3.3.3.3: Updates may include new or revised mitigation strategies, changes in monitoring methods or frequency of monitoring, etc. "as necessary" should be interpreted as meaning that plans should be updated whenever monitoring or other information indicates that impacts on community health and safety have occurred, or that changes

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	indicated impacts or unanticipated problems, that the management plan has been updated to reflect alternative mitigation strategies to be implemented to avoid or minimize the impacts.		to the mining project (e.g., expansions, changes in operations and practices, etc.) may create new risks that need to be mitigated.
3.3.4. Specific Provisions Related to HIV/AIDS, Tuberculosis, Malaria and Emerging Infectious Diseases 3.3.4.1. If the operating company's risk and impact assessment or other information indicates that there is a significant risk of community exposure to HIV/AIDS, tuberculosis, malaria or another emerging infectious disease related to mining activities, the operating company shall develop, adopt and implement policies, business practices, and targeted initiatives: a. In partnership with public health agencies, workers' organizations and other relevant stakeholders, create and fund initiatives to educate affected and vulnerable communities about these infections and modes of prevention of them, commensurate with the risks posed by mining; b. Operate in an open and transparent manner and be willing to share best practice for the prevention and treatment of these diseases with workers' organizations (e.g., trade unions), other companies, civil	For 3.3.4.1: Interview operating company and review relevant policies and procedures, and interview representatives from public health agencies, workers' organizations and other relevant stakeholders (e.g., community groups working on education or access to treatment, etc.) to confirm that the company has implemented HIV/AIDS, TB and/or malaria initiatives, and the sharing of best practices on treatment and prevention, as appropriate. Review company website for publicly available information on infectious diseases.	For 3.3.4.1: • Risk assessment document demonstrating assessment of risk of community exposure to HIV/AIDS, tuberculosis, malaria or another emerging infectious disease related to mining activities. • Policy and/or procedure documents explaining commitments to and procedures for: 1) Supporting initiatives to educate affected and vulnerable communities about these infections and modes of prevention of them, commensurate with the risks posed by mining; 2) Operating in an open and transparent manner regarding the risks and impacts of these infections and best practice prevention and treatment of these infections; 3) Publicly sharing information on the company's infectious disease mitigation program. • A list of the community members that these education initiatives have reached. • Photographic, audio/video or other documentation (e.g., sign-in sheets) of training programmes. • A list of workers' organizations with	Explanatory Note for 3.3.4: These requirements will not be relevant for every mine site, as these diseases are not present everywhere. Where certain diseases are present in the region where a mine is operating there may be specific risks to the company's operations such as reduced operations due to worker illness or restrictions on local and international travel, which can lead to a complete shutdown of operations. In such cases, any operating company should take steps to prevent and mitigate the impact on its operations from these diseases. Good corporate citizens should also contribute to the health and welfare of the communities where they operate. The requirements in criteria 3.3.4 of this chapter on community health and safety are relevant if there is a significant risk of worker and community exposure to HIV/AIDS, tuberculosis, malaria or another emerging infection disease that is in some way related to the mining project. For example, if there is the potential that mine workers may contract the diseases, if the spread of these diseases may be increased due to the movement or presence of mine employees in affected communities or the presence of sex workers who may engage with mine workers, if there are shared housing conditions that may promote the spread of disease, if standing water on the mine site provides grounds for mosquito breeding, or if pressures on medical services are created from in-migration related to mine development (reducing community access to medical services when suffering from HIV/AIDS, tuberculosis, malaria or another emerging infection disease). There may be diseases other than HIV/AIDS, tuberculosis, malaria or other emerging infectious diseases that may present risks for some mining projects and communities (e.g., Ebola virus disease, Zika virus, sexually transmitted diseases, etc.). If significant risks related to other

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society organizations and policymakers; and c. Make information publicly available on its infectious disease mitigation program.		whom it has shared its knowledge and experience about the prevention and treatment of these infections. • A list of URLs or locations where publicly available information pertaining to the operating company's infectious disease mitigation program can be accessed.	infectious or communicable diseases are identified during the community health and safety risk and impact assessment process, then companies would be expected to take steps to mitigate and monitor their impacts. This chapter highlights HIV/AIDS, TB and malaria in particular, because the mining industry has significant exposure to those diseases in some parts of the world, and best practices have been established by mining companies to minimize their impact in relation to those diseases.[340] But recent experience with Ebola virus in Liberia has demonstrated that mining operations can also play a key role in combating other infectious diseases that threaten their workers and communities.[341] Explanatory Note for 3.3.4.1: Re: 3.3.4.1.a, "other relevant stakeholders" may include representatives from local and foreign hospitals and health centers; national, foreign and international health research and disease prevention organizations; national health agency (or equivalent government led role); local and international NGOs, private voluntary organizations, or civil society organizations that develop initiatives for local health awareness and disease prevention.
3.3.4.2. If the assessment demonstrates a significant risk of community exposure to HIV/AIDS, tuberculosis or malaria from mining-related activities, the following prevention and mitigation strategies shall be applied, as appropriate: a. In relation to HIV/AIDS, the operating company shall, at minimum: i. Provide free, voluntary and confidential HIV testing and	For 3.3.4.2: Review HIV/AIDS, tuberculosis, malaria and/or Ebola policies procedures or action plans. For 3.3.4.2.a: If relevant, interview operating company and mine workers to confirm that free testing and counseling are available, and that treatment if provided if not affordably provided elsewhere. Confirm, too that the testing and counseling ensure that workers' HIV status is kept confidential.	For 3.3.4.2: • Risk assessment document demonstrating assessment of risk of community exposure to HIV/AIDS, tuberculosis, malaria related to mining activities. • Policy document demonstrating the operating company's commitment to, and procedure document explaining how access is granted to provision of testing, treatment and education related to HIV/AIDS, and/or	Explanatory Note for 3.3.4.2: Re: 3.3.4.2.a.i, any testing and counseling that is conducted should ensure that workers' HIV status is kept confidential. Or, if workers' HIV status is voluntarily disclosed by the worker to the company, the company must make sure that it is adhering to requirement 3.1.3.1 in IRMA Chapter 3.1, which says that decisions about the job are not made based on personal characteristics, such as HIV status, if those characteristics are unrelated to inherent job requirements.

[340] International Council on Mining and Metals (ICMM). 2008. Good Practice Guidance on HIV/AIDS, Tuberculosis and Malaria. https://www.icmm.com/website/publications/pdfs/health-and-safety/314.pdf

[341] US Geological Survey. 2015. Fact Sheet: The Ebola Virus Disease Outbreak and the Mineral Sectors of Guinea, Liberia, and Sierra Leone. https://pubs.usgs.gov/fs/2015/3033/pdf/fs2015-3033.pdf

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counseling for all mine workers and employees; ii. Provide HIV/AIDS treatment for workers and employees where it cannot reasonably be assumed that this will be provided in an effective manner by public or private insurance schemes at an affordable rate; iii. Provide access for contractors to education and other preventative programs, and to work with the operating company's or facility's contracting companies or others to identify ways for contract workers to access affordable treatment; and iv. Work with public health authorities, communities, workers' organizations and other stakeholders towards ensuring universal access to treatment for dependents of mine workers/employees and affected community members. b. In relation to tuberculosis, the operating company shall, at minimum, provide free and voluntary testing for mine workers/employees where it is not reasonably likely to be provided by public or private health programs at an affordable rate. c. In relation to malaria, the operating company shall, at minimum:	Interview contract workers, and review policies and procedures to confirm that programs are available to them. Interview operating company and relevant stakeholders to confirm that company is collaborating in efforts to ensure universal access to treatment for dependents of workers/employees and the community at large. For 3.3.4.2.b: If relevant, confirm that the company provides free and voluntary testing for TB to its employees. For 3.3.4.2.c: If relevant, interview operating company and review documentation, including policies, procedures, vector control plans or similar, related to malaria prevention measures; and inspect facilities and company-provided housing to confirm that malaria protections are in place.	tuberculosis and/or malaria. • List of educational and preventative programs available to workers, contractors, workers' families and others. • List of the operating company's contracting companies and facility's contracting companies and others to whom the operating company has provided information on how contract workers can access affordable treatment for infectious diseases. • List of public health authorities, communities, workers' organizations and other stakeholders that the operating company has provided some support (in whatever context this might be) to access to treatment for dependents of mine workers/employees and affected community members. • A list of controls to reduce risk that the company facilities, including any company-provided housing, are not a breeding ground for malaria-carrying mosquitoes, which should include a full vector control plan. • A procedure document explaining the process to reduce risk that the company facilities, including any company-provided housing, are not a breeding ground for malaria-carrying mosquitoes.	

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i. Develop a vector control plan; ii. Ensure that company facilities are not breeding environments for malaria-carrying mosquitoes; and iii. Provide protection from infection by malaria-carrying mosquitoes in company facilities and any company-provided housing.			
3.3.5. Stakeholder Engagement 3.3.5.1. The operating company shall collaborate with relevant community members and stakeholders, including workers who live in affected communities and individuals or representatives of vulnerable groups, in: a. Scoping of community health and safety risks and impacts related to mining; b. Assessment of significant community health and safety risks and impacts related to mining; c. Development of prevention or mitigation strategies; d. Collection of any data needed to inform the health risk and impact assessment process; and e. Design and implementation of community health and safety monitoring programs.	For 3.3.5.1: Review records of stakeholders who participated in the health and safety risk assessment process. Interview stakeholders and confirm that they were involved in scoping, mitigation planning, data collection, impact assessment and monitoring.	For 3.3.5.1: • Communications with stakeholders encouraging or inviting their participation in community health and safety discussions and decisions. • List of consultations and participants. • Minutes or other notes taken at meetings with stakeholders. • Feedback provided by stakeholders, and the operating company's responses to input. • Communication materials used to manage the expectations of these stakeholders.	Explanatory Note for 3.3.5.1: Relevant community members include women, men, children or their representatives, other vulnerable groups (e.g., ethnic minorities, the elderly, health-compromised individuals, children) or their representatives, public health providers, government health agencies, and workers who live in affected communities. A review of government statistics on various diseases may help to reveal other relevant populations. The operating company may need to manage the expectations of stakeholders and be clear that stakeholder input and discussions will help inform decisions, but that operating company decisions may not always completely reflect the desires and preferences of stakeholders.
3.3.6. Reporting 3.3.6.1. The operating company shall make information on community health	For 3.3.6.1: Review operating company procedures, if any, on communicating and reporting health risks and impacts to the communities, and interested and affected	For 3.3.6.1: • Website with information on community health and safety risks and	Explanatory Note for 3.3.6.1: "Publicly available" means that information should be on the company's website, or in printed copies in publicly accessible locations.

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and safety risks and impacts and monitoring results publicly available.	parties. Interview operating company and stakeholders to confirm that information on mining-related health risks and impacts to communities, including monitoring data, are publicly available.	impacts. • Materials used to communicate the operating company's health and safety risks and impacts and monitoring results to the public. • A policy document explaining the operating company's commitment to making information about the operating company's health and safety risks and impacts and monitoring results available to the public. • A procedure document explaining the process for the public to request access to information on the operating company's health and safety risks and impacts and monitoring results.	As per IRMA Chapter 1.2, public communications should be in formats and languages and using terminology that is respectful of cultural differences; and can be easily understood by the affected communities and stakeholders.

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Infectious diseases such as HIV/AIDS, tuberculosis, malaria or other emerging infectious diseases (e.g., Ebola virus disease, sexually transmitted diseases, etc.) may present risks for some mining projects and communities If significant risks related to infectious or communicable diseases are identified during the community health and safety risk and impact assessment process, then companies would be expected to take steps to mitigate and monitor their impacts. This chapter highlights HIV/AIDS, TB and malaria in particular, because the mining industry has significant exposure to those diseases in some parts of the world, and best practices have been established by mining companies to minimize their impact in relation to those diseases.[342] But recent experience with Ebola virus in Liberia has demonstrated that mining operations can also play a key role in combatting other infectious diseases that threaten their workers and communities.[343]

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if there are host country laws governing or requiring community health assessments, the operating company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the company to violate host country law.

[342] International Council on Mining and Metals. "HIV/AIDS, tuberculosis and malaria." www.icmm.com/page/84139/our-work/projects/articles/hiv/aids-tuberculosis-and-malaria

[343] US Geological Survey. 2015. Fact Sheet: The Ebola Virus Disease Outbreak and the Mineral Sectors of Guinea, Liberia, and Sierra Leone. https://pubs.usgs.gov/fs/2015/3033/pdf/fs2015-3033.pdf

Cross References to Other Chapters	
1.2—Community and Stakeholder Engagement	Stakeholder engagement in community health and safety assessment, mitigation and monitoring must comply with the general stakeholder engagement requirements in Chapter 1.2. In particular, it may be important for some capacity building to occur, to ensure that community members can engage in the risk assessment process, including development of mitigation and monitoring, in a meaningful way. (See requirement 1.2.3.1) And 1.2.4 ensures that communications and information are in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner.
1.3—Human Rights Due Diligence	There are a number of health-related human rights (Right to Health, Right to security of person, Right to adequate housing, Right to food, Right to water, Right to clean environment, Right to adequate standard of living, Right to education, Right to privacy, Freedom from child labor, etc.[344]) that may be affected by mining. These issues should be assessed during the human rights impact assessment process in Chapter 1.3.
1.4—Complaints and Grievances Mechanism and Access to Remedy	Affected community members and stakeholders have the right to access the operational-level grievance mechanism if they have concerns about community health and safety issues related to mining project.
2.1—Environmental and Social Impact Assessment and Management	The community health and safety risk and impact assessment does not necessarily have to be a standalone assessment. It may be carried out as part of the ESIA, as long as the elements listed in this chapter were included in that assessment.
2.5—Emergency Preparedness and Response	Mitigation measures related to community health and safety may be incorporated into or developed as part of the Emergency Response Plan (ERP) as per Chapter 2.5. For example, if risks related to particular hazards such as chemicals transportation accidents or breaches of tailings impoundments are identified, there may be the need to incorporate into the ERP appropriate methods to alert and possibly evacuate community members as quickly and safely as possible.
3.1—Fair Labor and Terms of Work	Requirement 3.1.3.1 mandates fair treatment in employment relationships, and prohibits operating companies from making discriminatory employment decisions on the basis of personal characteristics unrelated to inherent job requirements, such as HIV/AIDs status (see requirement 3.3.4.2).
3.2—Occupational Health and Safety	The assessment and mitigation of health and safety risks to workers while engaged in mining-related activities is addressed in Chapter 3.2. However, workers also live in communities that may be affected by mining-related activities, and so they are also included as stakeholders in community health and safety assessment, mitigation and monitoring. HIV/AIDS testing may be included in worker health surveillance mentioned in 3.2.4.2. As per 3.2.4.2.b "Health surveillance shall be carried out in a manner that protects the right to confidentiality of medical information, and is not used in a manner prejudicial to workers' interests."
3.6—Artisanal and Small-Scale Mining	If artisanal and small-scale mining (ASM) is occurring in the vicinity of the industrial scale mine that is participating in IRMA, the ASM operating entities and miners would be considered stakeholders and/or affected communities, and should be included in the scoping and assessment risks to community health and safety, as well as in any programs related to HIV/AIDS, tuberculosis, malaria or emerging Infectious diseases.
4.1—Waste and Materials Management	Chapter 4.1, requirement 4.1.2.1, requires the identification of all materials, substances, such as chemicals, and wastes (other than mine wastes) associated with the mining project that have the potential to cause impacts on human health, safety, the environment or communities. And requirement 4.1.3., requires the identification of chemical and physical risks associated with mine waste materials (e.g., tailings, waste rock, spent ore from heap leaches, and residues and fluid wastes from mineral processing), which could include risks to community health and safety.
4.2—Water Management	Requirement 4.2.5.2 requires a company to develop and implement procedures for rapidly communicating with stakeholders in the event that there are changes in water quantity or quality that pose an imminent threat to human health or safety.

[344] Salcito, K., Utzinger, J., Krieger, G. R., Wielga, M., Singer, B. H., Winkler, M. S., & Weiss, M. G. 2015. "Experience and lessons from health impact assessment for human rights impact assessment," BMC International Health and Human Rights, 15, 24. http://doi.org/10.1186/s12914-015-0062-y

Cross References to Other Chapters	
4.6—Biodiversity, Ecosystem Services and Protected Areas	4.6.1.1.e requires scoping of mining-related impacts on priority ecosystem services. This may have been done during the ESIA, or as part of a biodiversity and ecosystem assessment as per Chapter 4.6, or scoped as part of the community health and safety scoping (3.3.1). Regardless of when the scoping occurred, if there were risks community health and safety related to potential impacts on priority ecosystem services, those risks should be further evaluated in the community health and safety risk and impact assessment process (3.3.2).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to risks or impacts from a project.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Contract Workers

Workers engaged through third parties (for example contractors, brokers, agents, or intermediaries) who are performing work or providing services directly related to core business processes of the mining project for a substantial duration (i.e., employment other than on a casual or intermittent basis) at the project location. These workers may be engaged at any point during the mine lifecycle (including prior to or during construction phase).

Contractors

An individual, company, or other legal entity that carries out duties related to a mining project that are subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Ecosystem Services

The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Mine Closure

A period of time when ore-extracting and processing activities of a mine have ceased, and final decommissioning and mine reclamation are occurring. It typically includes pre-closure (detailed closure design and planning), closure (actual activities of closure of mine workings and construction/decommissioning) and post-closure (mainly long-term reclamation, monitoring, and treatment) periods, each with its own specific activities.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Mitigation

Actions taken to reduce the likelihood of a certain adverse impact occurring.

Mitigation Hierarchy

The mitigation hierarchy is a set of prioritized steps to alleviate environmental (or social) harm as far as possible through avoidance, minimization (or reduction) and restoration of adverse impacts. Compensation/offsetting are only considered to address residual impacts after appropriate avoidance, minimization and restoration measures have been applied. (See Glossary for full definition)

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Post-Closure

The period after the reclamation surety holder declares the activities required by the reclamation and closure plan are complete; any significant objections raised during the public comment period on the final release of the financial surety have been resolved; and the reclamation surety has been returned to the operator, or it has been converted to a post-closure trust fund or equivalent (i.e. if there is a need to fund long-term management and monitoring of the site). This phase continues until final sign-off and relinquishment can be obtained from the regulator and stakeholders.

Priority Ecosystem Services

Ecosystem services are considered priority under the following circumstances: (i) Project operations are likely to result in a significant impact on the ecosystem service; the impact will result in a direct adverse impact on affected communities' livelihood, health, safety and/or cultural heritage; and the project has direct management control or significant influence over the service; or (ii) The project directly depends on the service for its primary operations; and the project has direct management control or significant influence over the service.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Tailings

The waste stream resulting from milling and mineral concentration processes that are applied to ground ore (i.e., washing, concentration, and/or treatment). Tailings are typically sand to clay-sized materials that are considered too low in mineral values to be treated further. They are usually discharged in slurry form to a final storage area commonly referred to as a tailings storage facility (TSF) or tailings management facility (TMF).

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

Worker

All non-management personnel.

Workers' Organizations

Typically called trade unions or labor unions, these organizations are voluntary associations of workers organized on a continuing basis for the purpose of maintaining and improving their terms of employment and workplace conditions.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 3.4—Mining and Conflict-Affected or High-Risk Areas

BACKGROUND

Mining projects may take place in areas where there are existing or potential conflicts or socio-political instability that can adversely affect the project and local stakeholders. In some cases, conflict may be external to the company's operation, and in other cases conflict may be caused, exacerbated or supported by a company's activities or presence in an area.

"Companies and their investors are paying increased attention to the challenges and opportunities of doing business in conflict-affected and high-risk areas. These areas differ significantly from more stable operating environments and require companies and investors to take into consideration additional factors."[345]

Developing suitable responses when operating in or sourcing minerals from conflict-affected or high-risk areas is challenging, but guidance exists to assist companies in identifying, assessing and mitigating risks and impacts associated with operating in those areas. The most widely accepted framework is the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas.[346]

Such guidance is increasingly being used as a means of cultivating transparent mineral supply chains and corporate engagement in the mineral sector, with a view to enabling countries to benefit from their mineral resources and preventing the extraction and trade of minerals from becoming a source of conflict, human rights abuses, and insecurity.[347]

TERMS USED IN THIS CHAPTER

Affected Community ■ Business Relationships ■ Certification Body ■ Collaboration ■ Competent Professionals ■ Confidential Business Information ■ Conflict-Affected or High-Risk Area ■ Conflict Risk ■ Consultation ■ Contractor ■ Corporate Owner ■ Existing Mine ■ Grievance ■ Grievance Mechanism ■ Human Rights Defender ■ Human Rights Risks ■ Mining Project ■ Mining-Related Activities ■ Mitigation ■ New Mine ■ Operating Company ■ Remediation/Remedy ■ Serious Human Rights Abuses ■ Stakeholder ■ Worker ■ Vulnerable Group ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To prevent contribution to conflict or the perpetration of serious human rights abuses in conflict-affected or high-risk areas.

SCOPE OF APPLICATION

Chapter Relevance: All mines applying for IRMA certification are expected to have undertaken conflict screening (Criterion 3.4.1) to determine if they are in a conflict-affected or high-risk area. The due diligence requirements that follow 3.4.1 are relevant for mines that are proposed or located in conflict-affected or high-risk areas, as well as mines that have product that is transported through conflict-affected or high-risk areas (if the material is in the custody or ownership of the operating company).[348]

New vs. Existing Mines: New mines are expected to undertake conflict screening, and any required due diligence, as early as possible during the mining project investment phase. Existing mines will not be expected to have carried out conflict screening prior to project investment. They will, however, be required to undertake screening, and any other required due diligence, prior to applying for IRMA certification.

[345] UN Global Compact and PRI (2010). They elaborate that "The following conditions often prevail in conflict-affected and high-risk areas: human rights violations; presence of an illegitimate or unrepresentative government; lack of equal economic and social opportunity; systematic discrimination against parts of the population; lack of political participation; poor management of revenues, including from natural resources; endemic corruption; and chronic poverty with associated heightened risks and responsibilities." (UN Global Compact and PRI. 2010. *Guidance on Responsible Business in Conflict-Affected and High Risk Areas: A Resource for Companies and Investors.* https://www.unglobalcompact.org/docs/issues_doc/Peace_and_Business/Guidance_RB.pdf)

[346] IRMA Guidance will include references for resources related to due diligence for mining in conflict-affected areas, as well as resources on how to carry out a conflict sensitive approach to business practices.

[347] Organisation for Economic Cooperation and Development (OECD). 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) https://mneguidelines.oecd.org/mining.htm

[348] This is based on a similar requirement found in the World Gold Council's Conflict-Free Gold Standard. A2.2. Available at: www.gold.org/gold-mining/responsible-mining/conflict-free

Important Cross References with other IRMA Chapters: The risk of committing, contributing to or being linked to human rights violations are increased in conflict-affected and high-risk areas. When mining projects are located in conflict-affected or high-risk areas, operating companies must ensure that risks to human rights are addressed as per Chapter 1.3 Human Rights Due Diligence. For cross references with other chapters, see the Cross References table near the end of the chapter.

CRITICAL REQUIREMENTS IN THIS CHAPTER

If operating in a conflict-affected or high-risk area, the mine has committed to not support any parties that contribute to conflict or the infringement of human rights (3.4.2.1).

Mining and Conflict-Affected or High-Risk Area Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.4.1. Conflict-Affected High-Risk Area Screening 3.4.1.1. The operating company shall conduct a screening analysis, based on evidence from credible sources,[349] to determine whether or not the mining project is located in and/or sources minerals from a conflict-affected or high-risk area.[350] 3.4.1.2. If a determination is made that the mining project is located in a conflicted-affected or high-risk area or it sources minerals from such areas, then the operating company shall undertake the additional due diligence steps outlined in the remainder of this chapter.	**For 3.4.1.1:** Review the operating company documentation and rationale for its determination of whether or not the operation is in a conflict-affected or high-risk area. If there is any question about the determination, e.g., from stakeholders, compare company analysis with sources of "credible evidence". Establish if the mine sources minerals from ASM or other large-scale mines, and if so, confirm that there is documentation of purchasing or other agreements. Confirm that a determination is made of whether or not minerals sourced from other mining operations are from conflict-affected or high-risk areas.	**For 3.4.1.1:** • Screening procedures. • Screening analysis report(s). • Any procedures, methodologies or definitions used to define what is a conflict-affected or high-risk area • List or index of sources reviewed to make determination of whether or not the mining project is located in and/or sources minerals from a conflict-affected or high-risk area. • Documentation of all sources of mined material that are purchased or otherwise sourced by the mine site (e.g., from ASM or other large-scale mines). • Documentation of updated screening assessments, including rationale for frequency of re-screening. **For 3.4.1.2:** • Screening analysis report(s).	**Explanatory Note for 3.4.1.1:** This requirement is based on a similar requirement found in the World Gold Council's Conflict-Free Gold Standard. A2.2, which has some guidance on how to make a determination of whether or not a project is located in a conflict-affected or high-risk area.[352] There is no single definition of what is a conflict-affected and/or high-risk area. Two commonly cited definitions are from the OECD and the EU.[353] OECD's definition of conflict-affected and high-risk areas is: "Conflict-affected and high-risk areas are identified by the presence of armed conflict, widespread violence or other risks of harm to people. Armed conflict may take a variety of forms, such as a conflict of international or non-international character, which may involve two or more states, or may consist of wars of liberation, or insurgencies, civil wars, etc. High-risk areas may include areas of political

[349] **Credible sources** may include reports and other information (e.g., maps, statements) from governments, international organizations, NGOs, industry, media, United Nations or others (e.g., ethical pension funds) relating to mineral extraction, and its impact on conflict, human rights or environmental harm in the country of potential origin, as well as criteria and indicators of conflict-affected or high-risk areas developed through multi-stakeholder initiatives. Links to credible sources will be provided in Guidance.

[350] Ideally, this should take place early in the project investment phase.

[352] World Gold Council. 2012. Conflict-Free Gold Standard. pp. 12 - 15. https://www.gold.org/sites/default/files/documents/Conflict_Free_Gold_Standard_English.pdf

[353] Responsible Minerals Initiative website: "Conflict Affected and High-Risk Areas (CAHRAs)." http://www.responsiblemineralsinitiative.org/emerging-risks/conflict-affected-and-high-risk-areas/

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.4.1.3. If a determination is made that the project is not located in a conflicted-affected or high-risk area, and no minerals are sourced from those areas, then conflict-related risks shall be monitored at a level commensurate with the potential that the project area may become a conflict-affected or high-risk area and/or minerals from such areas may enter the mine's supply chain.[351] If new risks emerge or previously identified risks intensify, screening shall take place to determine if risks are significant enough to warrant undertaking the additional due diligence steps in the remainder of this chapter.	Interview operating company and review documentation to confirm that stakeholders and expert opinion helped to inform the screening. Interview stakeholders and experts to confirm that their input was reflected in the company's screening analysis. For new mines, screening should have occurred prior to mine development. Note that existing mines are not expected to have carried out conflict screening prior to mine development. They are, however, required to have undertaken screening, and any other required due diligence, prior to applying for IRMA certification. For 3.4.1.2: If the mining project is located in a conflict-affected or high-risk area, continue auditing the remainder of this chapter. If the mining project is not located in such an area, and does not source minerals from those areas, then proceed to 3.4.1.3. For 3.4.1.3: Confirm that there is someone within the company who has the responsibility to monitor conflict issues, and interview them and/or review any documentation or mechanisms being used to monitor the situation and update screening analyses. Confirm that additional screening occurs during an appropriate timeframe, e.g., when new	• Risk assessment report(s). • Monitoring report(s). For 3.4.1.3: • Screening procedures. • Screening analysis report(s). • Country-risk monitoring reports. • Contact information for person responsible to carry out additional screening.	instability or repression, institutional weakness, insecurity, collapse of civil infrastructure and widespread violence. Such areas are often characterised by widespread human rights abuses and violations of national or international law." The EU definition of conflict-affected and high-risk areas is: "Areas in a state of armed conflict, fragile post-conflict areas, as well as areas witnessing weak or non-existing governance and security, such as failed states, and widespread and systematic violations of international law, including human rights abuses." Re: 3.4.1.1, In addition to determining whether or not the mining project is located in or sources minerals from small or large mines located in a conflict-affected or high-risk area, operating companies should also evaluate whether or not mineral transportation routes are through a conflict-affected or high-risk area. Sourcing of minerals may include the purchase of mined materials by the operating company that get mixed with its own mined materials, but it may also include agreements to process ore or materials from other sources at beneficiating facilities (e.g., mill, processing plants, smelters, refineries) that are co-located with the mine. If the mine sources materials from others, but segregates the materials, this should be noted. Requirement 3.4.1.1 says that "credible sources" should be used to determine if the mining project is located in, or the project will source from (or transport minerals through) conflict-affected or high-risk areas. In addition to using and documenting credible sources, the company should document the definition(s) and criteria it used to

[351] For example, mines located in many parts of the United States, Canada or Australia may not need to perform regular monitoring because the areas are stable, have good governance, high standards of living, etc. However, in other countries where peace and security may exist but be somewhat fragile, or even in some regions of so-called stable countries, there may be the need to monitor the situation more closely (e.g., areas where there is potential for localized conflicts or protests to arise, etc.).

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	conflicts or risks emerge or intensify in a host country, or new sources of minerals enter the mine's supply chain. Companies should provide rationale for the frequency of their reviews (e.g., less frequent if they are not located in conflict-affected or high-risk areas).		determine what is a conflict-affected or high-risk area. For example, did it include a screen for areas where there is a high risk for money laundering and/or financing of terrorism, did it look at corruption indices, were human rights allegations and sanctions reviewed for government officials? "Credible sources" may include reports and other information (e.g., maps, statements) from governments, international organizations, NGOs, industry, media, United Nations or others (e.g., ethical pension funds) relating to mineral extraction, and its impact on conflict, human rights or environmental harm in the country of potential origin, as well as criteria and indicators of conflict-affected or high-risk areas developed through multi-stakeholder initiatives. Sources would be considered credible if they are trusted and/or referred to by a range of stakeholders, including competent professional who work on human rights and/or conflict-affected areas. Some examples of sources that might be used to make the determination of whether or not the project is in a Mining and Conflict-Affected or High-Risk Area include:[354] • Fund for Peace. Fragile States Index. • Heidelberg Institute for International Conflict Research. Conflict Barometer - research on the emergence, dynamics and settlement of political conflicts worldwide. • International Alert Screening Tool contained in Conflict Sensitive Business Practices (2005). Chapter 3,

[354] Fund for Peace. Fragile States Index. http://fundforpeace.org/fsi/; Heidelberg Institute for International Conflict Research. Conflict Barometer. https://hiik.de/conflict-barometer/current-version/?lang=en; International Alert. 2005. Conflict Sensitive Business Practices. https://www.international-alert.org/sites/default/files/Economy_2005_CSBPGuidanceForExtractives_All_EN_v2013.pdf; Know your Country (country reports of money laundering and sanction information). https://www.knowyourcountry.com/

Maplecroft. Political Risk Atlas. http://maplecroft.com/risk-atlases/; Responsible Mining Initiative. Conflict-Affected and High-Risk Areas: Key Resources. http://www.responsiblemineralsinitiative.org/emerging-risks/conflict-affected-and-high-risk-areas/

Transparency International. Corruption Reports (by country). https://www.transparency.org/country; World Gold Council. 2012. Conflict-Free Gold Standard. https://www.gold.org/sites/default/files/documents/Conflict_Free_Gold_Standard_English.pdf; World Bank Group. Harmonized List of Fragile Situations. http://www.worldbank.org/en/topic/fragilityconflictviolence/brief/harmonized-list-of-fragile-situations

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			Screening tool. • Know your Country (country reports of money laundering and sanction information) • Maplecroft's political risk atlas which evaluates traditional political risks including: conflict; terrorism; rule of law; and the regulatory and business environment; as well as structural challenges affecting political stability, such as resource security; infrastructure readiness; and human rights. Includes: 50 political risk indices and interactive maps, in addition to scorecards for 197 countries. • Responsible Mining Initiative Conflict-Affected and High-Risk Areas: Key Resources. • Transparency International Corruption Reports (by country). • World Gold Council. 2012. Conflict-Free Gold Standard. • World Bank Group. Harmonized List of Fragile Situations. Ideally, screening should initially take place during the project investment phase. However, for new and existing mines entering the IRMA system, the most important thing is that screening does take place, and if it demonstrates that a mining project is located in or sources minerals from a conflict-affected or high-risk area, that subsequent due diligence takes place. As required in 3.4.1.3, screening should also take place periodically after the initial screening. Explanatory Note for 3.4.1.2: The additional due diligence steps include those found in requirement 3.4.1.3, and in all of the requirements in criteria 3.4.2, 3.4.3, 3.4.4, 3.4.5. and 3.4.6. Explanatory Note for 3.4.1.3: For example, unless they are sourcing from outside concessions/traders/exporters that

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			are located in a conflict-affected or high-risk areas, mining projects located in many parts of the United States, Canada or Australia may not need to perform regular monitoring because the areas are stable, have good governance, high standards of living, etc. However, in other countries where peace and security may exist but be somewhat fragile, or even in some regions of so-called stable countries, there may be the need to monitor the situation more closely (e.g., areas where there is potential for localized conflicts or protests to arise, etc.). Additionally, if new sources of materials are entering the mine's mineral supply chain then those suppliers should be screened immediately to determine if those sources are from a conflict-affected or high risk-area, or the minerals are being transported through such an area.
3.4.2. Company Management Systems 3.4.2.1. (Critical Requirement) When operating in or sourcing minerals from a conflict-affected or high-risk area, the operating company shall not knowingly or intentionally cause, contribute to or be linked to conflict or the infringement of human rights by any party, or knowingly provide direct or indirect support to non-state armed groups or their affiliates, public security forces, or private security forces who: a. Illegally control mine sites, transportation routes and upstream actors in the supply chain;	**For 3.4.2.1:** Review credible sources (e.g., reports and other information from the United Nations, governments, international organizations, NGOs, media, United Nations), to determine if the company has been implicated in knowingly contributing to conflict as per 3.4.2.1. **For 3.4.2.2.a:** Confirm that the operating company or its corporate owner has a policy on conflict-affected areas, and find out how it has been communicated to stakeholders. Confirm, e.g., through visiting the company or corporate owner website, that the policy is publicly available.	**For 3.4.2.1:** • Screening analysis report(s). • List or index of sources reviewed or locations visited to understand if the company and mining project might be associating with public or private security forces or other parties such as government officials or business partners that may be infringing on human rights or carrying out illegal acts as outlined in 3.4.2.1.a, b and c. • Risk assessment report(s). • Monitoring report(s). **For 3.4.2.2:** • Policy statements or other documents that include commitments related to operating in conflict-affected or high-risk areas.	**Explanatory Note for 3.4.2.1:** The *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas* recommends that businesses operating in conflict-affected or high-risk areas adopt and commit to the items reflected in 3.4.2.1 as part of their supply chain policies.[356] This IRMA requirement builds on that commitment such that IRMA expects companies to also show that they have undertaken due diligence to assert, with reasonable confidence, that they are not knowingly or intentionally supporting human rights abuses or those who commit those abuses or carry out other illegal acts. "Direct or indirect support" includes, but is not limited to, procuring minerals from, making payments to or otherwise providing logistical assistance or equipment to non-state armed groups or public or private security forces; it does not include legally required forms of support, including

[356] OECD. 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) Annex II. https://mneguidelines.oecd.org/mining.htm

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b. Illegally tax or extort money or minerals at point of access to mine sites, along transportation routes or at points where minerals are traded; or c. Illegally tax or extort intermediaries, export companies or international traders. 3.4.2.2. When operating in a conflict-affected or high-risk area, the operating company shall: a. Adopt and communicate to the public and stakeholders a commitment that when operating in a conflict-affected or high-risk area the operating company will not knowingly or intentionally cause, contribute to or be linked to conflict or the infringement of human rights by any party; b. Maintain documentation on the quantity and dates of mineral extraction; quantity and dates of minerals obtained from other sources (e.g., from ASM); locations where minerals are consolidated, traded or processed; all mining-related taxes, fees, royalties or other payments made to governmental officials for the purposes of extraction, trade,	**For 3.4.2.2.b:** Interview relevant operating company staff to confirm that the company maintains the required documentation. Confirm that documentation as per 3.4.2.1.b has been made available to downstream purchasers and others. Review the documentation to ensure that it has been kept up to date. **For 3.4.2.2.c:** Determine who is the operating company senior staff in charge of the conflict screening and due diligence process, and confirm that he or she has the competence, knowledge and experience to be in that position. **For 3.4.2.2.d:** Interview operating company staff and/or to confirm that there is a grievance mechanism in place to address conflict-related issues. Determine if stakeholders had input in the design of the mechanism (as per Chapter 1.4). Interview stakeholders to determine if they know about and would feel comfortable using the existing grievance mechanism(s) for conflict-related concerns.	• Documentation of expectations of suppliers and business partners (e.g., Codes of Conduct or contracts that contain clauses related to the operating company's expectations regarding respect for human rights, prohibition against providing support to non-state armed groups, etc.). Documentation related to agreements with public and private security forces is also required in Chapter 3.5) • Records of communication with public and stakeholders. • Documentation on the quantity and dates of mineral extraction. • Documentation of all sources of mined material that are purchased or otherwise sourced by the mine site (e.g., from ASM or other large-scale mines), and transportation routes from these sources to the mine. • Documentation from the company or government sources on the payments made to governments (e.g., fees, royalties, taxes) and to public security forces, private security forces or other armed groups. (See also Chapters 1.5 and 3.5 for similar documentation requirements) • Qualifications of staff assigned to oversee the conflict due diligence processes. • Grievance procedures. • Record of lodged grievances, and company responses. • Any other due-diligence-related report(s).	legal taxes, fees, and/or royalties that companies pay to the government of a country in which they operate.[357] "by any party" could include state or government officials, departments, security forces, etc., as well as those with whom the operating company has business relationships (see IRMA Chapter 1.3, requirement 1.3.2.1, which requires the company to assess the potential human rights risks related to its business relationships). "Control" of mines, transportation routes, points where minerals are traded and upstream actors in the supply chain means: i) Overseeing extraction, including by granting access to mine sites and/or coordinating downstream sales to intermediaries, export companies or international traders; ii) Making recourse to any forms of forced or compulsory labor to mine, transport, trade or sell minerals; or iii) Acting as a director or officer of, or holding beneficial or other ownership interests in, upstream companies or mines.[358] "Extort" from mines, transportation routes, points where minerals are traded or upstream companies means the demanding, under the threat of violence or any other penalty, and for which the person has not voluntarily offered, sums of money or minerals, often in return for granting access to exploit the mine site, access transportation routes, or to transport, purchase, or sell minerals.[359] **Explanatory Note for 3.4.2.2.a:** The commitment may be integrated into an existing policy, such as a human rights policy, or be a public statement regarding operations in conflict-affected areas. Additionally, the operating

[357] OECD. 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) p. 66. https://mneguidelines.oecd.org/mining.htm

[358] OECD. 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) p. 21. https://mneguidelines.oecd.org/mining.htm

[359] Ibid.

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transport and export of minerals; all taxes and other payments made to public or private security forces or other armed groups; identification of all actors in the upstream supply chain; and transportation routes. This information shall be made available to downstream purchasers and auditors and to any institutionalized mechanism, regional or global, with the mandate to collect and process information on minerals from conflict-affected and high-risk areas;[355] c. Assign authority and responsibility to senior staff with the necessary competence, knowledge and experience to oversee the conflict due diligence processes; and d. Ensure that stakeholders have access to and are informed about a mechanism to raise conflict-related concerns or grievances.			company may develop its own policy, or adopt a corporate owner's policy as long as it clearly communicates the operating company's commitment to abide by the corporate-level policy. Operating companies should also clearly convey their expectations of suppliers, business partners and others (e.g., governments) with whom they are engaged while operating in or sourcing minerals that have been produced or transported through a conflict-affected or high-risk area. These expectations may be laid out in Codes of Conduct, and also integrated into contracts with suppliers. As per IRMA Chapter 1.2, criterion 1.2.4, communications and information must be in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner. Explanatory Note for 3.4.2.2.b: The requirements in 3.4.2.2.b are based on OECD. [360] Documentation for some of these items is required in IRMA Chapter 1.5 (e.g., quantities of minerals produced; mining-related taxes, fees, royalties and other payments made to governments). See requirements 1.5.1.2 and 1.5.2.2. Documentation on those particular items does not need to be provided to auditors for the purposes of this chapter if the mine has already been verified as meeting the relevant requirements of Chapter 1.5. The company may exclude information that compromises the safety of any individual or is legitimate confidential business information. Justification will need to be provided to auditors for information that is omitted.

[355] The company may exclude information that compromises the safety of any individual or is legitimate confidential business information. Justification shall be provided for information that is omitted.

[360] OECD. 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) pp. 39, 82, 83, 99, 100. https://mneguidelines.oecd.org/mining.htm

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			Explanatory Note for 3.4.2.2.c: The requirement 3.4.2.2.c is based on OECD.[361] In addition to assigning authority and responsibility to senior staff to oversee the conflict due diligence process, the operating company should ensure that any staff who are implementing due diligence have the expertise or receive training (including periodic refresher training) to be able to perform their tasks. **Explanatory Note for 3.4.2.2.d:** The requirements in 3.4.2.2.d are based on OECD.[362] The operational-level grievance mechanism developed as per IRMA Chapter 1.4 may be used as the mechanism to receive all types of concerns or complaints, including conflict-related grievances, or a separate mechanism may be created to handle only conflict-related complaints and grievances. If a separate mechanism is developed, it shall be done in a manner consistent with IRMA Chapter 1.4.
3.4.3. Conflict Risk Assessment 3.4.3.1. The operating company shall assess the risks to the company, workers and communities associated with operating in or sourcing minerals from the conflict-affected or high-risk area. Assessments shall include, at minimum: a. Analysis of structural, root and proximate causes of the current	**For 3.4.3.1:** Review the conflict risk assessment to ensure that it included: • An analysis of the structural/root and proximate causes, and triggers. • A review of factual circumstances of the operating company's mineral extraction, transport and, if relevant, processing. Review the OECD Guidance (in particular Annex II)[368] and IRMA guidance to compare the types of risks	**For 3.4.3.1:** • Conflict risk assessment/analysis report(s). • Documentation on the quantity and dates of mineral extraction. • Documentation on known armed groups operating in the region. • Documentation on risks along transportation routes. • Documentation on the payments made to governments (e.g., fees, royalties, taxes) and to public	**Explanatory Note for 3.4.3.1:** Identification and assessment of risks in the supply chain is part of OECD's Five-Step Framework for Risk-Based Due Diligence in the Mineral Supply Chain (OECD, 2016, p.18) OECD has also produced a Guiding Note for Upstream Company Risk Assessment (pp. 54-60) and detailed guidance for large-scale gold mining companies (pp. 78-85).[369] At minimum, the risks outlined in Annex II of the OECD Guidance should be evaluated. These include: • Serious abuses associated with the extraction, transport

[361] OECD. 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) pp. 44, 70. https://mneguidelines.oecd.org/mining.htm

[362] OECD. 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) pp. 44, 70. https://mneguidelines.oecd.org/mining.htm

[368] Organisation for Economic Cooperation and Development (OECD). 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) https://mneguidelines.oecd.org/mining.htm

[369] Ibid.

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conflict, and potential triggers of conflict in the area of operation;[363] b. Review of the factual circumstances of the operating company's mineral extraction, transport, and, if relevant, mineral sourcing and/or processing;[364] and c. Analysis of the risk that any of the company's activities may lead to the direct or indirect or infringement of human rights, support of armed groups or otherwise contribute to conflict. 3.4.3.2. Assessments shall follow a recognized risk assessment methodology,[365] and be carried out and documented by competent professionals.[366] 3.4.3.3. Assessments shall be based on credible evidence including on-the-ground research, expert advice, and information from consultations with relevant stakeholders, including men, women, children (or their	that the company should have included in its assessment with the ones that were assessed. If the risk assessment lacks an adequate level of detail, interview members of the assessment team to determine the rationale for why certain risks were not assessed. • An analysis of the potential for company activities to lead to direct or indirect infringements of human rights or support of armed groups. For 3.4.3.2: Review on-the-ground assessment report(s) or other documentation to confirm that it followed a recognized methodology, and review documentation (e.g., resumes). The operating company shall allow access to company sites and all documentation and records of supply chain due diligence. Review qualifications of the professionals who carried out the assessment. For 3.4.3.3: Confirm the assessment was based on credible evidence, on-the-ground assessment report(s) or other documentation and expert advice.	security forces, private security forces or other armed groups. • Communications with relevant stakeholders (e.g., meeting minutes, communications between the company and stakeholders, written input from stakeholders and company responses to the input, etc.). For 3.4.3.2: • Documentation of the risk assessment, e.g., a conflict risk assessment/analysis report. • Documentation that shows the methodology used during the risk assessment. • Documentation of qualifications of those carrying out the assessment. For 3.4.3.3: • Documentation of the risk assessment, e.g., a conflict risk assessment/analysis report. • Documentation that shows the methodology used during the risk assessment. • Documented evidence of on-the-ground research and consultations with experts and relevant stakeholders. For 3.4.3.4: • Documentation of the risk assessment, e.g., a conflict risk assessment/analysis report.	or trade of minerals; • Any forms of torture, cruel, inhuman and degrading treatment; • Any forms of forced or compulsory labor; • The worst forms of child labor; • Other gross human rights violations and abuses such as widespread sexual violence; • War crimes or other serious violations of international humanitarian law, crimes against humanity or genocide; • Direct or indirect support to non-state armed groups; • Direct or indirect support to public or private security forces; • Bribery and fraudulent misrepresentation of the origin of minerals; • Money laundering. • Non-payment of taxes, fees and royalties to governments. Re: 3.4.3.1.a, structural/root factors are long-term, deep-rooted factors underlying conflict; proximate/intermediate factors are visible, recent manifestations of the conflict, and factors; and triggers are actions that contribute to further escalation of the conflict. For example, there may be existing ethnic or religious conflicts in a region, and company hiring practice may be viewed as favoring a

[363] IRMA Guidance will provide more information on what is meant by structural, root and proximate causes, as well as potential triggers of conflict.

[364] IRMA Guidance will provide more information on what is meant by "factual circumstances" and examples of the types of information that might be relevant to review. Mineral sourcing refers to situations where the operating company purchases ore or mined materials from other mines, and processes it at the mine site. These materials may come from other large-scale mines or artisanal and small-scale mining (ASM) operations (See also Chapter 3.6). Mine sites may also perform milling and processing on a fee basis for other large-scale mines or ASM (sometimes referred to as "toll processing or toll milling).

[365] Guidance will cover this more extensively, but risk assessments typically include: establishment of scope; identification of risks; assessment of risks; development of risk treatment and mitigation measures; monitoring and revision; as well as stakeholder engagement and communication requirements.

[366] As per the definition of competent professional, this may be in-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work; would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals.

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representatives) and other vulnerable groups.[367] 3.4.3.4. Conflict risk assessments shall be updated at minimum, on an annual basis, and more often if necessitated by the situation.	Interview stakeholders regarding their involvement in the risk assessment process. **For 3.4.3.4:** Interview company and review documentation to confirm that conflict risk assessments are updated at least annually (see Explanatory Note for 3.4.3.4 for appropriate times to update assessments).	• Updated conflict risk assessments (e.g., evidence that new assessments have been conducted due to more recent information being obtained).	particular group, which could exacerbate tensions between the groups or provoke negative actions against the company and mining project. (For more information on structural, root and proximate causes, as well as potential triggers of conflict, see UNDG, 2016).[370] This analysis may also be referred to as conflict analysis. Re: 3.4.3.1.b, this requirement is meant to align with OECD Due Diligence Guidance. For more details on factual circumstances see, for example, OECD (2016, p. 82). Assessment of these factors may be conducted jointly with other stakeholders or individually by the operating company. Mineral sourcing refers to situations where the operating company purchases ore or mined materials from other mines, and processes it at the mine site. These materials may come from other large-scale mines or artisanal and small-scale mining (ASM) operations (See also IRMA Standard, Chapter 3.6). Some of the factual circumstances to be assessed may include risks associated with: • Production of the mineral/metal: For example, is there a risk that the mining operation will contribute to conflict through hiring practices, security arrangements, direct or indirect payments to armed

[367] "credible evidence" may include reports and other information (e.g., maps, statements) relating to mineral extraction, and its impact on conflict, human rights or environmental harm. Sources of evidence would be considered credible if they are trusted and/or referred to by a range of stakeholders, including competent professional and experts who work on human rights and/or conflict-affected areas. Such sources may include governments, international organizations, NGOs, industry, media, United Nations, academics or others.

"expert advice" includes drawing on not only expertise and cross-functional consultation within the company, but also to consult externally with credible independent experts, including from Governments, civil society (e.g., human rights defenders), national human rights institutions and relevant multi-stakeholder initiatives. (See, e.g., UN Guiding Principles on Business and Human Rights, Commentary for Principle 23. http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf)

"Relevant stakeholders" may include local government or community leaders; civil society organizations; other companies operating in the area; or independent experts with local knowledge and expertise. Special effort should be made to include women, children or their representatives, and other groups who may be particularly vulnerable to impacts from security arrangements (e.g., this might include ASM operators, human rights defenders, and youth)

[370] UN Development Group (UNDG). 2016. Conducting a Conflict and Development Analysis. pp. 59-64. https://undg.org/wp-content/uploads/2016/10/UNDP_CDA-Report_v1.3-final-opt-low.pdf

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			groups, security forces or officials implicated in human rights abuses? • Transportation of the extracted product to the point of sale: For example, will a company's product travel through conflict-affected or high-risk areas? If so, can the company put systems in place to ensure that transport does not fuel conflict/contribute to human rights abuses? • Purchase of any minerals/metals from artisanal or small-scale mining operations that may be smelted or processed by the company at its operation: For example, do any of these products originate in a conflict-affected or high-risk area? Re: 3.4.3.1.c, the risk of child labor and forced labor should be assessed, as these risks are heightened in conflict-affected areas (See also IRMA Chapter 3.1). The OECD has developed a specific tool for addressing child labor in mineral supply chains.[371] IFC has developed guidance on assessing risks of forced labor in supply chains.[372] Explanatory Note for 3.4.3.2: Risk assessments typically include: • Establishment of scope; • Identification of risks; • Assessment of risks; • Development of risk treatment and mitigation measures; • Monitoring and revision; and • Stakeholder engagement and communication requirements.

[371] OECD. 2017. Practical Actions for Companies to Identify and Address the Worst Forms of Child Labour in Mineral Supply Chains. http://mneguidelines.oecd.org/Practical-actions-for-worst-forms-of-child-labour-mining-sector.pdf

[372] International Finance Corporation (IFC). 2018. Good Practice Note on Managing Risks Associated with Modern Slavery. https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_modernslavery

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			Competent professionals can be in-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow established and scientifically robust methodologies that would withstand scrutiny by other professionals. Explanatory Note for 3.4.3.3: “credible evidence" may include reports and other information (e.g., maps, statements) relating to mineral extraction, and its impact on conflict, human rights or environmental harm. Sources of evidence would be considered credible if they are trusted and/or referred to by a range of stakeholders, including competent professionals and experts who work on human rights and/or conflict-affected areas. Such sources may include governments, international organizations, NGOs, industry, media, United Nations, academics or others. "Expert advice" includes drawing on not only expertise and cross-functional consultation within the company, but also to consult externally with credible independent experts, including from governments, civil society (e.g., human rights defenders), national human rights institutions and relevant multi-stakeholder initiatives.[373] “Relevant stakeholders” may include local government or community leaders; civil society organizations; other companies operating in the area; artisanal and small-scale mining operators, or independent experts with local knowledge and expertise. Special effort should be made to include women, children or their representatives, and other groups who may be particularly vulnerable to impacts from conflict-related risks and security

[373] Ruggie, J. 2011. Guiding Principles on Business and Human Rights. Principle 23. http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

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			arrangements in conflict-affected or high-risk areas (e.g., vulnerable groups may include human rights defenders, and youth, certain ethnic groups, etc.). Stakeholders such as civil society organizations, security firms, other companies, home governments, multilateral institutions can potentially provide important information to companies regarding human rights abuses and perpetrators of those abuses. Also, local community leaders and members may contribute critical information on community conflict dynamics and root causes of conflicts.[374] Companies need to pay special attention to ensure that their consultations and actions to not exacerbate conflicts between stakeholder groups. The UN Global Compact has created guidance for responsible business in conflict-affected and high-risk areas. The document lays out various challenges that may be faced during stakeholder engagement in conflict-affected/high-risk areas.[375] Explanatory Note for 3.4.3.4: Situations that may necessitate an update of the conflict risk assessment could include (but are not limited to) changes in the country or regional political leadership; conflict outbreaks or escalation in the country, region or neighboring countries; expansion of operations into new areas; influx of migrant labor; changes in security arrangements; and changes in mineral suppliers. Also, updates should occur if there have been changes in the factual circumstances of mineral extraction, transport and/or sourcing (see 3.4.3.1.b).

[374] ICMM, ICRC, IFC and IPIECA. 2011. pp. 13-24. Voluntary Principles on Security and Human Rights Implementation Guidance Tools. http://www.voluntaryprinciples.org/wp-content/uploads/2013/03/VPs_IGT_Final_13-09-11.pdf and Voluntary Principles on Security and Human Rights (VPSHR). 2014. p. 2. http://www.voluntaryprinciples.org/what-are-the-voluntary-principles/

[375] United Nations Global Compact (UNGC). 2010. Guidance on Responsible Business in Conflict-affected and High-risk Areas: a Resource for Companies and Investors. p. 6. http://unglobalcompact.org/docs/issues_doc/Peace_and_Business/Guidance_RB.pdf

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			If there are no major changes that change the analysis in the risk assessment, updates may simply indicate this fact.
3.4.4. Conflict Risk Management 3.4.4.1. The operating company shall develop and implement a risk management plan that includes actions to be taken to prevent or mitigate risks identified through the risk assessment process. 3.4.4.2. The operating company shall collaborate with relevant stakeholders to develop culturally appropriate strategies to prevent or mitigate risks that are relevant to them; to develop performance objectives, timelines and indicators to measure the effectiveness of the risk management strategies; and to update or revise its prevention and mitigation strategies as needed. 3.4.4.3. If risks to human rights are identified in the assessment, the operating company shall adhere to the requirements in IRMA Chapter 1.3.[376]	For 3.4.4.1: Review risk management plan to ensure strategies have been developed to address risks identified in the assessment. For 3.4.4.2: Interview company and stakeholders involved in risk management planning to confirm that stakeholders have been involved in developing prevention and mitigation strategies, as well as plans to monitor the effectiveness of the risk management measures (e.g., objectives, indicators and timelines). For 3.4.4.3: If relevant, confirm that risks to human rights have been addressed as per the requirements of Chapter 1.3 (e.g., prevention and mitigation of human rights infringements caused by the company; and plans for the company to use its leverage related to human rights risks that it may contribute to or be linked to).	For 3.4.4.1: • Documentation of the risk assessment, e.g., a conflict risk assessment/analysis report. • Documentation of planned risk management measures with timelines and performance objectives, e.g., a risk management plan. For 3.4.4.2: • Documented evidence of collaboration with relevant stakeholders (e.g., meeting minutes, communications between the company and stakeholders, written input from stakeholders and company responses to the input, etc.). • Documentation of planned risk management measures with timelines and performance objectives (e.g., a risk management plan). • Documented processes/methods for monitoring the effectiveness of risk management plan implementation (including indicators of effectiveness). For 3.4.4.3: • Documentation of the operating company's practices to prevent, mitigation and remediate infringements of human rights. • Documentation showing that risks to human rights have been addressed as per the requirements of IRMA Chapter 1.3.	Explanatory Note for 3.4.4.1: Following an assessment to identify potential risks and impacts, risk management planning should take place to develop strategies to minimize the negative consequences and maximize the positive consequences of operating in or sourcing from conflict-affected or high-risk areas. Strategies may include a spectrum of possible interventions where at one extreme proposed company activities are designed to 'do no harm' (avoid negative consequences) and at the other extreme, they are designed to 'do good' (promote change that will alleviate tensions, ameliorate inequality and encourage reconciliation).[377] When developing strategies for risk management, companies should identify those factors over which they have direct control and those over which they only have indirect influence. The types of interventions and the resources allocated should vary accordingly. According to OECD (2016, p. 44), when risks are identified during an assessment that related to a supplier, the operating company should mitigate risks by either: • Continuing trade throughout the course of measurable risk mitigation efforts; • Temporarily suspending trade while pursuing ongoing measurable risk mitigation; • Disengaging with a supplier after failed attempts at mitigation or where a company reasonably deems risk

[376] IRMA Chapter 1.3—Human Rights Due Diligence. (See specifically, requirement 1.3.3.2).

[377] UN Global Compact. 2002. Business Guide for Conflict Impact Assessment and Risk Management. UN Global Compact. 2002. Business Guide for Conflict Impact Assessment and Risk Management. https://www.unglobalcompact.org/docs/issues_doc/Peace_and_Business/BusinessGuide.pdf

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			mitigation not feasible or unacceptable. Strategies are documented in a risk management plan or its equivalent. Explanatory Note for 3.4.4.2: Stakeholder involvement in the development, monitoring and updating of mitigation strategies can facilitate improved stakeholder relations and result in more focused strategies that may help the operating company avoid unintended negative impacts and help maximize the positive. For this requirement, "relevant stakeholders", at minimum, should include those who have the potential to be directly affected (either actual individuals or their representatives) by the risks identified by the company. "culturally appropriate" strategies would be those that are aligned with the cultural norms of the affected communities. Stakeholders can help to define for the company what is considered culturally appropriate. (For more on culturally appropriate engagement, see IRMA Chapter 1.2) Explanatory Note for 3.4.4.3: The risk of committing, contributing to or being linked to human rights violations is increased in conflict-affected and high-risk areas.[378] When mining projects are located in conflict-affected or high-risk areas, companies must ensure that identified risks to human rights are addressed as per IRMA Chapter 1.3, Human Rights Due Diligence. This includes steps to prevent, mitigate and remediate potential and actual human rights impacts.
3.4.5. Monitoring	For 3.4.5.1: Review documentation and interview relevant company staff to	For 3.4.5.1:	Explanatory Note for 3.4.5.1: Due diligence related to conflict-affected or high-risk areas will be a dynamic

[378] International Alert. 2018. Human Rights Due Diligence in Conflict-affected Settings: Guidance for Extractives Industries. p. 10. https://www.international-alert.org/sites/default/files/Economy_HumanRightsDueDiligenceGuidance_EN_2018.pdf

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3.4.5.1. The operating company shall implement and monitor the effectiveness of its risk management plan as per the performance objectives, timelines and indictors developed with stakeholders. 3.4.5.2. If through monitoring or some other means it is discovered that the operating company has unknowingly or unintentionally been complicit in armed conflict or serious human rights abuses in conflicted-affected or high-risk areas, the operating company shall immediately cease or change the offending action, mitigate or remediate the impact, and carry out external monitoring of its due diligence activities as per as per IRMA Chapter 1.3.[379]	confirm that the site has a process in place whereby it gathers information that would allow it to become knowledgeable about its own impacts in the conflict context. Confirm that monitoring has been carried out in accordance with timelines, and effectiveness has been evaluated based on performance objectives and indicators developed in collaboration with stakeholders. Review any updates to strategies (e.g., revisions plans) based on monitoring results. For 3.4.5.2: Review documentation (meeting notes, memos) or interview senior management and relevant stakeholders, contractors and mine workers and other employees, to confirm that they were made aware of monitoring results. Determine, through interviews with company staff and stakeholders, review of grievance mechanism findings, review of monitoring results, or other sources of information, if the company has been implicated in the repeat human rights infringements, or serious human rights abuses. If so, review evidence to confirm that the company has undertaken credible actions to cease or change operations and mitigate and remediate impacts, and confirm that external monitoring of the company's human rights due diligence occurred.	• Documentation of planned risk management measures with timelines and performance objectives, e.g., a risk management plan. • Documented processes/methods for monitoring the effectiveness of risk management plan implementation (including indicators of effectiveness). • Monitoring reports. For 3.4.5.2: • Documented monitoring reports, including results of any external monitoring. • Communication records with stakeholders, contractors and mine workers and other employees regarding potential company complicity in armed conflict or serious human rights abuses. • Records of lodged grievances. • Risk management plan and any updates to the plan. • Documentation of mitigation measures and remediation taken.	process that requires on-going risk monitoring. After implementing a risk mitigation strategy (3.4.4), companies should repeat a risk assessment (3.4.3) to ensure effective management of risk. Additionally, any changes in operating environment or mineral supply chain may require some steps to be repeated in order to prevent or mitigate adverse impacts. Monitoring the effectiveness of the risk management plan is important to determine whether there are any gaps and to make improvements in policies, procedures, and mitigation strategies. Monitoring may be conducted internally or externally by competent professionals. Ideally, monitoring the progress of risk mitigation should occur, at minimum, every six months, or at a frequency agreed to with mine stakeholders. Steps could include for example: • Comparing the outcomes of a risk management plan with its objectives: were all potential risks reviewed? Did mitigation strategies adequately address risks that were identified? Did the plan meet performance objectives, timelines and indicators? Did the plan meet stakeholder expectations? • Evaluating if the activities defined in the plan are effective: consider each activity of a risk management plan. Was each activity implemented successfully? Were the activities sufficient to address risks? • Evaluating the operating environment: have there been changes in the operations or the surrounding political/legal/socio-economic context that may affect the risk identification, management and mitigation process? • Updating the plan/strategies/activities: After

[379] IRMA Chapter 1.3—Human Rights Due Diligence. (See specifically, requirements 1.3.3.3. and 1.3.4.2.).

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			evaluating the effectiveness of all the activities, make changes in the action plan accordingly. • Reporting progress to senior management and relevant stakeholders: communicate internally and externally regarding the effectiveness of the plan and any planned improvements or changes. Explanatory Note for 3.4.5.2: Re: the reference to "complicit" could mean that the operating company itself caused or contributed to armed conflict or serious human rights abuses in conflicted-affected or high-risk areas, or that the mine's suppliers (e.g., those from whom the mine sourced minerals) caused or contributed to conflict or human rights abuses. See, in particular, requirements 1.3.3.3 and 1.3.4.2 in IRMA Chapter 1.3.
3.4.6. Reporting 3.4.6.1. The findings of conflict risk assessments, risk management plans and monitoring shall be reported to senior management of the operating company; and stakeholders, contractors, mine workers and other employees shall be informed of findings that are relevant to them. 3.4.6.2. On an annual basis, where the operating company is operating in or sourcing minerals from a conflict-affected or high-risk area, the company or its corporate owner shall publicly report on due diligence undertaken to ensure that its actions are not supporting armed conflict or the	For 3.4.6.1: Review documentation (e.g., meeting notes, memos) interview senior management and relevant stakeholders (e.g., those identified in the risk assessment as being potentially affected, and contractors, workers and other employees who have the potential to infringe upon human rights or whose safety may be affected by armed conflict) to confirm that they have been informed of the major findings of the risk assessments, plans and monitoring. For 3.4.6.2: Confirm that annual reports are publicly available and provide information on the due diligence undertaken by the company to ensure that its mining-related activities are not supporting armed conflict or	For 3.4.6.1: • Risk assessment reports and summaries of major findings. • Risk management plans. • Monitoring reports. • Any reports summarizing the effectiveness of the company's risk management activities. • Documented evidence of communication/reporting to senior management of the operating company, and stakeholders, contractors, mine workers and other employees. For 3.4.6.2: • Annual reports that are made publicly available.	Explanatory Note for 3.4.6.2: This reporting may be integrated into the reporting on human rights due diligence as per IRMA requirement 2.4.5.1, or it may be done in a standalone manner. Specific Recommendations for the annual report: The operating company should ensure that the report details the company management system. Therefore the report should detail the company's supply chain due diligence policy; explain the management structure responsible for the company's due diligence and who in the company is directly responsible; describe the control systems over the mineral supply chain put in place by the company, explaining how this operates and what data it has yielded that has strengthened the company's due diligence efforts in the reporting period covered; describe the company's database and record-keeping system and explain the methods for disclosing all suppliers, down to the mine of origin, to downstream actors; disclose

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infringement of human rights in those areas.[380]	infringement of human rights. See explanatory note for information that should be contained in reports.		information on payments made to governments in line with EITI criteria and principles (if applicable). Additionally, the report should outline the operating company's risk assessment methodology, practices and information yielded by the on-the-ground assessment, and the operating company's risk management approach. The report should describe the steps taken to manage risks, including a summary report on the strategies for risk mitigation in the risk management plan, and capability-training, if any, and the involvement of affected stakeholders. The OECD Due Diligence Guidance recommends, at least for some mineral supply chains, that companies publish the risk assessments, with due regard taken of business confidentiality, and other competitive concerns, and the safety of the company, workers and communities. Mines may opt to do this. Annual reporting should include disclosure of efforts made to monitor and track due diligence performance.

NOTES

The most widely recognized due diligence framework for minerals sourced from conflict zones is the *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* (OECD Guidance).[381] The OECD Guidance formed the basis for many of the requirements in this chapter. IRMA Guidance will provide information on where IRMA requirements align with the OECD.

IRMA reserves the right to delay certification audits for operations located in conflict-affected or high-risk areas if, through consultation with certification bodies, auditors and the operating company, IRMA or certification bodies determines that armed conflict in the vicinity of the mine makes it impossible for auditors to safely visit the operation.

Requirement 3.4.2.1 prohibits a company from knowingly contributing to conflict. While this requirement mentions that companies shall not infringe upon human rights, IRMA Chapter 1.3 is the primary chapter that addresses IRMA's expectations related to the unknowing or unintentional infringement of human rights. If a company knowingly contributes to serious human rights abuses, whether in a conflict-affected area or not,

[380] This report may be integrated into the reporting on human rights due diligence as per IRMA requirement 2.4.5.1. More information will be provided in IRMA Guidance.

[381] Organisation for Economic Cooperation and Development (OECD). 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) https://mneguidelines.oecd.org/mining.htm

IRMA, through its Policy on Association, may refuse certification, decertify a mine or end its association with a company. The IRMA Policy on Association will not be put into effect until after the IRMA Launch Phase. IRMA welcomes comments on its draft policy, available at: www.responsiblemining.net/images/uploads/IRMA_Policy_On_Association_Draft_v1.0.pdf.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.2—Community and Stakeholder Engagement	All stakeholder engagement in Chapter 3.4 must conform with the requirements of Chapter 1.2. In particular, criterion 1.2.3 is important to ensure that affected stakeholders have the capacity to fully understand their rights and participate effectively in the assessment and development of prevention/mitigation plans, monitoring, and remedies for impacts on their safety and human rights in conflict-affected or high-risk areas. And 1.2.4 ensures that communications and information are in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner.
1.3—Human Rights Due Diligence	Information from human rights impact assessments may feed into the conflict risk assessment, and vice versa, and public reporting on conflict due diligence (i.e., requirement 3.4.6.3) may be integrated into the public reporting on human rights due diligence reporting, as per requirement 1.3.5.1, if human rights due diligence reporting is done on an annual basis. Strategies developed to prevent, mitigate and remediate potential or actual human rights impacts related to mining in conflict-affected areas must conform with the relevant requirements in Criteria 1.3.3. External monitoring as per requirement 1.3.4.2 shall occur if a company's conflict-related due diligence failed to prevent it from unknowingly causing or contributing to armed conflict or serious human rights abuses.
1.4—Complaints and Grievance Mechanism and Access to Remedy	As mentioned in 3.4.2.1.d, the operating company shall ensure that stakeholders are informed of the existence of mechanisms for raising conflict-related concerns. The operational-level grievance mechanism developed as per Chapter 1.4 may serve this purpose. It may be deemed necessary, however, to create a separate mechanism or separate procedures for handling complaints from stakeholders in conflict-affected areas. If a separate mechanism or procedures are created, they must be developed in a manner that aligns with Chapter 1.4.
1.5—Revenue and Payments Transparency	Information gathered to fulfill requirements in Chapter 3.4 (e.g., 3.4.2.1, 3.4.3.1) may feed into the reporting requirements in Chapter 1.5 (e.g., requirements 1.5.1.3 and 1.5.3.2) regarding payments to governments. Also, in conflict-affected or high-risk areas, ensuring strict adherence to anti-corruption requirements (1.5.5) is important.
2.1—ESIA and Management	Conflict screening may occur as part of the Environmental and Social Impact Assessment process.
3.1—Fair Labor and Terms of Work	Incidents of child labor or forced labor are addressed in Chapter 3.1. However, the potential for child labor and forced labor in conflict-affected areas should be considered during the conflict risk assessment in Chapter 3.4. (See Guidance for more details)
3.5—Security Arrangements	Information related to security arrangements from conflict risk assessments (e.g., the use of private or public security forces at the mine site or along transportation routes, payments made to these entities, history of infringement of human rights by security forces, etc.) may feed into the security risk assessments, and vice versa.
3.6—Artisanal and Small-Scale Mining	If the mine is sourcing minerals from ASM entities located in conflict-affected areas, requirements in this chapter are also relevant in Chapter 3.6 (see requirement 3.6.4.2).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to potential risks or impacts from a project.

Business Relationships

Relationships a business enterprise has with business partners, entities in a value chain, and any other non-State or State entity directly linked to business operations, products or services. They include indirect business relationships in its value chain, beyond the first tier, and minority as well as majority shareholding positions in joint ventures.

Certification Body

Also known as a conformity assessment body, is an entity that performs auditing and conformity assessment services to determine if specified requirements are fulfilled (in this case conformity with the IRMA *Standard for Responsible Mining*).

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Confidential Business Information

Material that contains trade secrets or commercial or financial information that has been claimed as confidential by its source. The information must be secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; it must have commercial value because it is secret; and it must have been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.

Conflict-Affected or High-Risk Areas

Areas identified by the presence of armed conflict, widespread violence, including violence generated by criminal networks, or other risks of serious and widespread harm to people. Armed conflict may take a variety of forms, such as a conflict of international or non-international character, which may involve two or more states, or may consist of wars of liberation, or insurgencies, civil wars. High-risk areas are those where there is a high risk of conflict or of widespread or serious abuses as defined in paragraph 1 of Annex II of the OECD Guidance (more information in full IRMA Glossary). Such areas are often characterized by political instability or repression, institutional weakness, insecurity, collapse of civil infrastructure, widespread violence and violations of national or international law.

Conflict Risk

Any conflicts that may emerge or be exacerbated because of a company's presence, activities or relationships; and the likelihood that such conflicts will occur.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Contractor

An individual, company, or other legal entity that carries out duties subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Corporate Owner(s)

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which mining-project-related complaints or grievances, including business-related human rights abuses stakeholder complaints, and/or labor grievances, can be raised and remedy can be sought.

Human Rights Defender

Any person or group of persons working to promote human rights and contributing to the effective elimination of all violations of human rights and fundamental freedoms of peoples and individuals. Defenders can be of any gender, of varying ages, from any part of the world and from all sorts of professional or other backgrounds, i.e., not only found within NGOs and intergovernmental organizations but might also, in some instances, be government officials, civil servants or members of the private sector and individuals working within their local communities.

Human Rights Risk

Human rights risks are understood to be the business enterprise's potential adverse human rights impacts. (May also be referred to as potential human rights impacts).

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Mitigation (including in relation to Human Rights Impacts)

Refers to actions taken to reduce the likelihood of a certain adverse impact occurring. The mitigation of adverse human rights impact refers to actions taken to reduce its extent, with any residual impact then requiring remediation.

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Remediation/Remedy (including in relation to Human Rights Impacts):

Remediation and remedy refer to both the processes of providing remedy for an (adverse human rights) impact and the substantive outcomes that can counteract, or make good, the adverse impact. These outcomes may take a range of forms, such as apologies, restitution, rehabilitation, financial or non-financial compensation, and punitive sanctions (whether criminal or administrative, such as fines), as well as the prevention of harm through, for example, injunctions or guarantees of non-repetition.

Stakeholder

Persons/groups directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project or the ability to influence its outcome, positively or negatively.

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

Worker

All non-management personnel.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 3.5—Security Arrangements

BACKGROUND

Security risks to mining operations may result from political, economic, civil or social factors. The role of public or private security forces used in relation to mining operations should be to maintain the rule of law, including safeguarding human rights; provide security to mine workers, equipment and facilities; and protect the mine site or transportation routes from interference with legitimate extraction and trade.

Mine security arrangements that are founded on a substantial understanding of the context, stakeholders and international best practice can help a company reduce the potential for violent conflicts with communities or workers; contribute to peace and stability in the regions where it operates; and demonstrate respect for the human rights of stakeholders affected by their operations.

TERMS USED IN THIS CHAPTER

Affected Community ■ Artisanal or Small-Scale Mining (ASM) ■ Collaboration ■ Competent Authority ■ Competent Professional ■ Conflict Analysis ■ Conflict Risk ■ Consultation ■ Contractors ■ Grievance ■ Human Rights Risk ■ Mining Project ■ Mining-Related Activities ■ Mitigation ■ Operating Company ■ Potential Human Rights Impact ■ Remediation/Remedy ■ Stakeholder ■ Vulnerable Group ■ Worker ■ Workers' Representative ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To manage security in a manner that protects mining operations and products without infringing on human rights.

SCOPE OF APPLICATION

Chapter Relevance: The majority of the requirements in this chapter are relevant for any mining project that employs security personnel (e.g., security guards, public or private security forces) at its mine site, or in relation to transportation of its products or ore. Some requirements in this chapter are only relevant for companies that have security arrangements involving private security providers (3.5.1.3 and 3.5.4.1), and others are only relevant if public security forces such as police or military personnel are used (i.e., 3.5.1.4, 3.5.3.2, 3.5.4.2, and 3.5.6.4).

CRITICAL REQUIREMENTS IN THIS CHAPTER

The mine has policy and procedures in place that align with best practices to limit the use of force and firearms by security personnel (3.5.1.2).

Security Arrangements Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.5.1. Policies and Commitments Related to Security and Human Rights 3.5.1.1. The operating company shall adopt and make public a policy acknowledging a commitment to respect	**For 3.5.1.1:** Confirm with the operating company that it has a policy in place related to security and human rights. The company's security policy may be integrated into a broader human rights or other policy. Ensure	**For 3.5.1.1:** • Policy on security and human rights. • Public communication regarding the policy (website; sustainability report; press release etc.)	**Explanatory Note for 3.5.1.1:** These commitments may be made in a broader Human Rights Policy, or another relevant policy.) "support" includes, but is not limited to, procuring minerals from, making payments to or otherwise providing logistical

human rights in its efforts to maintain the safety and security of its mining project; and a commitment that it will not provide support to public or private security forces that have been credibly implicated in the infringement of human rights, breaches of international humanitarian law or the excessive use of force.

3.5.1.2. (Critical Requirement)
The operating company shall have a policy and procedures in place regarding the use of force and firearms that align with the best practices expressed in UN *Basic Principles on the Use of Force and Firearms*. At minimum, the company's procedures shall require that:

a. Security personnel take all reasonable steps to exercise restraint and utilize non-violent means before resorting to the use of force;
b. If force is used it shall not exceed what is strictly necessary, and shall be proportionate to the threat and appropriate to the situation; and
c. Firearms shall only be used for the purpose of self-defense or the defense of others if there is an imminent threat of death or serious injury.

relevant policies and commitments are publicly available, e.g., published on operating company website or in materials distributed by the company, etc.

- Review company documentation (e.g., risk assessments, records related to revenue transparency, payments and equipment transfers, human rights screening) to determine if it may be supporting security forces that are infringing on human rights.
- Review other sources of credible information, including interviews with relevant stakeholders or experts, to determine if the company may be operating in contravention to its policy commitments.

assistance or equipment to non-state armed groups or public or private security forces; it does not include legally required forms of support, including legal taxes, fees, and/or royalties that companies pay to the government of a country in which they operate.[382]

The expectation is that the policy includes a commitment to not support security forces implicated in the infringement of human rights, breaches of international humanitarian law or the excessive use of force, but there may be minor non-conformance with the wording of such commitment, as long as the general intent is being conveyed.

There are many human rights that may be affected by the actions of security providers. Voluntary Principles on Security and Human Rights Implementation Guidance Tool (VP-IGT) includes a list of human rights articles and the potential for security arrangements to infringe upon those rights.[383]

According to the VP-IGT:

"International humanitarian law (IHL) specifically regulates situations of armed conflict, which is why this body of law is also known as 'the law of armed conflict' or 'the law of war'. Its fundamental premise is that even in times of armed conflict human dignity must be respected and protected. . .The International Committee of the Red Cross (ICRC) has produced a document outlining the rights and obligations of business under IHL."[384]

The VP-IGT also describes that:

"In principle, the use of force and firearms by private security providers may not exceed what is strictly necessary and

[382] OECD. 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. 3rd Ed. https://mneguidelines.oecd.org/mining.htm)

[383] ICMM, ICRC, IFC and IPIECA. 2011. Voluntary Principles on Security and Human Rights: Implementation Guidance Tools. Annex B. http://www.voluntaryprinciples.org/wp-content/uploads/2013/03/VPs_IGT_Final_13-09-11.pdf

[384] ICMM, ICRC, IFC and IPIECA. 2011. Voluntary Principles on Security and Human Rights: Implementation Guidance Tools. p. 9. http://www.voluntaryprinciples.org/wp-content/uploads/2013/03/VPs_IGT_Final_13-09-11.pdf and International Committee of the Red Cross (ICRC). 2006. Business and International Humanitarian Law: An Introduction to the Rights and Obligations of Business Enterprises under International Humanitarian Law. https://www.icrc.org/en/publication/0882-business-and-international-humanitarian-law-introduction-rights-and-obligations

			proportionate for the purpose of self defence or the defence of others against imminent threats of death and serious injury. For the principles governing the use of force and firearms by public security providers, refer to the United Nations Basic Principles on the Use of Force and Firearms by Law Enforcement Officials."
	For 3.5.1.2: Confirm through interviews with relevant operating company staff and document review that policy and procedures are in place related to the use of force and firearms, and that these are consistent with best practices.	For 3.5.1.2: • Policy and procedures on use of force. • Training materials for security personnel and/or contractors. • Contracts with security providers.	Explanatory Note for 3.5.1.2: The document Voluntary Principles on Security and Human Rights: Implementation Guidance Tools contains tools and resources to help companies consider their approaches and develop procedures on the use of force and firearms.[385] The UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials is available at: www.ohchr.org/EN/ProfessionalInterest/Pages/UseOfForceAndFirearms.aspx
3.5.1.3. If private security is used in relation to the mining operation, the operating company shall have a signed contract with private security providers that at minimum: a. Sets out agreed on principles that are consistent with the Voluntary Principles on Security and Human Rights and the operating company's procedures on the use of force and firearms; b. Delineates respective duties and obligations with respect to the provision of security in and around the operation and, if relevant, along transport routes; and	For 3.5.1.3: If relevant, review signed contracts with private security providers to confirm that they include principles and requirements consistent with the Voluntary Principles on Security and Human Rights. Review signed contracts for delineation of respective duties and obligations with respect to the provision of security in and around the operation, including associated facilities, and any security provision along transport routes used to move minerals, if the company has contracted security on or along those routes. Review signed contracts for outline of required training for security personnel.	For 3.5.1.3: • Contracts with security providers.	Explanatory Note for 3.5.1.3: Private security may be mining company employees or private security firms contracted by the operating company to provide security services to the mining project. The Voluntary Principles on Security and Human Rights. (2014) can be found at: www.voluntaryprinciples.org

[385] ICMM, ICRC, IFC and IPIECA. 2011. Voluntary Principles on Security and Human Rights: Implementation Guidance Tools. Annex H. http://www.voluntaryprinciples.org/wp-content/uploads/2013/03/VPs_IGT_Final_13-09-11.pdf

c. Outlines required training for security personnel.

3.5.1.4. If public security forces are used to provide security to the mining project and/or transport routes, the operating company shall make a good faith effort to sign a Memorandum of Understanding (MoU) with public security providers that includes similar provisions to those in 3.5.1.3.

For 3.5.1.4: If relevant, review MoU with public security providers. If no MoU has been signed, determine, through interviews with relevant operating company staff, that good-faith efforts were made to establish an MoU.

For 3.5.1.4:

- MoU with public security providers.
- Public security provider training material.
- Security provider policies and procedures.
- Records of communications and meetings between the operating company and public security providers (what was discussed, when, any formal or informal outcomes or agreements, etc.).

Explanatory Note for 3.5.1.4: According to the VP-IGT, some companies have successfully established MoUs with public security providers around deployment and conduct.[386]

There are number of steps that are typically involved in the establishment of MoUs:

- Develop trust with public security provider
- Develop support from other stakeholders
- Develop and agree on MOU content
- Establish a monitoring system

Despite best efforts, operating companies may not be successful at establishing MOUs with public security. In the absence of an MOU, companies should still try to work with public security providers to ensure that they operate in a manner that aligns with the Voluntary Principles on Security and Human Rights and the appropriate use of force and firearms. Operating company efforts could include conducting training with public security forces that covers the provisions of 3.5.1.3.[387]

3.5.2. Security Risk Assessment and Management

3.5.2.1. The operating company shall assess security risks and potential human rights impacts that may arise from security arrangements. Assessments of security-related risks and impacts shall be updated periodically, including, at minimum: when

For 3.5.2.1: Confirm that security risk assessment was conducted and periodically updated, and if not, the company's rationale for not doing so. Interview stakeholders to determine if they agree with the company's rationale.

For 3.5.2.1 – 3.5.2.3:

- Security risk assessment and related documentation (e.g., final report, supporting information, lists of sources, etc.).
- Risk assessment policies and procedures.

Explanatory Note for 3.5.2.1: The assessment of security risks may be integrated in existing risk assessment processes.

Assessment of risks related to use of security forces is required by the Voluntary Principles on Security and Human Rights, and also by institutions like the International Finance Corporation for projects that receive funding from the corporate.[389]

[386] See Tip 11: Establishing MoUs with Public Security Provider in: ICMM, ICRC, IFC and IPIECA. 2011. Voluntary Principles on Security and Human Rights: Implementation Guidance Tools. p. 45. Available at: https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

[387] Ibid. pp. 40-45.

[389] IFC. 2012. Performance Standard 4: Community Health, Safety and Security. Para.12. https://www.ifc.org/wps/wcm/connect/dc3f4b80498007dca17ff3336b93d75f/Updated_GN4-2012.pdf?MOD=AJPERES

there are significant changes in mining-related activities, security arrangements, or in the operating environment.[388]

There are several resources available that have more information on assessing risks from security arrangements (e.g., IFC, 2017; ICMM et al., 2011).[390]

Risks include not only risks to the company but also risks to communities, workers and other stakeholders (see requirement 3.5.2.3).

Risk assessments in 3.5.2 are not one-time occurrences. According to the Voluntary Principles on Security and Human Rights (VP) Implementation Guidance Tools:

"Any major decision relating to a project or company might represent an appropriate time to conduct or renew a risk assessment, e.g., a project expansion, an acquisition or merger or any other major business decision. Major changes in external circumstances may bring about the need to conduct a VPs risk assessment. This may include a change in government, the outbreak of conflict, an economic crisis, or a major political or policy decision."[391]

3.5.2.2. Assessments, which may be scaled to the size of the company and severity of security risks and potential human rights impacts, shall:

a. Follow a credible process/methodology;[392]

For 3.5.2.2: Review assessment methodology to ensure followed a typical risk assessment process.

Confirm that assessment was carried out by competent professionals.

For 3.5.2.1 – 3.5.2.3:

- Security risk assessment and related documentation (e.g., methodology, final report, supporting information, lists of sources, etc.).
- Risk assessment policies and procedures.

Explanatory Note for 3.5.2.2: Risk assessments may be more or less detailed based on the size of the company and severity of security risks. The Voluntary Principles on Security and Human Rights: Implementation Guidance Tools provide information and an example of how to determine the potential scope of the assessment.[394]

[388] Risk assessments in 3.5.2 are not one-time occurrences. According to the Voluntary Principles on Security and Human Rights (VP) Implementation Guidance Tools, "Any major decision relating to a project or company might represent an appropriate time to conduct or renew a risk assessment, e.g., a project expansion, an acquisition or merger or any other major business decision. Major changes in external circumstances may bring about the need to conduct a VPs risk assessment. This may include a change in government, the outbreak of conflict, an economic crisis, or a major political or policy decision (ICMM, IFC and IPIECA. 2012. Voluntary Principles on Security and Human Rights Implementation Guidance Tools. p. 24. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/)

[390] For example: IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). Voluntary Principles on Security and Human Rights. 2014. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf and ICMM, IFC and IPIECA. 2012. Voluntary Principles on Security and Human Rights Implementation Guidance Tools. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

[391] ICMM, IFC and IPIECA. 2012. Voluntary Principles on Security and Human Rights Implementation Guidance Tools. p. 24. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

[392] Guidance will cover this more extensively, but risk assessments typically include: Establishment of scope; Identification of sources of risk; Identification of risks; Assessment of risks; Development of risk treatment and mitigation measures; and Communications, Monitoring and Assessment and Revision (Source: Voluntary Principles Implementation Guidance Tool. p. 23). The assessment of security risks may be integrated in existing risk assessment processes.

[394] Ibid. pp. 25-26, 80-86.

b. Be carried out and documented by competent professionals; and
c. Draw on credible information obtained from a range of perspectives, including men, women, children (or their representatives) and other vulnerable groups, relevant stakeholders and expert advice.[393]

Review documentation of the stakeholders and others who were consulted (e.g., gov't representatives, security firms, other companies, human rights institutions, civil society, independent experts, etc.), and the materials reviewed (e.g., reports, other assessments, human rights records, laws) during the assessment.

- CVs for personnel who carried out security risk assessment.

Re: 3.5.2.2.a, credible risk assessments typically include:[395]

- Establishment of scope
- Identification of sources of risk
- Identification of risks
- Assessment of risks
- Development of risk treatment and mitigation measures, and
- Communications, Monitoring and Assessment and Revision

Re 3.5.2.2.b, a professional is competent when he/she acts responsibly and effectively according to given standards of performance. See IRMA's definition of competent professionals. Competent professionals should be able to demonstrate competency through their qualifications, certifications and track record.

Re: 3.5.2.2.c, special effort should be made to include women, children or their representatives, and other groups who may be particularly vulnerable to impacts from security arrangements (e.g., this might include ASM operators, human rights defenders, and youth). Other relevant local stakeholders may include local government or community leaders; civil society organizations; other companies operating in the area.

"Expert advice" may come from governments, multi-stakeholder initiatives, human rights institutions and civil society or academics with local or specific issue knowledge and expertise. For example, UNICEF has developed guidance on child rights, and a checklist for companies to enable them to

[393] Special effort should be made to include women, children or their representatives, and other groups who may be particularly vulnerable to impacts from security arrangements (e.g., this might include ASM operators, human rights defenders, and youth) Other relevant local stakeholders may include local government or community leaders; civil society organizations; other companies operating in the area. Expert advice may come from governments, multi-stakeholder initiatives, human rights institutions and civil society or academics with local knowledge and expertise. See IRMA Guidance for more information.

[395] ICMM, IFC and IPIECA. 2012. Voluntary Principles on Security and Human Rights Implementation Guidance Tool. p. 23. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/ and IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). Voluntary Principles on Security and Human Rights. 2014. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf

3.5.2.3. The scope of the security risk assessment shall include, but need not be limited to:

a. Identification of security risks to the company, workers and communities, paying particular attention to risks to women, children and other vulnerable groups;
b. Analysis of the political and security context in the host country context (e.g., the human rights records of the government and public and private security forces; adherence to the rule of law; corruption);
c. Analysis of current and potential conflicts or violence in the host country and affected communities; and
d. Risks associated with equipment transfers.

For 3.5.2.3: Confirm that the scope of the assessment included identification of security risks, the political context, a conflict analysis and risks related to equipment transfers.

For 3.5.2.1 – 3.5.2.3:

- Security risk assessment and related documentation (e.g., final report, supporting information, lists of sources, etc.).
- Risk assessment policies and procedures.

assess whether their security arrangements are attentive to and protective of children's rights.[396]

Explanatory Note for 3.5.2.3: Risk assessments may be more or less detailed based on the size of the company and severity of security risks. For example, higher security risks will be present when mines are located in conflict-affect or high-risk areas (see Chapter 3.4), or when there have been reports of security forces illegally controlling nearby mine sites or transportation routes.

Re: 3.5.2.3.a, the assessment of security risks should evaluate risks to stakeholders, not just security risks to the company.

Vulnerable groups such as women, children, and indigenous peoples should be considered separately. For example, if female workers are employed on a night shift that ends before daylight, additional security measures may need to be provided to ensure women are escorted home. IFC includes guidance on gender considerations, and UNICEF has guidance related to risk to children from security arrangements.[397]

Re: 3.5.2.3.b and c, the political analysis should answer questions about the conflict situation in the country and surrounding countries (if the operation is near a border), for example, is there a recent history of, or potential for violent conflict in the country? Are there any insurgency, armed separatist, guerrilla or paramilitary groups operating in the country/region? Are there unsettled territorial or political claims? Is there a high proliferation of firearms and other weapons?[398]

Re: 3.5.2.3.d, equipment transfers from the company may include the provision of equipment such as vehicles, weapons,

[396] UNICEF. 2017. Child Rights and Security Checklist. https://www.unicef.org/csr/files/Child_rights_and_Security_Checklist_ENG.pdf

[397] IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). Voluntary Principles on Security and Human Rights. 2014. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf and UNICEF. 2017. Child Rights and Security Checklist. https://www.unicef.org/csr/files/Child_rights_and_Security_Checklist_ENG.pdf

[398] ICMM, IFC and IPIECA. 2012. Voluntary Principles on Security and Human Rights Implementation Guidance Tools. pp. 25 and 26. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

			or access to facilities, etc., to public security forces. As part of its risk assessment, the company should consider any relevant past incidents involving previous equipment transfers, such as the use of company-provided equipment in the perpetration of human rights abuses.[399]
3.5.2.4. The operating company shall develop and implement a risk management plan that includes actions to be taken to prevent or mitigate identified risks, and monitoring that will be conducted to ensure that mitigation measures are effective.	For 3.5.2.4: Review the risk management plan to confirm that the company documented the actions to be taken to address identified risks, including monitoring to ensure that its actions were effective.	For 3.5.2.4: • Security risk assessment and related documentation (e.g., final report, supporting information, lists of sources, etc.). • Risk management plan (or its equivalent). • Risk management policies and procedures.	Explanatory Note for 3.5.2.4: A risk management plan (or its equivalent) should be based on an identification and assessment of risks based on their severity or consequence (to the company and/or communities) and probability. The risk management plan should establish a risk response for each risk that seeks to avoid or mitigate that risk to the greatest extent possible. In some cases, this may require allocation of personnel and budget to specific risk mitigation measures.[400]
3.5.2.5. If the security risk assessment reveals the potential for conflicts between affected community members or workers and mine security providers, then the operating company shall collaborate with communities and/or workers to develop mitigation strategies that are culturally appropriate and take into consideration the needs of women, children and other vulnerable groups. If specific risks to human rights are identified in the assessment, the mitigation strategies shall conform with requirements in IRMA Chapter 1.3.	For 3.5.2.5: If risks to affected community members or workers were identified, review evidence (e.g., minutes of meetings) that the company and relevant community members/workers collaboratively developed prevention or mitigation strategies that are culturally appropriate and take into consideration the specific requirements of vulnerable groups. If necessary, follow up with stakeholder interviews. If human rights risks were identified, confirm that prevention/ mitigation strategies were designed as per IRMA Chapter 1.3.	For 3.5.2.5: • Security risk assessment and related documentation (e.g., final report, supporting information, lists of sources, etc.). • Risk management plan (or its equivalent). • Risk management policies and procedures. • Documentation of engagement (e.g., meetings, communications, written or verbal input and company responses) with affected communities and workers.	Explanatory Note for 3.5.2.5: One reason why it may be important to engage with communities in the development of mitigation strategies is that "security measures that are viewed as 'heavy-handed' may end up creating, rather than reducing security risks by endangering parallel efforts to develop community trust."[401] "culturally appropriate" strategies would be those that are aligned with the cultural norms of the affected communities. Stakeholders can help to define for the company what is considered culturally appropriate. (For more on culturally appropriate engagement, see IRMA Chapter 1.2, requirement 1.2.1.3). It is recognized that individual affected community members may not feel safe or for other reasons may not wish to collaborate with the operating company. If this is the case, then efforts should be made to work with others who can represent the views of affected peoples, such as issue

[399] Ibid. p. 27.

[400] Ibid. p. 32, 33.

[401] ICMM, IFC and IPIECA. 2012. Voluntary Principles on Security and Human Rights Implementation Guidance Tools. p. 20. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

advocates (e.g., those working on child rights), individuals who legitimately represent the views of certain groups, etc.

Interactions with security forces have the potential to affect the human rights of individuals and communities. For example, the use of lethal force could result in loss of life. The use of excessive force, as well as unlawful detention, also may threaten the right to liberty and security of the person. Other possible impacts include limitations to freedom of movement or assembly or expression, or even restrictions on employees' freedom of association.[402]

If the risk assessment reveals the potential for risks to human rights, then mitigation measures should conform with the requirements in IRMA Chapter 1.3 on Human Rights Due Diligence. See specifically, requirement 1.3.3.2.

3.5.3. Due Diligence Prior to Hiring Security Personnel

3.5.3.1. The operating company shall develop and implement due diligence procedures[403] to prevent the hiring of company security personnel and private security providers who have been convicted of or credibly implicated in the infringement of human rights, breaches of international humanitarian law or the use of excessive force.

For 3.5.3.1: Review due diligence procedures and documentation showing that these procedures were used prior to hiring company security (e.g., as employees) and private security firms (e.g., as contractors). If the operating company is relying on the private security provider's own due diligence screening of its employees, the auditor should review any documentation provided by the private security company.

Review external documentation that define and/or credibly suggest which security forces are infringing human rights, e.g. UN Group of Experts report or credible Human Rights NGO

For 3.5.3.1:

- Due diligence procedures on vetting and hiring private security providers.
- Due diligence reports on security personnel or security providers.
- Contracts with private security providers.

Explanatory Note for 3.5.3.1: Companies are expected to carry out due diligence in their vetting and hiring of security providers. For example, IFC Performance Standard 4 requires that companies "make reasonable inquiries to ensure that those providing security are not implicated in past abuses."[404]

Additionally, mining companies should determine if there is evidence or reports of private security providers illegally controlling any mine site or transportation route.

Due diligence includes research or investigations to vet prospective private security providers and security personnel such as:

- history of respect for/violations of human rights law and international humanitarian law;

[402] IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). Voluntary Principles on Security and Human Rights. 2014. p. 11. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf

[403] Due diligence includes research or investigations to vet prospective private security providers and security personnel such as: history of respect for/violations of human rights law and international humanitarian law; personal/business reputation; management style and ethics of key executives; litigation and criminal offence history; procedures on use of force and firearms; compliance with health, safety and environmental regulations; etc. (VP Implementation Guidance Tool. pp. 52, 53. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/).

[404] IFC. 2012. Performance Standard 4: Community Health, Safety and Security. Para. 12. https://www.ifc.org/wps/wcm/connect/dc3f4b80498007dca17ff3336b93d75f/Updated_GN4-2012.pdf?MOD=AJPERES

	reports to check if due diligence has been implemented effectively.		• personal/business reputation; • management style and ethics of key executives; • litigation and criminal offence history; • procedures on use of force and firearms; compliance with health, safety and environmental regulations; etc.[405] Provider history can be determined through background checks on individuals and the use of specialist research firms or investigators to examine the history of conduct of private security firms and their reputation among other companies, governments and other entities.[406] Security providers may also be certified to the International Code of Conduct (ICOC) for Private Security Companies which can provide assurance that an independent third party has verified a firm's respect for international human rights.[407]
3.5.3.2. The operating company shall make a good faith effort to determine if public security personnel providing security to the mine have been convicted of or credibly implicated in the infringement of human rights, breaches of international humanitarian law or the use of excessive force.	For 3.5.3.2: Review any operating company procedures and documentation related to efforts to determine if public security personnel have been credibly implicated in human rights abuses, breaches of international humanitarian law or excessive use of force.	For 3.5.3.2: • Security risk assessment and related documentation (e.g., final report, supporting information, lists of sources, etc.). • Risk assessment policies and procedures. • Due diligence reports on public security personnel and/or providers. • Records of communications with stakeholders, experts or other credible sources. • Agreements/MoUs with public security providers.	Explanatory Note for 3.5.3.2: As part of a comprehensive security risk assessment, the company should evaluate public security providers' reputation for and history of human rights abuses, whether their conduct or competence has been called into question. Additionally, mining companies should determine if there is evidence or reports of public security forces illegally controlling any mine site or transportation route. This may require investigation by competent professionals and/or input from experts, international NGOs and other credible sources. IFC cautions, however, that: "Discussions about the background, reputation, or concerns regarding individuals or units can be quite delicate, so

[405] ICMM, IFC and IPIECA. 2012. VP Implementation Guidance Tool. pp. 52, 53. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

[406] ICMM, IFC and IPIECA. 2012. VP Implementation Guidance Tool. pp. 52, 53. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/ and IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). p. 46. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf

[407] Code of Conduct (ICOC) Association website: "Certification." https://www.icoca.ch/en/certification

			companies are advised to assess their relationship with public security forces to determine the most effective way to proceed—and use as much caution and discretion as the situation requires."[408]
3.5.4. Training 3.5.4.1. Prior to deployment of company or private security personnel, the operating company shall provide training that incorporates, at minimum, information related to ethical conduct and respect for the human rights of mine workers and affected communities, with particular reference to vulnerable groups, and the company's policy on the appropriate use of force and firearms. Initial training and refresher courses shall be mandatory for all operating company personnel involved in security, and for private security contractors that have not received equivalent training from their employers.	**For 3.5.4.1:** Review records of training sessions, including whether participants were company employees, private contractors, public security, or others. Review procedures for training new security employees and providing refresher courses. Review training materials to confirm that they at least covered topics of human rights of workers and community members, ethical conduct, appropriate use of force and firearms, and that they include reference to considerations that must be given to particular vulnerable groups such as women, children. If artisanal or small-scale mining (ASM) is occurring on or near the site, confirm that reference is made in the training to this particular group (See also Chapter 3.6, requirement 3.6.3.1). If private security contractors are being used but their employees have not been trained by the operating company, review the contract between the company and security provider and interview the operating company to confirm that the private security personnel received appropriate training.	**For 3.5.4.1:** • Training records (e.g., attendance sign-in sheets, agendas/curricula). • Training materials. • Contracts with private security providers. Records of private security contractor certification.	**Explanatory Note for 3.5.4.1:** Training should be based on the Voluntary Principles on Security and Human Rights and ideally would be conducted by the operating company prior to deployment of security personnel, with refresher courses on quarterly or bi-annual basis. Training should be documented and should include mandatory testing and certification for all security personnel.[409] The operating company will not need to carry out training if contracted private security personnel have received training from the private security provider. However, ideally, the operating company would obtain independent, credible assurance that this training has been provided (for example, through certification of the provider to the ICOC - see Note for 3.5.3.1).
3.5.4.2. If public security forces are to be used, the operating company shall determine if public security personnel are	**For 3.5.4.2:** If public security providers are being used but they have not been trained on human rights and the appropriate use of force,	**For 3.5.4.2:** • Training records.	**Explanatory Note for 3.5.4.2:** According to International Council on Mining and Metals (ICMM) and others, one of the most common and potentially effective ways to address gaps

[408] IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). p. 70. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf

[409] ICMM, IFC and IPIECA. 2012. VP Implementation Guidance Tool. p. 54. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

provided with training on human rights and the appropriate use of force and firearms. If this training is not occurring, the company shall offer to facilitate training for public security personnel that provide mine-related security.

determine if the operating company has made efforts to facilitate such training by another party.

- Training materials.
- Agreements/MoUs with public security providers.

identified in the competence of public security providers is for a company to encourage the government to develop an adequate training program, and possibly to assist it in doing so, if necessary.[410]

They elaborate that there are a number of steps that should be considered in facilitating a training program for public security providers:

- Establish if there are existing training programs in human rights, international humanitarian law and rules of engagement for public security providers
- Establish the willingness of public providers or host government to participate
- Identify partners
- Support training delivery
- Follow up

3.5.5. Management of Security Incidents

3.5.5.1. The operating company shall:

a. Develop and implement systems for documenting and investigating security incidents, including those involving impacts on human rights or the use of force;
b. Take appropriate actions, including disciplinary measures, to prevent and deter abusive or unlawful acts by security personnel and acts that contravene the company's policies on rules of engagement, the use of force and firearms, human rights, and other relevant policies;

For 3.5.5.1: Review operating company procedures for documenting and recording/tracking and investigating security incidents, as well as adherence of security personnel to relevant company policies; how it determines appropriate disciplinary actions for different types of incidents; procedures for mitigating and remediating impacts related to human rights, injuries or fatalities; procedures for reporting security incidents to appropriate authorities; procedures and facilities available for provision of medical aid; procedures to protect those filing security-related allegations. Interview relevant operating company staff to confirm that they understand the procedures.

For 3.5.5.1:

- Security management plan or equivalent.
- Disciplinary policies or procedures.
- Incident management policies and procedures (e.g., how to file allegations, reporting procedures, confidentiality clauses).
- Stakeholder complaint and grievance procedures and records.
- Training materials for security personnel, employees and affected communities.
- Records or documentation of incident management (e.g., reports to competent authorities, internal reports, follow up,

Explanatory Note for 3.5.5.1: Guidance related to 3.5.5.1.a and b can be found in the Voluntary Principles on Security and Human Rights: Implementation Guidance Tool (Step 3.5 "Respond to human rights abuses" and Step 4.4 "Respond to private security provider misconduct"),[412] and also IFC Guidance related to "Preparing a Security Management Plan" and "Assessing Allegations or Incidents Related to Security Personnel."[413]

Re 3.5.5.1.c, see specifically, requirement 1.3.3.3 (IRMA Standard, Chapter 1.3—Human Rights Due Diligence).

Re: 3.4.4.1.d, the competence of local authorities should be determined through the security risk assessment. If state mechanisms cannot manage the investigation, operating

[410] See Tip 9: Establishing relationship with public security provider, ICMM, IFC and IPIECA. 2012. VP Implementation Guidance Tool. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

[412] ICMM, IFC and IPIECA. 2012. VP Implementation Guidance Tool. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

[413] IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). pp. 79 - 96. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf

c. Take appropriate actions to mitigate and provide remediation for human rights impacts (as per IRMA Chapter 1.3[411]), injuries or fatalities caused by security providers; d. Report security incidents, including any credible allegations of human rights abuses by private or public security providers, to the competent authorities and national human rights institutions, and cooperate in any investigations or proceedings; e. Provide medical assistance to all injured persons, including offenders; and f. Ensure the safety of victims and those filing security-related allegations.	Determine if there are cases of inappropriate use of force through review of complaints and company annual reports; and interviews with the company, workers/workers' representatives and community members). If inappropriate force has been used, confirm that appropriate disciplinary action was taken by the company, and follow-up (e.g., medical aid; report to authorities) occurred.	medical services provided, remediation, compensation etc.).	companies may need to conduct an intervention via home government, NGOs or other stakeholders.[414] Re: 3.4.4.1.f, victims should be protected to the fullest extent possible from any retaliation. This may include having appropriate measures for maintaining the confidentiality of the complainant,[415] and working with state authorities, NGOs or host governments to ensure the safety of complainants and victims during and after the investigation
3.5.5.2. In the event of security-related incidents that result in injuries, fatalities or alleged human rights impacts on community members or workers, the company shall provide communities and/or workers with information on the incidents, any investigations that are underway, and shall consult with communities and/or workers to develop strategies to prevent the recurrence of similar incidents.	For 3.5.5.2: Review documents related to actual security incidents. Review records filed with authorities and compare to the operating company records of incidents. Conduct interviews with community members or workers involved in security incidents to confirm that they have access to information on the incidents and related investigations, and that they have been consulted to develop strategies to prevent the recurrence of similar incidents.	For 3.5.5.2: • Incident management policies and procedures (e.g., how to file allegations, reporting procedures, confidentiality clauses). • Stakeholder complaint and grievance procedures and records. Records of communications and consultations (e.g., meetings, correspondence) with stakeholders.	Explanatory Note for 3.5.5.2: Information provided to communities and/or workers regarding incidents and any investigations that are underway should not put the complainant(s) or victim(s) at risk.[416] In such cases, it may be prudent to disclose some information only to those who have been directly affected.

[411] IRMA Standard, Chapter 1.3—Human Rights Due Diligence. (See specifically, requirement 1.3.3.3).

[414] ICMM, IFC and IPIECA. 2012. VP Implementation Guidance Tool. p. 46. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

[415] IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). p. 94. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf

[416] Ibid. p. 96.

3.5.6. Communication and Disclosure 3.5.6.1. If requested by a representative community structure, the operating company shall offer a briefing for community stakeholders on the company's procedures on the use of force and firearms.	**For 3.5.6.1:** Determine, through interviews with the operating company, whether or not there have been any community requests for such briefings, and if so, confirm that they were carried out as per the request.	**For 3.5.6.1:** • Community briefing materials. • Records of communications and consultations (e.g., meetings, correspondence) with stakeholders. • Security policies and procedures.	**Explanatory Note for 3.5.6.1:** According to the International Finance Corporation (IFC): "Through its Community Relations function, a company can share information with communities about security arrangements, the company's security policies, and the expected conduct of security personnel. Dialogue with communities about security issues can also help a company identify potential risks and local concerns, and can serve as an early warning system."[417] A "representative community structure" could be a local government, a community-based organization, etc."
3.5.6.2. The operating company shall consult regularly with stakeholders, including host governments and affected communities, about the impact of their security arrangements on those communities; and shall report to stakeholders annually on the company's security arrangements and their efforts to manage security in a manner that respects human rights.	**For 3.5.6.2:** Interview operating company and stakeholders and review documentation (e.g., records of consultations or meetings with the community members, agendas, written materials, etc.) to confirm that company carries our regular consultations with relevant stakeholders. Confirm, that the company has reported verbally to stakeholders, or has published annual reports on the company's security-related arrangements and management.	**For 3.5.6.2:** • Documentation related to annual reporting on security arrangements. • Records of communications and consultations (e.g., meetings, correspondence) with stakeholders. • Agreements/MoUs with host governments and communities.	**Explanatory Note for 3.5.6.2:** There is no definition for "consult regularly." Generally, however, if security is a concern for members of affected communities companies should provide opportunities for stakeholder questions and input on the topic whenever they meet with them (e.g., it can be a regular agenda item in community consultations and meetings). If security is not a major concern for stakeholders, then providing information and seeking feedback on security arrangements will need to happen less often. The operating company may either report verbally, for example at a public meeting, or publish a report (such as an annual progress report produced by companies participating in the Voluntary Principles on Security and Human Rights) that is available to stakeholders. As per IRMA Chapter 1.2, criteria 1.2.4, communications and information must be in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner.

[417] IFC. 2017. Use of Security Forces: Assessing and Managing Risks and Impacts (Good Practice Handbook). p. 9. http://www.voluntaryprinciples.org/wp-content/uploads/2018/06/p_handbook_SecurityForces_2017.pdf

3.5.6.3. Stakeholders shall have access to and be informed about a mechanism to raise and seek recourse for concerns or grievances related to mine security.	For 3.5.6.3: Confirm that stakeholders have been informed of a mechanism to raise security-related concerns. Interview complainants, if possible, and other stakeholders to determine accessibility and effectiveness of the operating company's management of security related grievances.	For 3.5.6.3: • Incident management and/or grievance mechanism policies and procedures. • Documentation of communications with relevant stakeholders related to the grievance mechanism (e.g., accessibility to the mechanism).	Explanatory Note for 3.5.6.3: The operational-level grievance mechanism developed as per IRMA Chapter 1.4 may be used as the mechanism to receive and address security-related grievances, or a separate mechanism may be created to handle only security-related concerns. If a separate mechanism is developed, it shall be done in a manner consistent with Chapter 1.4.
3.5.6.4. If public security forces are providing security for any aspect of the mining project, the operating company shall encourage host governments to permit making security arrangements, such as the purpose and nature of public security, transparent and accessible to the public, subject to any overriding safety and security concerns.	For 3.5.6.4: Determine if public security providers have been used at the site, and if so, interview relevant operating company staff to determine if security arrangements were made public, and if not, why not.	For 3.5.6.4: • Public reporting on security arrangements. • Agreements/MoUs with host governments/public security providers. • Records of communications between operating company and host government related to permitting security information to be made public.	Explanatory Note for 3.5.6.4: This requirement aligns with a similar provision in the Voluntary Principles on Security and Human Rights. Similarly, IFC states that their clients will, "encourage the relevant public authorities to disclose the security arrangements for the client's facilities to the public, subject to overriding security concerns."[418] IFC adds that, "As part of their overall approach to stakeholder engagement, companies should communicate their security arrangements to workers and communities, subject to overriding safety and security needs."[419] As explained in the Voluntary Principles Implementation Guidance Tool,[420] information that could create security and safety concerns or human rights risks would include specific troop movements, supply schedules, company personnel movements, locations of valuable or hazardous equipment, etc.

NOTES

[418] International Finance Corporation (IFC). 2012. Performance Standard 4: Community Health, Safety and Security. Guidance Note. Para. 13. https://www.ifc.org/wps/wcm/connect/dc3f4b80498007dca17ff3336b93d75f/Updated_GN4-2012.pdf?MOD=AJPERES

[419] International Finance Corporation (IFC). 2012. Performance Standard 4: Community Health, Safety and Security. Guidance Note. GN26. https://www.ifc.org/wps/wcm/connect/dc3f4b80498007dca17ff3336b93d75f/Updated_GN4-2012.pdf?MOD=AJPERES

[420] ICMM, IFC and IPIECA. 2012. Voluntary Principles on Security and Human Rights Implementation Guidance Tools. p. 47. https://www.commdev.org/voluntary-principles-on-human-rights-implementation-guidance-tools-igt/

This chapter draws on the Voluntary Principles on Security and Human Rights ("Voluntary Principles"), which provides a widely recognized framework for risk assessment and management of security providers that is respectful of human rights.[421] Companies are encouraged to become corporate participants in the Voluntary Principles Initiative, to learn from and share knowledge with other companies and participants regarding best practices related to security and human rights.[422]

Cross References to Other Chapters	
CHAPTER	ISSUES
1.2—Community and Stakeholder Engagement	All stakeholder engagement in Chapter 3.5 must conform with the requirements of Chapter 1.2. Chapter 1.2, Criterion 1.2.3 is important to ensure that affected stakeholders have the capacity to fully understand their rights and participate effectively in the assessment and development of prevention/mitigation plans, monitoring, and remedies for impacts on their safety and human right. And 1.2.4 ensures that communications and information are in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner.
1.3—Human Rights Due Diligence	There is considerable potential for integration between Chapters 3.5 and 1.3. For example: • The security policy may be integrated into a human rights policy in Chapter 1.3. • Information from security risk assessment may feed into the assessment of risks to or impacts on human rights. • If human rights risks or impacts are identified in the security risk assessment, prevention, mitigation or remediation strategies shall be designed as per the requirements in Chapter 1.3, criteria 1.3.3. Reporting on security management (requirement 3.5.6.1) may be done through a company's human rights reporting (requirement 1.3.5.1), if the latter occurs on an annual basis.
1.4—Complaints and Grievance Mechanism and Access to Remedy	The filing of security-related complaints or grievances may be done through the operational-level grievance mechanism required in Chapter 1.4, or through a security-specific mechanism. If a separate mechanism or procedures are created specifically for security-related complaints, they should be developed in a manner that aligns with Chapter 1.4.
1.5—Revenue and Payments Transparency	If information on payments to made to governments (e.g., for the provision of public security forces or other related in-kind payments of equipment, etc.) was collected for the security risk assessment, it may feed into reporting requirements in Chapter 1.5 (i.e., 1.5.1.3 and 1.5.3.2).
2.1—Environmental and Social Impact Assessment and Management	Information from the security risk assessment, such as potential social impacts, may feed into the Environmental and Social Impact Assessment or vice versa.
3.4—Mining and Conflict Affected Areas	Information from the security risk assessment may feed into conflict screening/conflict risk assessment, or vice versa. As per requirement 3,4.2.1. When operating in a conflict-affected or high-risk area, the operating company shall not knowingly provide direct or indirect support to public security or private security forces who: a. Illegally control mine sites, transportation routes and upstream actors in the supply chain; b. Illegally tax or extort money or minerals at point of access to mine sites, along transportation routes or at points where minerals are traded; or c. Illegally tax or extort intermediaries, export companies or international traders. Requirement 3.5.2.3 in the Chapter 3.4 mentions current and potential sources of conflict. If in a conflict-affected or high-risk area, this analysis will have been done as part of the conflict risk assessment (3.4.3.3.a).

[421] Voluntary Principles on Security and Human Rights. 2014. www.voluntaryprinciples.org

[422] ibid. "Voluntary Principles Initiative – Guidance on Certain Roles and Responsibilities of Companies." www.voluntaryprinciples.org/wp-content/uploads/2014/10/VPs_-_Roles_and_Responsibilities_-_Corporate_Pillar1.pdf

Cross References to Other Chapters	
3.6—Artisanal and Small-Scale Mining.	If ASM is occurring on or near the mine site, requirement 3.6.3.1 is relevant (relates to requirement 3.5.4.1 in Chapter 23.5).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to potential risks or impacts from a project.

Artisanal and Small-Scale Mining (ASM)

Formal or informal operations with predominantly simplified forms of exploration, extraction, processing and transportation. ASM is normally low capital intensive and uses high labour intensive technology. ASM can include men and women working on an individual basis as well as those working in family groups, in partnership or as members of cooperatives or other types of legal associations and enterprises involving hundreds or thousands of miners. For example, it is common for work groups of 4-10 individuals, sometimes in family units, to share tasks at one single point of mineral extraction (e.g. excavating one tunnel). At the organisational level, groups of 30-300 miners are common, extracting jointly one mineral deposit (e.g. working in different tunnels), and sometimes sharing processing facilities.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Competent Authority

The government department or authority having power to issue and enforce regulations, orders or other instructions having the force of law in respect of the subject matter of the provision concerned.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Conflict Analysis

The systematic study of the profile, issues and stakeholders that shape an existing or potential conflict, as well as factors in the interaction between the three. It helps companies gain a better understanding of the environment in which they operate and their role in that context.

Conflict Risk

Any conflicts that may emerge or be exacerbated because of a company's presence, activities or relationships; and the likelihood that such conflicts will occur. Conflicts may arise within or between communities and/or stakeholder groups, or between the company and communities/stakeholders.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle the company should take into account the concerns and views expressed by stakeholders in the final decision.

Contractor

An individual, company, or other legal entity that carries out duties subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Human Rights Risk

Human rights risks are understood to be the business enterprise's potential adverse human rights impacts. (May also be referred to as potential human rights impacts).

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Mitigation (including in relation to Human Rights Impacts)

Refers to actions taken to reduce the likelihood of a certain adverse impact occurring. The mitigation of adverse human rights impact refers to actions taken to reduce its extent, with any residual impact then requiring remediation.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Potential Human Rights Impact

An adverse impact on human rights that may occur but has not yet done so. (May also be referred to as human rights risk).

Remediation/Remedy (including in relation to Human Rights Impacts):

Remediation and remedy refer to both the processes of providing remedy for an (adverse human rights) impact and the substantive outcomes that can counteract, or make good, the adverse impact. These outcomes may take a range of forms, such as apologies, restitution, rehabilitation, financial or non-financial compensation, and punitive sanctions (whether criminal or administrative, such as fines), as well as the prevention of harm through, for example, injunctions or guarantees of non-repetition.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

Worker

All non-management personnel.

Workers' Representatives

A worker chosen to facilitate communication with senior management on matters related to working conditions, occupational health and safety or other workers' concerns. This is undertaken by the recognized trade union(s) in unionized facilities and, elsewhere, by a worker elected by non-management personnel for that purpose.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 3.6—Artisanal and Small-Scale Mining

BACKGROUND

It has been estimated that there are between 20 and 30 million men, women and children involved in artisanal and small-scale mining (ASM) worldwide, and that the ASM sector is responsible for 15 to 20 percent of the production of global minerals and metals.[423]

While there is no single definition of artisanal and small-scale mining (ASM), it is generally understood to encompass a range of activities, including prospecting, exploration, extraction, processing and transportation, and use more simplified and labor-intensive technologies and practices than large-scale industrial mining.

The ASM sector is complex and diverse. It includes individuals or families mining to earn or supplement their livings, as well as small-scale commercial mining operations that employ numerous workers. Much of ASM is informal, with entities operating in in contravention to laws, or in the absence of an appropriate legal framework, although some ASM operators do have permits, pay taxes and abide by social and environmental regulations.[424] In some contexts, there may be a criminal element to ASM activities, such as smuggling, tax evasion, money laundering, trafficking in illegal chemicals, or financing of conflict.[425]

Sometimes ASM occurs in areas close to or on large-scale mining (LSM) concessions. ASM miners may have traditionally operated in those areas, full-time or seasonally, or in other cases miners may have arrived during LSM exploration or after the development of the large-scale mine.

TERMS USED IN THIS CHAPTER

Accessible ■ Affected Communities ■ Artisanal and Small-Scale Mining (ASM) ■ Child Labor ■ Collaboration ■ Consultation ■ Conflict-Affected or High-Risk Area ■ Forced Labor ■ Grievance Mechanism ■ Indigenous Peoples ■ Inform ■ Mining Project ■ Mitigation ■ Operating Company ■ Stakeholder ■ Vulnerable Groups ■ Worker ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

Given the diversity within the ASM sector, it is understandable that interactions between LSM and ASM entities can also take on a variety of forms, from violent confrontation to harmonious co-existence.[426]

ASM is playing a growing role in many national economies,[427] and holds the potential to provide decent livelihoods if conducted in an organized and responsible manner and afforded more secure access to capital and markets. Large-scale mines that operate in the same regions as ASM, or that purchase minerals produced by ASM, have the opportunity to contribute to positive transformations in the ASM sector.

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[423] Buxton, A. 2013. Responding to the Challenge of Artisanal and Small-Scale Mining: How can knowledge networks help? Institute for Environment and Development (IIED), London. p. 3. http://pubs.iied.org/16532IIED/

[424] ibid. p. 4; Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). 2017. IGF Guidance for Governments: Managing Artisanal and Small-Scale Mining. International Institute for Sustainable Development (IISD).p. 5. http://igfmining.org/wp-content/uploads/2017/01/igf-guidance-for-governments-asm.pdf

[425] IGF, 2017, p. 12; and Echavarria, C. 2014. 'What is legal?' Formalising Artisanal and Small-Scale Mining in Colombia. Institute for Environment and Development (IIED), London and Alliance for Responsible Mining (ARM), Columbia. P. 23. http://pubs.iied.org/pdfs/16565IIED.pdf

[426] Communities and Small-Scale Mining (CASM), the World Bank/International Finance Corporation Oil, Gas and Mining Sustainable Community Development Fund (CommDev) and International Council on Mining and Metals (ICMM). 2010. Working Together - How Large-Scale Mining Can Engage with Artisanal and Small-Scale Miners. p. 5. http://hub.icmm.com/document/789

[427] Freundenberger, M., Ali, S., Fella, T. and Pennes, S. 2013. Property Rights and Artisanal Mining: Clarifying and Strengthening Rights: Options for Policymakers. USAID Issue Brief. p. 1. https://www.land-links.org/wp-content/uploads/2016/09/Property-Rights-and-Artisanal-Mining.pdf

OBJECTIVES/INTENT OF THIS CHAPTER

To avoid conflict and, where possible within the scope of national law, foster positive relationships between large-scale mines and artisanal and small-scale mining (ASM) entities, and support the development of ASM that provides positive livelihood opportunities and is protective of human rights, health, safety and the environment.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant to any large-scale mining operation that has the potential to interact with ASM entities due to proximity or through commercial relationships such as sourcing ore or minerals from ASM entities.

Artisanal and Small-Scale Mining Requirements

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3.6.1. Understand the ASM Context 3.6.1.1. When the large-scale mining (LSM) operating company has identified the presence of artisanal and small-scale mining (ASM) entities on the LSM concession or in close proximity to LSM operations, the operating company shall carry out a scoping process to understand the legal, social and environmental context in which ASM activities are occurring.	**For 3.6.1.1:** Review written materials to confirm that the operating company has an understanding of and has documented information on the ASM activities and the legal, social and environmental context in which they are taking place.	**For 3.6.1.1:** • A scoping report or equivalent documenting the company's research into the legal, social and environmental context in which ASM are operating. • Documentation of efforts to identify ASM entities and operations in close proximity to the mining project.	**Explanatory Note for 3.6.1.1:** "in close proximity" should be taken to mean located adjacent to the LSM operation or near enough that there are likely to be current or future interactions between ASM and LSM activities or personnel, and/or the actions of one may have an impact on the other. "ASM entities" may include ASM miners/producers, processors, traders, transporters; they may be individuals or groups, formal or informal, and they may or may not be operating in compliance with legal frameworks. Prior to investment in large-scale mining (LSM) projects, companies typically scope the political, economic, legal, social and environmental context of the operating area to understand the potential risks related to such large capital investments. When ASM is present, the LSM operating company should also strive to understand and document the various risks and opportunities related to ASM in the area. Information gathered during this stage will help to inform strategies to create positive opportunities for ASM and affected communities (See 3.6.3.2). If not done pre-investment, LSM companies should establish the ASM context as early as possible in the mine development life cycle. Important factors to consider in establishing the ASM context include, but need not be limited to: • Who are the ASM miners? For example, are both women and men involved,[428]

[428] See Eftimie et al. 2012. Gender Dimensions of Artisanal and Small-Scale Mining: A Rapid Assessment Toolkit. https://openknowledge.worldbank.org/handle/10986/2731

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			are children involved,[429] are miners from local communities, are they migrants, or is it a mix,[430] is there the potential that forced labor may be occurring?[431] • Is ASM a traditional activity, recent, or post-LSM; are activities seasonal, year-round? • What are the types of ASM-related activities taking place locally (e.g., mining, processing, trading, transport)? • What is the relationship between ASM entities, including migrant and transient miners if relevant, and the local community? • Is there the potential that ASM entities are being controlled by militant or rogue government forces, or armed criminal groups? • What role does ASM income play in local/regional economies or livelihoods of local/regional communities? • What are the current or potential environmental and social impacts of ASM activities? • Who holds surface and mineral rights in the area? Are there customary tenure claims?[432] • What is the regulatory and legal framework for ASM in the country (e.g., Is ASM legal? Is enforcement of laws occurring?) • If there is not a legal framework for ASM, are government efforts underway to formalize or legalize ASM production (or conversely, is government passive, or actively working against formalization or the development of a legal framework that supports ASM?) • Is there the potential for ASM materials to enter the mine's supply chain either from local or more distant sources?
3.6.2. Engage with ASM Entities and Communities	**For 3.6.2.1.a:** Confirm that efforts have been made to engage ASM entities. This may be done through	**For 3.6.2.1:** • Stakeholder engagement strategy. • Records of ASM stakeholders	**Explanatory Note for 3.6.2.1.a:** To the extent possible, good faith efforts should be made to engage and consult with a range of artisanal and small-scale mining (ASM) individuals or entities to reflect the concerns and opinions of the diversity of those

[429] See UNICEF, 2015. Child Rights and the Mining Sector. UNICEF Extractive Pilot. https://www.unicef.org/csr/files/UNICEF_REPORT_ON_CHILD_RIGHTS_AND_THE_MINING_SECTOR_APRIL_27.pdf

[430] See Communities and Small-Scale Mining (CASM) and the World Bank/IFC Community Development Fund (CommDev). 2009. Mining Together - Large-Scale Mining Meets Artisanal Mining: A Guide for Action. https://commdev.org/wp-content/uploads/2015/05/P_Mining_Together_Large-Scale_Mining_Meets_Artisanal_Mining.pdf

[431] See Hidron and Koepke. 2014. Addressing Forced Labor in Artisanal and Small-scale Mining (ASM): A Practitioner's Toolkit. Alliance for Responsible Mining. https://www.solidaridadnetwork.org/sites/solidaridadnetwork.org/files/publications/ForcedLaborToolkit%20-%20Solidaridad%20ARM.pdf

[432] For example, see Freundenberger et al. 2013. Property Rights and Artisanal Mining: Clarifying and Strengthening Rights: Options for Policymakers. USAID Issue Brief. https://www.land-links.org/wp-content/uploads/2016/09/Property-Rights-and-Artisanal-Mining.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.6.2.1. When the operating company has identified the presence of ASM on or in close proximity to its mining project, and where there is no material risk to company personnel, it shall: a. Make a good faith effort to engage with ASM entities including, where relevant, informal ASM operators and formal ASM associations, as part of ongoing stakeholder engagement efforts (See IRMA Chapter 1.2); b. Make a good faith effort to consult with informal and formal ASM entities during relevant risk and impact assessments and closure planning; c. Engage with communities that are or may be affected by ASM operations and/or interactions between LSM and ASM entities; and d. Inform ASM entities and communities that there is an operational-level grievance mechanism available to raise concerns and resolve conflicts	engagement with ASM associations, individuals or groups of formal or informal miners, and/or leaders that are acknowledged as being representative of certain groups of ASM miners. Refer also to IRMA Chapter 1.2—Community and Stakeholder Engagement. Identification of ASM entities (miners, processors, traders, etc.) should be done during stakeholder mapping (1.2.1.1); engagement processes should be accessible, culturally appropriate (e.g., in line with cultural protocols, norms and rights of indigenous peoples) and inclusive of the range of ASM stakeholders, including, if relevant, women, children or their representatives, illiterate workers, miners from different cultural or ethnic groups, and other potentially marginalized or vulnerable groups (1.2.2.4). Also, ASM entities should be included, when possible, in stakeholder planning (1.2.1) and capacity building (1.2.3). Confirm that efforts have been made to engage vulnerable or marginalized ASM miners.	consulted (e.g., list of those consulted, description of the consultation content and process). • Records of local community stakeholders affected by interactions ASM and/or between LSM and ASM consulted (e.g., list of those consulted, description of the consultation content and process). • Materials used to promote the operational-level grievance mechanism for ASM and local communities, and an explanation of the distribution method used.	who may be affected or have the potential to affect the LSM mine (e.g., diversity in gender, age, ethnicities, formal/informal entities, different sizes of ASM operations, and the range of types of ASM activities, including miners, processors, traders, transporters). • Formal ASM entities may include cooperatives, associations, enterprises or other entities that are registered with the government and/or are able to apply for a formal mining license or permit.[433] • Informal ASM refers to those working outside the legal framework, e.g., they may lack of ownership of legitimate mineral titles, permits or claims.[434] The term "good faith effort" is used in 3.6.2.1 because it is recognized that there may be legitimate reasons for not engaging with some ASM entities, e.g., those linked to armed groups or criminal activity. Or there may be situations where engagement is unlikely, e.g., with transient miners or unpermitted miners who fear being arrested or expelled. Where direct engagement is not possible, efforts should be made to engage with civil society, community organizations or others who have knowledge of the challenges, risks, impacts and opportunities related to ASM. Where it is not deemed safe to engage, or where good faith efforts have not led to engagement, LSM operators should provide explanations to auditors. As per IRMA Chapter 1.2, criteria 1.2.4, communications and information must be in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner. The appropriate or optimal engagement strategies will vary based on the particular ASM context. Engagement may be through meeting with ASM representatives (individuals or groups), ASM community forums held by the company or in partnership with others (e.g., government, civil society, development agencies, etc.), LSM-ASM committees or other approaches. Engagement may be with ASM entities alone, or may encompass affected communities more broadly in an effort to promote active, ongoing cooperation between LSM operations, artisanal mining

[433] Communities and Small-Scale Mining (CASM) and the World Bank/IFC Community Development Fund (CommDev). 2009. Mining Together - Large-Scale Mining Meets Artisanal Mining: A Guide for Action. p. 23. https://commdev.org/wp-content/uploads/2015/05/P_Mining_Together_Large-Scale_Mining_Meets_Artisanal_Mining.pdf

[434] Communities and Small-Scale Mining (CASM) et al. 2010. Working Together - How Large-Scale Mining Can Engage With Artisanal and Small-Scale Miners. p. 7. http://www.eisourcebook.org/cms/June%202013/Working%20Together,%20How%20Large-scale%20Mining%20can%20Engage%20with%20ASM.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
related to the LSM operation (See IRMA Chapter 1.4).	**For 3.6.2.1.b:** Confirm that good faith efforts have been made to include both formal and informal (if both exist) ASM entities in consultations during risk and impact assessments and closure planning. A list of risk and impact assessments that may be relevant, depending on the ASM context, can be found in Explanatory Note for this Chapter). Requirements related to reclamation and closure planning are found in IRMA Chapter 2.6 (Note: the IRMA Standard requires that affected communities be involved in assessments/closure planning). **For 3.6.2.1.c:** Confirm that engagement has occurred with relevant stakeholders from communities that may be affected positively or negatively by ASM operations, or may be affected positively or negatively by interactions between the LSM and ASM entities. (See Explanatory Notes for more information) **For 3.6.2.1.d:** Confirm that ASM entities and communities have been informed that concerns or complaints related to ASM-LSM interactions may be brought to the LSM company		operations and local communities. As outlined in Chapter 1.2, there may be the need for different engagement/consultation strategies, such as separate meetings, for women, or vulnerable groups. **Explanatory Note for 3.6.2.1.b:** Within the IRMA Standard there are a number of IRMA chapters that require LSM companies to carry out risk or impact assessments. All of these assessments include consultation with stakeholders, so if ASM mining is occurring on or in close proximity to LSM, then ASM entities should be invited to engaged in any relevant risk/impact assessment processes undertaken by the LSM. For example: • The operating company's security risk assessment required in Chapter 3.5 is an example of where ASM miners need to be consulted, as there may be risks relating to interactions between mine site security personnel and ASM, and ASM miners can provide input into how to best mitigate the potential for violent interactions or human rights abuses with mine security providers. CASM et al. (2010) provide further guidance on assessing and minimizing the risks to security and human rights when there are interactions between LSM and ASM.[435] • Inclusion of ASM entities and local communities in reclamation and mine closure planning is also important, as ASM frequently occurs on historic LSM sites (e.g., reworking of tailings or mining of low-grade ore rejected by the LSM). By including ASM miners and communities in closure planning early in LSM mine development (see IRMA Chapter 2.6), there may be opportunities to enable ASM to mine certain areas of the LSM site concurrent with LSM operations; and the adoption of "innovative approaches to rehabilitation that benefit both the legacy of the LSM company and the livelihoods of ASM miners can be identified."[436] Other assessments that should include ASM, if present, are those found in: IRMA Chapter 1.3—Human Rights, Chapter 2.1—Environmental and Social Impact Assessment, Chapter 2.4—Resettlement, Chapter 3.2—Occupational Health and Safety (e.g., if ASM is occurring on the LSM concession, as the ASM activities may

[435] Communities and Small-Scale Mining (CASM) et al. 2010. Working Together - How Large-Scale Mining Can Engage With Artisanal and Small-Scale Miners. pp. 73-78. http://www.eisourcebook.org/cms/June%202013/Working%20Together,%20How%20Large-scale%20Mining%20can%20Engage%20with%20ASM.pdf

[436] Ibid. pp. 16, 85-87.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	through its grievance mechanism. (See also IRMA Chapter 1.4)		pose health and safety risks to LSM workers and ASM workers), Chapter 3.3—Community Health and Safety, Chapter 3.4—Conflict-Affected Areas, Chapter 3.5—Security Arrangements, and/or Chapter—4.6 Biodiversity, Ecosystem Services and Protected Areas. Explanatory Note for 3.6.2.1.c: Communities located in the vicinity of the LSM and ASM operations are also stakeholders of the LSM mine. Depending on the context, all or some of the individuals working for ASM entities may live in or use services provided by nearby communities. These communities can offer important input on the ASM context, the potential impacts from ASM operations, the role ASM plays in the local community, the potential impacts that may occur as a result of negative (or violent) interactions between LSM and ASM, and the potential impacts (positive or negative) that might occur as a result of LSM strategies or initiatives related to ASM. Explanatory Note for 3.6.2.1.d: It is important that ASM entities and communities affected by the interactions between LSM and ASM understand that they have avenues for raising concerns and seeking remedy for perceived impacts that are related to the LSM operations. IRMA Chapter 1.4 addresses the development of an operational-level grievance mechanism. Requirement 3.6.2.1.d simply clarifies that as LSM stakeholders ASM entities and affected communities need to be made aware of the existence of such a mechanism.
3.6.3. Foster Positive Relationships and Opportunities for ASM and Communities 3.6.3.1. The operating company shall ensure that mine security personnel are trained in respecting the human rights of individuals engaged in ASM activities, and members of affected communities.	For 3.6.3.1: Refer to IRMA Chapter 3.5—Security Arrangements. As per the Voluntary Principles on Security and Human Rights, requirements 3.5.4 (and 3.6.3.1) require that private security personnel used by LSM be given training that incorporates, at minimum, ethical conduct and respect for the human rights of workers and affected communities. (See additional security requirements in Chapter 3.5). Confirm, through review of documentation such as training	For 3.6.3.1: • Training records (e.g., attendance sign-in sheets, agendas/curricula). • Training materials. • Contracts with private security providers. • Records of private security contractor certification.	Explanatory Note for 3.6.3: "Positive opportunities" will vary depending on the context. For example, in some cases, participating in formalization of the ASM sector may be possible, however, in other cases creating alternative livelihood opportunities for communities may have the potential to yield more positive benefits. Explanatory Note for 3.6.3.1: Security concerns and potential impacts on human rights can arise as a result of interactions between: artisanal and small-scale mining (ASM) entities and security providers; different groups of ASM miners competing for valuable territory; ASM miners and local communities, e.g., when miners are not from the community; and LSM operators and ASM miners, e.g., when

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	attendance records, training manuals, and interviews with relevant workers and company management, that appropriate training has occurred.		incursions onto LSM concessions occur, or there is theft or vandalism of LSM property.[437] There may be elevated risks for children in these situations.[438] IRMA Chapter 3.5 addresses security arrangements in more detail, and requires that operating companies, as per the Voluntary Principles on Business and Human Rights, provide human rights training to private security forces, and offer similar training to public security forces that provide mine-related security if they are not receiving that sort of training through other means. Requirement 3.6.3.1 simply clarifies that when ASM is occurring on or in close proximity to the mining project, that in addition to the human rights of mine workers and affected communities the human rights of individuals engaged in ASM activities are specifically included as part of that training. For information on training of mine security personnel, see IRMA Chapter 3.5, and the Voluntary Principles on Security and Human Rights.[439] As per Chapter 3.5, requirement 3.5.4.1, training should be based on the Voluntary Principles on Security and Human Rights, be conducted quarterly or bi-annually, be documented, and there should include mandatory testing and certification for all security personnel.
3.6.3.2. The operating company shall demonstrate that it has considered opportunities to enhance positive safety, environmental and social impacts of ASM activities for the benefit of ASM entities and host communities.	For 3.6.3.2: Review documentation related to the company's investigations and efforts at creating positive opportunities for ASM entities and communities that could be affected positively or negatively by the ASM operations and interactions between ASM and LSM. Documentation may include meeting notes or other evidence of outreach and efforts to support or work in partnership with governments,	For 3.6.3.2: • Scoping study (or equivalent) - e.g., documentation of the potential social and environmental risks (positive and negative) associated with the ASM entities with whom the operating company has a commercial relationship. • Assessment report (or equivalent) documenting an analysis of the significance of the identified	Explanatory Note for 3.6.3.2: In this case, host community refers to the community or communities that are affected by the ASM and LSM operations, e.g., those that may be providing goods, services, labor, etc. for those operations. In addition to reducing the potential for conflict and potential human rights abuses by security provided, LSM should take proactive steps to build positive relationships by creating positive opportunities for artisanal and small-scale mining (ASM) entities and communities. Strategies to create "positive opportunities" will vary based on the operating context. They may include but need not be limited to: • Participating in efforts (led by the host government, NGOs, development agencies or others) to support the formalization or professionalization of the ASM sector in the country

[437] Communities and Small-Scale Mining (CASM) et al. 2010. Working Together - How Large-Scale Mining Can Engage With Artisanal and Small-Scale Miners. p. 73. http://www.eisourcebook.org/cms/June%202013/Working%20Together,%20How%20Large-scale%20Mining%20can%20Engage%20with%20ASM.pdf

[438] UNICEF. 2016. Child Rights and the Mining Toolkit. p. 66. https://www.unicef.org/csr/files/FINAL_Child_Rights_and_Mining_Toolkit_060217.pdf

[439] Voluntary Principles on Security and Human Rights. 2014. http://www.voluntaryprinciples.org/

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	development agencies, NGOs, ASM associations or individual entities, community organizations or others involved in promoting or developing positive opportunities for the ASM sector in the host country.	potential risks and impacts. • Documentation of entities that have an impact on ASM entities & host communities through their work. • Records of activities and consultations with stakeholders and others to investigate opportunities for enhancing the safety, environmental and social impacts of local ASM activities.	• Facilitating access of ASM entities to technical training, resources or programs to promote more responsible social and environmental practices • Exploring opportunities to develop agreements with ASM entities to safely and legally mine on or source materials (e.g., waste rock, tailings) from large-scale mining concessions • Exploring opportunities for the LSM to source ore or mined materials from ASM entities • Collaborating with others (e.g., governments, NGOs, development agencies, ASM associations, individual ASM entities, affected community organizations) to improve livelihood options for local communities (e.g., through local procurement of goods and services, micro-financing for business start-ups, etc.) • Responding to community infrastructure or other needs related to influx of migrant ASM workers[440] • Improving women's conditions in ASM communities through gender awareness and empowerment programs[441] Formalization is often viewed as a critical step toward positive transformation of the ASM sector, as "informality deprives the state of important financial resources, while the current poor environmental, social, health and safety, labour, technical and trading conditions prevent the sector from delivering on important social objectives, such as generating formal employment and improving quality of life in mining communities."[442] "Formalization is a process that seeks to integrate [ASM] into the formal economy. The process of formalization includes the development or adaptation of mining (and other) laws or policies to address the challenges of [ASM]. . . In particular, the lack of access to formal credit markets as a result of the informal (and sometimes illegal) nature of the sector is a barrier for miners to implement changes. Miners require access to capital for better equipment that allows the use of these alternative processes and can increase efficiency and profits, and formalization tends to foster positive economic conditions for miners and local communities. . .

[440] International Finance Corporation (IFC). 2009. A Handbook for Addressing Project-Induced In-Migration. http://www.ifc.org/wps/wcm/connect/f12c2800488555b3b7c4f76a6515bb18/Influx_Full.pdf?MOD=AJPERES

[441] Organisation for Economic Cooperation and Development (OECD). 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. 3rd Ed. p. 27. https://mneguidelines.oecd.org/mining.htm and Responsible Jewellery Council. 2013. Standards Guidance. http://www.responsiblejewellery.com/files/RJC_Standards_Guidance_2013_eng.pdf

[442] Echavarria, C. 2014. 'What is legal?' Formalising Artisanal and Small-Scale Mining in Colombia. Institute for Environment and Development (IIED), London and Alliance for Responsible Mining (ARM), Columbia. p. 14. http://pubs.iied.org/pdfs/16565IIED.pdf

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			Legalization is just one dimension of the process of formalization. . . For the most part, [ASM] activities are not incorporated into formal legal and institutional structures because the sector is generally considered more complicated to regulate than larger-scale mining operations and governments lack the capacity, resources or will to formalize it."[443] It is not the responsibility of mining companies to spearhead the formalization of the ASM sector in the country of operation.[444] However, if government or multi-stakeholder-led initiatives exist, LSM operators should consider participating, either as an individual company as part of an industry association. Such initiatives may include, e.g., creating or updating legal frameworks, including social and environmental regulations, so that they are appropriate for and supportive of responsible ASM mining. Companies can also provide legal, financial and technical assistance to support ASM-driven formalization and professionalization efforts,[445] or professional skills training and development of ASM operators in areas such as mining, geology, ore processing, health and safety, environmental management, financial management, marketing, and sector organizing (e.g., establishing cooperatives, associations or other membership structures).[446] LSM can investigate other strategies to support the formalization or professionalization of ASM operators including signing of agreements or subcontracts directly with ASM miners to enable them to work legally on LSM mining leases.

[443] United Nations Environment Programme (UNEP). 2012. Analysis of Formalization Approaches in the Artisanal and Small-scale Gold Mining Sector Based on Experiences in Ecuador, Mongolia, Peru, Tanzania and Uganda. pp. 1, 2. https://wedocs.unep.org/bitstream/handle/20.500.11822/11357/Formalization_Document_Final_June_2012.pdf?sequence=1&isAllowed=y

[444] Communities and Small-Scale Mining (CASM) and the World Bank/IFC Community Development Fund (CommDev). 2009. Mining Together - Large-Scale Mining Meets Artisanal Mining: A Guide for Action. p. 21. https://commdev.org/wp-content/uploads/2015/05/P_Mining_Together_Large-Scale_Mining_Meets_Artisanal_Mining.pdf

[445] Echavarria, C. 2014. 'What is legal?' Formalising Artisanal and Small-Scale Mining in Colombia. Institute for Environment and Development (IIED), London and Alliance for Responsible Mining (ARM), Columbia. p. 117, 118. http://pubs.iied.org/pdfs/16565IIED.pdf; Bocangel, D. 2001. Small-Scale Mining in Bolivia: National Study. Report 71, commissioned by Mining, Minerals and Sustainable Development (MMSD) project of the Institute for Environment and Development (IIED). p. 18. http://pubs.iied.org/pdfs/G00713.pdf and Communities and Small-Scale Mining (CASM) and the World Bank/IFC Community Development Fund (CommDev). 2009. Mining Together - Large-Scale Mining Meets Artisanal Mining: A Guide for Action. pp. 22, 23. https://commdev.org/wp-content/uploads/2015/05/P_Mining_Together_Large-Scale_Mining_Meets_Artisanal_Mining.pdf

[446] Communities and Small-Scale Mining (CASM) and the World Bank/IFC Community Development Fund (CommDev). 2009. Mining Together - Large-Scale Mining Meets Artisanal Mining: A Guide for Action. pp. 22, 23. https://commdev.org/wp-content/uploads/2015/05/P_Mining_Together_Large-Scale_Mining_Meets_Artisanal_Mining.pdf; and Swiss Agency for Development and Cooperation (SDC). 2016. Professionalising Artisanal Mining in Mongolia. http://www.eisourcebook.org/cms/April%202016/Mongolia,%20Professionalizing%20Artisanal%20Mining.pdf; and Responsible Jewellery Council. 2013. Standards Guidance. p. 186. http://www.responsiblejewellery.com/files/RJC_Standards_Guidance_2013_eng.pdf

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			LSM companies do not have to take the lead on efforts, but rather, are encouraged to explore partnerships with others who are already working to promote positive transformations in the ASM sector, such as host country government-led initiatives; ASM certification schemes and others promoting responsible supply chains for minerals, including ASM-produced materials (e.g., Alliance for Responsible Mining, Better Gold Initiative, Diamond Development Initiative, Fairtrade, and others); or ASM development initiatives through the World Bank, United Nations Development Program, the International Labor Organization, International Institute for Sustainable Development, NGOs and practitioners.[447] Such partnerships could result in support for formalization initiatives, information and technology programs, capacity building, education and training programs to promote improved practices (e.g., working conditions, health and safety, chemical management, women's rights, elimination of child labor, and protection of the environment), the creation of formal supply chains for ASM, and access of ASM to fair prices and premiums that can then be spent on improving business practices, quality of life and community services such as education, clean water and healthcare.
3.6.4. Perform Due Diligence in Commercial Relationships with ASM 3.6.4.1. When the LSM mine sources minerals from or has other commercial relationships with ASM entities, the operating company shall: a. Regularly assess the social and environmental risks and impacts related to the ASM entities with	**For 3.6.4.1:** Determine if the operating company purchases ore, or has other commercial relationships with ASM entities. If sourcing or other commercial relationships exist, confirm that the company has assessed the range of social, environmental and business integrity/reputational risks that may be associated with entering into commercial relationships with ASM. (The range of potential risks are elaborated on in Explanatory Notes) If	**For 3.6.4.1:** • Scoping study (or equivalent) - e.g., documentation of the potential social and environmental risks (positive and negative) associated with the ASM entities with whom the operating company has a commercial relationship. • Assessment report (or equivalent) documenting an analysis of the significance of the identified potential risks and impacts.	**Explanatory Note for 3.6.4:** Some LSM operations choose to purchase mined ore or minerals from artisanal and small-scale mining (ASM) operations as part of their business model and/or to support ASM producers in their pursuit of a livelihood and other economic opportunities. While this practice can provide a more secure market for ASM materials, it may also create potential liabilities for LSM,[448] for example, by introducing material into the LSM supply chain that may not have been "responsibly" produced. Requirement 3.6.4.1 is only relevant if the LSM has a commercial or business relationship with an ASM entity. The ASM entity need not be located in the same country as the LSM mine.

[447] Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). 2017. IGF Guidance for Governments: Managing Artisanal and Small-Scale Mining. International Institute for Sustainable Development (IISD). https://www.iisd.org/sites/default/files/publications/igf-guidance-for-governments-asm_0.pdf

[448] Communities and Small-Scale Mining (CASM) et al. 2010. Working Together - How Large-Scale Mining Can Engage With Artisanal and Small-Scale Miners. p. 59. http://www.eisourcebook.org/cms/June%202013/Working%20Together,%20How%20Large-scale%20Mining%20can%20Engage%20with%20ASM.pdf

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whom they have a commercial relationship; b. Collaborate with those ASM entities with whom it can legally and legitimately engage to develop and implement a plan to eliminate or mitigate the most significant risks, and over time, address other social and environmental risks related to those ASM operations; and c. Periodically monitor the effectiveness of mitigation strategies, and adapt plans as necessary to facilitate continued minimization of risks.	some types of risks have not been assessed, the company should provide reasonable justification for why those risks were not assessed. Assessment may occur through a stand-alone assessment, or be integrated into one or more of the assessments in 3.6.2.1.b. Review any assessments. If the assessment(s) reveal risks, confirm, through document review and interviews with operating company and relevant stakeholders that the company is working with the ASM operators from whom it is sourcing, and potentially others, such as NGOs or ASM certification schemes, government or development agencies, etc., to explore and develop strategies to mitigate those risks. Confirm that assessments are updated as necessary, to determine if risks have changed over time. For 3.6.4.1.b: Review the assessments to determine the risks identified as being most significant (e.g., determine if any of those listed in the footnote are present), and confirm that the LSM operator has a plan in place to work with the ASM entities/business associates to eliminate and mitigate the most significant risks.	• Risk management plan (or equivalent) that documents actions to be taken to mitigate/minimize identified significant risks associated with each ASM entity with whom the LSM has a commercial relationship. • List of metrics used to measure the social and environmental impacts of ASM entities. • Reports documenting the results of monitoring of the effectiveness of mitigation strategies. • Updates to risk management plan (or equivalent) and/or the operating company's strategy to assist ASM entities in accessing technical assistance and financial investments to facilitate changes to their practices. •	The primary commercial relationships that are applicable in criterion 3.6.4 are those that involve the potential entry of ASM materials into the LSM supply chain, through purchase of ore, mined materials, or through an agreement whereby the LSM processes ASM materials. LSM with these types of commercial relationships with ASM must carry out 3.6.4 in addition to 3.6.1, 3.6.2 ad 3.6.3. Note that there may be other business relationships between LSM and ASM (such as where the LSM markets ASM minerals, leases equipment to ASM, or provides logistical support to ASM) that do not result in the introduction of ASM materials into the LSM supply chain. In those circumstances, due diligence is recommended if there is the potential that the business relationship may create risks for the LSM companies or their downstream purchasers. However, the primary focus of due diligence efforts should be on those ASM entities that are part of the LSM value chain and a directly linked to the LSM operations, products or services. Explanatory Note for 3.6.4.1.a: An array of social and environmental issues at ASM operations may pose social and environmental risks. These include, but are not limited to lack of legal compliance, bribery and corruption, child labor, forced labor, low wages, lack of labor rights, poor occupational health and safety (e.g., exposure of workers and communities to toxic chemicals such as mercury and cyanide), lack of gender equality, security risks, human rights abuses, especially in conflict-affected areas, environmental pollution and degradation from poor waste management practices; operating in protected areas or key biodiversity areas. In the assessment of risks, LSM should keep in mind that ASM activities can have impacts on all workers and community members, but there are some groups that may be particularly vulnerable in certain contexts. For example: • In some countries women are responsible for processing ASM gold. Often this involves using mercury, and the processing occurs in the home, creating health problems in women and health risks for the entire family.[449] • ASM operations can pose risks to children including forced child labor, health and safety risks, potential for sexual exploitation and violence, and, particularly in conflict-affected areas, the potential to be recruited into militias that have links to ASM operations that support criminal activities, armed groups and

[449] Eftimie et al. 2012. Gender Dimensions of Artisanal and Small-Scale Mining: A Rapid Assessment Toolkit. pp. 8-10. https://openknowledge.worldbank.org/handle/10986/2731

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	If child labor and/or forced labor are identified in ASM operations, confirm that operating company has met the remediation requirements in IRMA Chapter 3.1 related to child labor and forced labor in its supply chain. For 3.6.4.1.c: Confirm that the effectiveness of mitigation strategies is reviewed periodically, and that mitigation plans are updated as necessary, either because existing strategies or not working or because strategies have been effective and the LSM company is able to work with the ASM entities to minimize other risks.		human rights abuses.[450] • Forced labor often affects the more vulnerable groups such as women, youth and children, has been reported in small-scale mining, and the risks of it occurring are higher in remote or informal mining areas.[451] There is no definition for "regularly assess." As a rule of thumb, assessments should be reviewed and updated on an annual basis (or at a frequency that is commensurate with the risks). For example, if there are numerous risks that may be significant, assessments should be updated more frequently than if there are few known risks. Assessments should also be updated as needed. Situations that may necessitate an update of could include (but are not limited to) changes in the local or national political context; changes in the ASM's operating context (e.g., new actors move in, conflict situations arise) or the LSM mine's ASM suppliers expand their operations into new areas, etc. If there are no major changes that alter the analysis in the risk assessment, updates may simply indicate this fact. Explanatory Note for 3.6.4.1.b: The most significant risks will vary, depending on the ASM operations. (See Appendix I, Explanatory Notes for more information). However, if present, the following should always be considered "significant risks": serious human rights abuses, including the worst forms of child labor, forced labor, torture, cruel, inhuman or degrading treatment, widespread sexual violence, war crimes or serious violations of international humanitarian law, crimes against humanity or genocide. If child labor and/or forced labor are identified in ASM operations, and the mining project sources materials from those operations, the operating company must provide remediation as per requirements in IRMA Chapter 3.1 (i.e., requirements related to child labor and forced labor in its supply chain). See requirements 3.1.7.6 and 3.1.8.2. Following the assessment of the range of risks, and identification of the most significant risks to address first, the LSM company should develop and implement

[450] UNICEF. 2015. Child Rights and the Mining Sector. UNICEF Extractive Pilot. p. 16. https://www.unicef.org/csr/files/UNICEF_REPORT_ON_CHILD_RIGHTS_AND_THE_MINING_SECTOR_APRIL_27.pdf and Organisation for Economic Cooperation and Development (OECD). 2016. Practical Actions for Companies to Identify and Address the Worst Forms of Child Labour in the Minerals Supply Chain. Draft. https://mneguidelines.oecd.org/OECD-Practical-Actions-for-WFCL-in-Mining.pdf

[451] Hidron and Koepke. 2014. Addressing Forced Labor in Artisanal and Small-scale Mining (ASM): A Practitioner's Toolkit. Alliance for Responsible Mining. pp. 21, 22. https://www.solidaridadnetwork.org/sites/solidaridadnetwork.org/files/publications/ForcedLaborToolkit%20-%20Solidaridad%20ARM.pdf

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			short-term plans to start working on the elimination of the most serious risks, and longer-term plans to mitigate other risks. To increase the chances of uptake and success, mitigation measures should be discussed and agreed to by ASM entities, and plans should indicate clear timelines and benchmarks for expected improvements.[452] Collaboration may involve, on the part of the operating company, efforts to assist ASM entities to attain the resources they require to implement change (e.g., this may be through technical assistance, financial investment or other means). It is recognized that it may not always be clear when it is appropriate to "legally and legitimately engage" with ASM entities. Companies should be prepared to explain and document their decisions to commercially engage with ASM entities, particularly as they relate to such grey areas as sourcing from informal ASM sites. The concept of legitimacy should be considered in line with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk.[453] OECD writes that: "While legislation across countries varies, the Due Diligence Guidance encourages buying ASM gold, provided that ASM activities are legitimate and that adequate due diligence is carried out and risks identified and managed accordingly. The Guidance defines legitimacy of ASM using a number of criteria, including that it must be consistent with applicable national laws, and/or that [ASM] miners should demonstrate good faith efforts to operate within the legal framework and that they engage in opportunities for formalization. Mining activities cannot be considered legitimate when they contribute to conflict and serious abuses associated with the extraction, transport or trade of minerals as defined in Annex II of the Due Diligence Guidance. In many producing countries the legal framework stipulates that ASM activities are either outright illegal or that miner have to be registered and/or mine in areas that are designated for ASM activities. Given the particular due diligence challenges of assessing largely informal, often illegal ASM activities and the large number of

[452] Organisation for Economic Cooperation and Development (OECD). 2016b. FAQ: Responsible Supply Chains in Artisanal and Small-Scale Gold Mining. p. 6. http://www.oecd.org/daf/inv/investment-policy/FAQ_Sourcing-Gold-from-ASM-Miners.pdf

[453] Organisation for Economic Cooperation and Development (OECD). 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas. (3rd Ed.) https://mneguidelines.oecd.org/mining.htm

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			actors, the Due Diligence Guidance proposes a range of measures to work towards formalization and legalisation and to create economic and development opportunities for artisanal and small-scale miners in its Appendix."[454] OECD also addresses the question "According to the Due Diligence Guidance can I buy from artisanal miners that are not legally registered in their own countries?" OECD suggests that "artisanal miners generally should have some form of registration and/or identification and should ideally be organized in some form of legal entity." OECD goes on to write that the Guidance is to cultivate responsible investment and trade in producing countries, and so offers other options for companies when dealing with artisanal miners that are not legally registered. See OECD (2016) for more information.[455] Re: 3.6.4.1.c, there is no definition for "periodically update." A good rule of thumb is to review monitoring results on a quarterly basis, and update strategies and plans if it is clear that mitigation measures are not effectively minimizing risks.
3.6.4.2. When the LSM mine has commercial relationships with ASM entities that are located in conflict-affected or high-risk areas, the operating company shall carry out due diligence related to those ASM entities as required in IRMA Chapter 3.4.	For 3.6.4.2: If the LSM is sourcing from or handling materials from ASM entities located in conflict-affected and high-risk areas, confirm that the required due diligence has been conducted as per IRMA Chapter 3.4 (i.e., in a manner consistent with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected or High-Risk Areas.	For 3.6.4.2: • Conflict screening analysis or report. • Conflict risk assessments. • Documentation of planned risk management measures with timelines and performance objectives, e.g., a risk management plan. • Monitoring reports and reports summarizing the effectiveness of the company's risk management activities. • Documented evidence of collaboration with ASM entities (e.g., meeting minutes, communications	Explanatory Note for 3.6.4.2: See IRMA Chapter 3.4, "Mining in Conflict-Affected and High-Risk Areas." In particular, as mining project stakeholders, artisanal and small-scale mining (ASM) entities should be involved in the following due diligence steps: • Conflict risk assessment (see requirement 3.4.4.2) • Development of risk mitigation strategies (see 3.4.4.2) • Development of systems to monitor the effectiveness of mitigation (see 3.4.5.1) • Reporting to stakeholders on major findings from due diligence efforts (see 3.4.6.1 and 3.4.6.2)

[454] Organisation for Economic Cooperation and Development (OECD). 2016b. FAQ: Responsible Supply Chains in Artisanal and Small-Scale Gold Mining. p. 5. http://www.oecd.org/daf/inv/investment-policy/FAQ_Sourcing-Gold-from-ASM-Miners.pdf

[455] Ibid. p. 6.

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		between the company and stakeholders, written input from stakeholders and company responses to the input, etc.) in assessment, and the development of mitigation strategies and monitoring indicators. • Documented evidence of communication/reporting to senior management of the operating company, and stakeholders (including ASM entities), contractors, mine workers and other employees.	

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if a host country law is more protective of human rights, health and/or the environment than an IRMA requirement, the host country law shall supersede the IRMA requirement (i.e., companies are required, at minimum to follow host country law). But if an IRMA requirement is more protective than host country law, the company is required to also meet the IRMA requirement, as long as doing so would not require the company to violate host country law. Chapter 1.1 also requires that contractors adhere to the IRMA Standard. So if there are contractors of the mining project who may be engaging with ASM, they should be aware of the operating company's policies and approaches regarding engagement with and respect for the human rights of ASM entities.
1.2—Community and Stakeholder Engagement	ASM entities are stakeholders of the mining project, and also often members of the affected communities. As such, the engagement process with ASM must conform with the requirements in Chapter 1.2.
1.3—Human Rights Due Diligence	2.14.2.1.b requires that an operating company consults with ASM entities during relevant risk and impact assessments. This includes the operating company's human rights related impact assessment (which is covered in Chapter 1.3, requirement 1.3.2.1). If it is discovered (e.g., through the human rights, security or conflict risk assessments) that the operating company may contribute to or be linked to potential or actual human rights impacts as a result of sourcing from ASM operations the operating company's mitigation measures will be expected to adhere to requirements in IRMA Chapter 1.3. (See specifically, requirements 1.3.3.2.b and c and 1.3.3.3.b and c).
1.4—Complaints, Grievances and Access to Remedy	3.6.2.1.d requires that ASM entities and communities be informed that there is an operational-level grievance mechanism available to raise concerns and resolve conflicts related to the LSM (large-scale mine). Such a grievance mechanism is required in Chapter 1.4.

Cross References to Other Chapters	
2.1—Environmental and Social Impact Assessment and Management	3.6.2.1.b requires that operating companies consult with ASM associations and miners during relevant risk and impact assessments. This should include the Environmental and Social Impact Assessment in Chapter 2.1 (see especially criteria 2.1.4).
2.4—Resettlement	3.6.2.1.b requires that an operating company consults with ASM entities during relevant risk and impact assessments. If there are ASM miners, processors or other ASM entities that may be affected by resettlement, consultations with ASM entities will be required as part of the resettlement risk and impact assessment (see criteria 2.4.1). Additionally, ASM activities should be included in socio-economic baseline studies carried out prior to resettlement, and ASM entities should be afforded mitigation, compensation and livelihood opportunities in the Resettlement Action Plan and/or Livelihood Restoration Plan.
2.6—Planning and Financing Reclamation and Closure	Chapter 2.6 requires that affected communities be involved in assessments/closure planning. If present in the area, ASM entities should be involved in mine closure planning.
3.1—Fair Labor and Terms of Work	Chapter 3.1, criteria 3.1.7 and 3.1.8 relate to child labor and forced labor, respectively. If an LSM mining project sources from or has other commercial relationships with ASM (i.e., there is a supply chain relationship), the LSM operator is required in Chapter 3.1 to carry out due diligence to determine if child labor and/or forced labor are occurring at those ASM operations (see requirements 3.1.7.4 and 3.1.8.2, respectively). If child labor or forced labor are discovered, the LSM operating company is required to carry out remediation.
3.2—Occupational Health and Safety	3.6.2.1.b requires that an operating company consults with ASM entities during relevant risk and impact assessments. If ASM entities are operating on LSM concessions, they may pose occupational health and safety risks for LSM workers and employees. These risks should be assessed as part of the OHS health and safety risk assessment process in 3.2.1.
3.3—Community Health and Safety	3.6.2.1.b requires that an operating company consults with ASM entities during relevant risk and impact assessments. This includes the operating company's community health and safety scoping and, if relevant, risk and impact evaluation (3.3.1).
3.4—Mining in Conflict-Affected and High-Risk Areas	3.6.2.1.b requires that an operating company consults with ASM entities during relevant risk and impact assessments. If a large-scale mine (LSM) seeking IRMA certification is located in a conflict-affected area, consultations with ASM will be required as part of the conflict risk assessment (See chapter 3.4, requirement 3.4.3.4). As per 3.6.4.2, if the LSM sources from or has other commercial relationships with ASM operations located in a conflict-affected or high-risk area, the LSM is required to carry out the due diligence steps outlined in Chapter 3.4.
3.5—Security Arrangements	3.6.2.1.b requires that an operating company consults with ASM associations and miners during relevant risk and impact assessments. This includes the operating company's security risk assessment (requirement 3.5.2.1). Requirement 3.5.4 in Chapter 3.5 requires that private security personnel be given training that incorporates, at minimum, information related to ethical conduct and respect for the human rights of mine workers and affected communities, and the company's policy on the appropriate use of force and firearms. Requirement 3.6.3.1 simply clarifies that in addition to human rights of mine workers and affected communities, that the human rights of ASM miners be specifically included when ASM is located on or in close proximity to the operating company's mining operation.
4.8—Mercury Management	Chapter 4.8 prohibits LSM operating companies from selling or giving away mercury to ASM entities (See 4.8.2.2.b).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Accessible

In reference to grievance mechanism or engagement processes, means being known to all stakeholder groups for whose use they are intended, and providing adequate assistance for those who may face particular barriers to access.

Affected Community

A community that is subject to risks or impacts from a project. [Note: in this chapter, an affected community may be affected by LSM activities, or ASM activities, or the interaction between LSM and ASM entities]

Artisanal and Small-Scale Mining (ASM)

Formal or informal operations with predominantly simplified forms of exploration, extraction, processing and transportation. ASM is normally low capital intensive and uses high labour intensive technology. ASM can include men and women working on an individual basis as well as those working in family groups, in partnership or as members of cooperatives or other types of legal associations and enterprises involving hundreds or thousands of miners. For example, it is common for work groups of 4-10 individuals, sometimes in family units, to share tasks at one single point of mineral extraction (e.g. excavating one tunnel). At the organizational level, groups of 30-300 miners are common, extracting jointly one mineral deposit (e.g. working in different tunnels), and sometimes sharing processing facilities.

Child Labor

Work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Conflict-Affected or High-Risk Areas

Areas identified by the presence of armed conflict, widespread violence, including violence generated by criminal networks, or other risks of serious and widespread harm to people. Armed conflict may take a variety of forms, such as a conflict of international or non-international character, which may involve two or more states, or may consist of wars of liberation, or insurgencies, civil wars. High-risk areas are those where there is a high risk of conflict or of widespread or serious abuses as defined in paragraph 1 of Annex II of the OECD Guidance (more information in full IRMA Glossary). Such areas are often characterized by political instability or repression, institutional weakness, insecurity, collapse of civil infrastructure, widespread violence and violations of national or international law. (Source: OECD, 2016a)

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Forced Labor

Any work or service not voluntarily performed that is exacted or coerced from an individual under threat of force or penalty. This covers any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements required to pay off a debt; or slavery or slavery-like practices. It also includes requirements of excessive monetary deposits, excessive limitations on freedom of movement, excessive notice periods, substantial or inappropriate fines, and loss or delay of wages that prevent workers from voluntarily ending employment within their legal rights.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which complaints or grievances, including business-related human rights abuses, stakeholder complaints and/or labor grievances, can be raised and remedy can be sought.

Indigenous Peoples

An official definition of "indigenous" has not been adopted by the United Nations system due to the diversity of the world's indigenous peoples. Instead, a modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Inform

The provision of information to inform stakeholders of a proposal, activity or decision. The information provided may be designed to help stakeholders in understanding an issue, alternatives, solutions or the decision-making process. Information flows are one-way. Information can flow either from the company to stakeholders or vice versa.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mitigation

Actions taken to reduce the likelihood of a certain adverse impact occurring.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities. [Note: This refers to the LSM entity applying for or holding IRMA certification, not the ASM entities]

Serious Human Rights Abuses

These include: i) any forms of torture, cruel, inhuman and degrading treatment; ii) any forms of forced or compulsory labour, which means work or service which is exacted from any person under the menace of penalty and for which said person has not offered himself voluntarily; iii) the worst forms of child labour (as per ILO Convention 182); iv) other gross human rights violations and abuses such as widespread sexual violence; v) war crimes or other serious violations of international humanitarian law, crimes against humanity or genocide. (Source: OECD, 2016a, pp. 20 and 21)

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Vulnerable Group

A group whose resource endowment is inadequate to provide sufficient income from any available source, or that has some specific characteristics that make it more susceptible to health impacts or lack of economic opportunities due to social biases or cultural norms (e.g., may include households headed by women or children, people with disabilities, the extremely poor, the elderly, at-risk children and youth, ex-combatants, internally displaced people and returning refugees, HIV/AIDS-affected individuals and households, religious and ethnic minorities, migrant workers, and groups that suffer social and economic discrimination, including indigenous peoples, minorities and in some societies, women).

Worker

All non-management personnel.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 3.7—Cultural Heritage

BACKGROUND

Cultural heritage is the legacy of physical structures, landscapes and artifacts, as well as intangible attributes of a group or society, such as language, activities or knowledge that has cultural, scientific, spiritual or religious value.[456]

Mining and other forms of industrial development can over time both create and also result in profound and irreversible damage to cultural heritage. Most obviously, mining activities can destroy or damage tangible cultural heritage, such as historical buildings or sites of spiritual significance. But damage to intangible cultural heritage may also occur as a result of inappropriate visitation of sites or the inappropriate use of traditional knowledge.[457]

Increasingly, mining companies are recognizing the importance of protecting and where possible promoting cultural heritage to respect the rights of, and strengthen relationships with communities wherever they operate.[458]

TERMS USED IN THIS CHAPTER

Affected Community ■ Associated Facilities ■ Biodiversity ■ Biosphere Reserve ■ Chance Find ■ Collaboration ■ Competent Professionals ■ Conservation Values ■ Contractor ■ Critical Cultural Heritage ■ Ecosystem Services ■ Existing Mine ■ Free, Prior and Informed Consent ■ Highly Protected Areas ■ Indigenous Peoples ■ Intangible Cultural Heritage ■ Mining-Related Activities ■ New Mine ■ Nonreplicable Cultural Heritage ■ Operating Company ■ Protected Area ■ Protected Area Management Category ■ Replicable Cultural Heritage ■ Significant Changes to Mining-Related Activities ■ Tangible Cultural Heritage ■ Tentative List for World Heritage Site Inscription ■ World Heritage Site ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To protect and respect the cultural heritage of communities and indigenous peoples.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is applicable to all mines applying for IRMA certification that have the potential impact indigenous peoples' cultural heritage and/or the cultural heritage of non-indigenous communities.

New vs. Existing Mines: New mines and existing mines shall meet the requirements in this chapter. Existing mines that have not carried out a cultural heritage assessment as per 3.7.1 are not expected to carry out an assessment unless there are proposed changes to the company's plans or activities that may potentially affect cultural heritage (or significantly change the nature or degree of an existing impact on cultural heritage); or if previously unknown cultural heritage is encountered by the mining company (also known as chance finds). Existing mines will, however, be expected to meet the requirements in the remainder of the chapter.

[456] Adapted from: Daes, E. 1995. Protection of the heritage of Indigenous People. Final report of the Special Rapporteur, Mrs. Erica-Irene Daes, in conformity with Subcommission resolution 1993/44 and decision 1994/105 of the Commission on Human Rights. E/CN.4/Sub.2/1995/26. June 21, 1995; and IFC. 2012. IFC's Guidance Notes: Performance Standards on Environmental and Social Sustainability. Guidance Note 7, p. 17.

[457] E.g., some indigenous heritage sites may be gendered—safe for one sex but dangerous to the other; Indigenous Peoples' knowledge regarding the existence, location and significance of sites is often not public; and for some Indigenous Peoples, if knowledge of sacred sites is transferred inappropriately it may be dangerous to both the giver and receiver. (O'Faircheallaigh, C. 2008. Negotiating Cultural Heritage? Aboriginal-Mining Company Agreements in Australia. p. 7)

[458] E.g., see Anglo American. 2009. The Anglo Social Way: Management System Standards. p. 12. http://www.angloamerican.com/~/media/Files/A/Anglo-American-PLC-V2/documents/supplier/aa_social_way.pdf; and also: Rio Tinto. 2011. Why Cultural Heritage Matters. http://www.riotinto.com/documents/ReportsPublications/Rio_Tinto_Cultural_Heritage_Guide.pdf

Cultural Heritage Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.7.1. General Stipulations 3.7.1.1. Screening, assessment and the development and implementation of mitigation measures and procedures related to the management of cultural heritage shall be carried out by competent professionals.	**For 3.7.1.1:** Confirm, through review of credentials that professionals carrying out the screening, assessment, the development and implementation of mitigation measures, and the development of procedures related to cultural heritage have relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Review national law to determine if professionals need a particular licence or accreditation to operation in the host country. Confirm through review of documentation and interviews with the operating company and stakeholders (e.g., those who have knowledge of methodologies) that methodologies used are scientifically robust.	**For 3.7.1.1:** • Recruitment procedure. • Documentation of credentials (e.g., any licences or accreditations) and curriculum vitae/resumes/biographies of professionals hired to carry out the work. • Documentation of methodologies and procedures used during screening, assessment, mitigation and management of cultural heritage	**Explanatory Note for 3.7.1.1:** NOTE: If screening and assessment are not required (see 3.7.2, below), then 3.7.1.1 only applies to the development of mitigation measures and procedures related to cultural heritage. Competent professionals can be in-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow established and scientifically robust methodologies that would withstand scrutiny by other professionals.
3.7.1.2. Screening, assessment and the development of mitigation measures and procedures related to the management of cultural heritage shall include consultations with relevant stakeholders.	**For 3.7.1.2:** Confirm that stakeholder consultation has occurred during screening, assessment and the development of mitigation measures and procedures related to cultural heritage, through review of documentation related to stakeholder outreach, minutes from meetings, sign-in sheets, comment letters and interviews with the operating company and stakeholders.	**For 3.7.1.2:** • Minutes of consultation meetings. • Sign-in sheets for each meeting. • Communications with stakeholders (e.g., comment letters; other written or verbal forms of feedback). • Interview transcripts or audio recordings of interviews.	**Explanatory Note for 3.7.1.2:** NOTE: If screening and assessment are not required (see 3.7.2, below), then 3.7.1.2 only applies to the development of mitigation measures and procedures related to cultural heritage. “Relevant stakeholders” may include, e.g., communities within the host country who use, or have used within living memory, the cultural heritage; academics or others with expertise on the local cultural heritage; and national or local regulatory agencies that are entrusted with the protection of cultural heritage. As mentioned in IRMA Chapter 1.2, "Community and Stakeholder Engagement," consultations and other forms of engagement with stakeholders should be meaningful.

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			"Meaningful engagement" includes a two-way exchange of information between the operating company and stakeholders, with stakeholders' views being taken into account in decision-making; engagement is conducted in good faith (i.e., the company genuinely intends to understand how stakeholder interests are affected by their actions and to address adverse impacts, and stakeholders honestly represent their interests, intentions and concerns); and companies are responsive to stakeholder input and follow through on commitments.[459]
3.7.1.3. Cultural heritage assessments, management plans and procedures shall be made available upon request to community stakeholders and other stakeholders who have been engaged with the mine site on cultural heritage issues.	For 3.7.1.3: Determine if materials are publicly available (e.g., on the company's website), and if not, interview operating company and stakeholders to confirm that relevant stakeholders requesting materials were provided with access upon request.	For 3.7.1.3: • Company procedure for sharing information with stakeholders. • Evidence of communications to relevant stakeholders regarding the location of materials and how they can be accessed (e.g., URL where materials are publicly available online. physical locations where they can be accessed; evidence of materials being mailed; etc.). • Records confirming that relevant stakeholders have been provided with access upon request.	Explanatory Note for 3.7.1.3: In this case, community stakeholders would include individuals from affected communities (and the host country if there are those who use, or have used within living memory, the cultural heritage that may be affected by the mining activities). If the operating company engaged with other stakeholders (e.g., during the cultural heritage assessment process), such as academics or organizations with expertise on the local cultural heritage, or local or national regulatory agencies entrusted with the protection of cultural heritage that may be affected by the mine site, the company would be expected to share information if requested with those stakeholders, too.
3.7.2. Cultural Heritage Screening and Assessment 3.7.2.1. Prior to the development of a new mine, or when there are significant changes to mining-related activities, the operating company shall undertake a screening process to identify risks and potential impacts to replicable, non-	For 3.7.2.1: Interview appropriate operating company representatives and review cultural heritage screening documentation. As per 3.7.1.1 and 3.7.1.2, confirm that screening was carried out by competent professionals and that the operating company consulted with affected communities and other	For 3.7.2.1: • See examples of evidence for 3.7.1.1. and 3.7.1.2. • Documentation of cultural heritage screening process and outcomes with potential risks or impacts clearly identified according to each category of replicable, non-replicable and critical	Explanatory Note for 3.7.2.1: Note that screening may have taken place as part of the ESIA in IRMA Chapter 1.2, or as part of the biodiversity, ecosystem services and protected areas screening in IRMA Chapter 4.6. Impacts to cultural heritage can result from "activities other than direct excavation or refurbishment of buildings. Some project aspects may also impact cultural heritage in less direct ways, for example, by increasing erosion to a coastal site, or building a road

[459] OECD. 2017. Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector. pp. 60-61. https://www.oecd-ilibrary.org/docserver/9789264252462-en.pdf?expires=1528392703&id=id&accname=guest&checksum=CC03986844718E5E6AB3F457FDF7B1C2

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replicable and critical cultural heritage from the proposed mining-related activities.	relevant stakeholders (e.g., regulatory agencies) to identify cultural heritage of importance.	cultural heritage. • Stakeholder mapping exercise to identify those who may have an interest in cultural heritage. • Documentation of participatory exercise to identify potential risks and impacts to cultural heritage in consultation with relevant stakeholders.	into a previously inaccessible area. Impacts on the natural environment that may affect the sustainability of tangible cultural heritage may require special attention. Impacts on the natural environment may affect the biodiversity or the ecosystem processes that affect things like sacred groves or cultural landscapes."[460] Screening should include, but not necessarily be limited to, a determination of whether or not: • The mining project is in an area currently or traditionally occupied or used by indigenous peoples; • The cultural heritage of other communities may be affected; • There may be indigenous peoples living in voluntary isolation; or • There are nearby areas that have been legally protected to preserve cultural heritage. If screening has not identified any risks or potential impacts to cultural heritage, then further assessment is not needed. However, over the course of the mine life if there are significant changes to mining-related activities (e.g., expansions of mining or waste disposal areas, or development of new associated facilities) then screening for cultural heritage impacts should be undertaken again.
3.7.2.2. If the screening indicates the potential for replicable, non-replicable or critical cultural heritage to be encountered during mining-related activities, the operating company shall assess the nature and scale of the potential impacts and propose mitigation measures to avoid, minimize, restore or compensate for adverse	For 3.7.2.2: Interview operating company representatives and review cultural heritage impact assessment document. Confirm that the assessment and proposed mitigation measures reflect the nature and scale of potential impacts (e.g., if there are only minor impacts related to replicable cultural heritage identified, then the assessment does not have to be as detailed as it would if there were potential major impacts to	For 3.7.2.2: • See examples of evidence for 3.7.1.1. and 3.7.1.2. • Documentation of cultural heritage screening process and outcomes. • Documentation of cultural heritage assessment process. • Documented evidence of consideration	Explanatory Note for 3.7.2.2: As described by the International Finance Corporation (IFC) in the Guidance Note for its Cultural Heritage performance standard: "The screening phase of the risks and impacts identification process should identify the extent and complexity of potential cultural heritage risks and impacts in the project's area of influence. . . If the screening indicates potential adverse impacts, further analysis will be necessary to ascertain the nature and scale

[460] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. GN3. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

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impacts. Mitigation measures shall be consistent with the requirements below (see criteria 3.7.3, 3.7.4, 3.7.5 and 3.7.6), based on the type of cultural heritage likely to be affected.	critical cultural heritage identified). Proposed mitigation measures must be consistent with 3.7.3 - 3.7.7, below. As per 3.7.1.1 and 3.7.1.2, confirm that assessment and mitigation development were carried out by competent professionals and that stakeholders were consulted in the assessment and development of mitigation measures.	of all feasible mitigation measures, including avoidance, and rationale for decisions made. Documentation of proposed mitigation measures.	of these impacts and proposed mitigation measures. The breadth, depth, and type of analysis should be proportionate to the nature and scale of the proposed project's potential adverse impacts on cultural heritage resources.[461]
3.7.3. Replicable Cultural Heritage 3.7.3.1. When tangible replicable cultural heritage that is not critical is encountered during mining-related activities the operating company shall apply mitigation measures that favor avoidance. Where avoidance is not feasible, the following mitigation hierarchy shall apply: a. Minimize adverse impacts and implement restoration measures, in situ, that ensure maintenance of the value and functionality of the cultural heritage, including maintaining or restoring any ecosystem processes needed to support it; b. Where restoration in situ is not possible, restore the functionality of	**For 3.7.3.1:** If the mining project (including sites used for associated facilities) contains tangible cultural heritage that is replicable and not critical, confirm with appropriate company representatives and relevant stakeholders that the operating company took all reasonable steps to avoid impacts, and where avoidance was not possible, applied the mitigation hierarchy as outlined in 3.7.3.1.	**For 3.7.3.1:** • Documented evidence of consideration of all feasible mitigation measures, including avoidance, and rationale for decisions made. • Documentation of proposed mitigation measures. • Documentation of actual mitigation measures undertaken to address impacts on tangible replicable cultural heritage.	**Explanatory Note for 3.7.3:** NOTE: 3.7.3 is applicable even if no cultural heritage screening or assessment occurred. **Explanatory Note for 3.7.3.1:** This requirement aligns with IFC (2012, Para.11). Tangible cultural heritage is considered a unique and often non-renewable resource that possesses cultural, scientific, spiritual, or religious value and includes moveable or immovable objects, sites, structures, groups of structures, natural features, or landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural value.[462] Examples of tangible cultural heritage can be found in Annex A of IFC's Cultural Heritage Performance Standard.[463] Replicable cultural heritage is defined as tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures.[464]

[461] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. GN4. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

[462] Ibid. Para. 3.

[463] Ibid. Annex A.

[464] Ibid. Para. 11, Footnote 3.

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the cultural heritage, in a different location, including the ecosystem processes needed to support it; c. Where restoring the functionality of the cultural heritage in a different location is not feasible, permanently remove historical and archeological artifacts and structures; and where affected communities are using the tangible cultural heritage for long-standing cultural purposes compensate for loss of that tangible cultural heritage.			
3.7.3.2. All mitigation work involving tangible replicable cultural heritage shall be carried out and documented by competent professionals, using internationally recognized practices for the protection of cultural heritage.	For 3.7.3.2: Confirm through review of credentials that any mitigation work was carried out by competent professionals. Review methodology and, to the extent possible, verify that it aligns with international best practices. Interview stakeholders to determine their views on whether or not mitigation was carried out in a responsible and respectful manner.	For 3.7.3.2: • See examples of evidence for 3.7.1.1. • Documentation of actual mitigation measures undertaken to address impacts on tangible replicable cultural heritage. • Records or documentation confirming that mitigation measures have been carried out in alignment with best practices (e.g., peer reviews of proposed strategies, examples from academic or professional literature demonstrating that strategies used are considered best practices/techniques, etc.).	Explanatory Note for 3.7.3.2: As per 3.7.3.1, the operating company should first seek to minimize or eliminate adverse impacts and to implement restoration measures that aim to maintain the value and functionality of the cultural heritage. If minimization of impacts and/or restoration are not possible in situ, then the company can consider restoration at a different site. In considering minimization and restoration, the company may engage international, national, and local expertise. Considerations around relocation of physical cultural heritage may also involve the host country government. In identifying local expertise, the recommendations of the affected communities with respect to recognized cultural heritage practitioners, such as elders, priests, mediums, and traditional healers should be given key consideration. According to the International Finance Corporation (IFC): "An internationally recognized practice is defined as the exercise of professional skill, knowledge, diligence, prudence and foresight that would reasonably be expected from experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally. Where the client is in

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			doubt on what constitutes internationally recognized practice, international peer reviewers are able to provide guidance."[465] Techniques proposed by the competent professionals could undergo a peer review by international external experts, or technical experts selected by stakeholders, to ensure that no better, feasible techniques are available.
3.7.4. Non-Replicable Cultural Heritage 3.7.4.1. The operating company shall not remove any tangible nonreplicable cultural heritage, unless all of the following conditions are met: a. There are no technically or financially feasible alternatives to removal; b. The overall benefits of the mining project conclusively outweigh the anticipated cultural heritage loss from removal; and c. Any removal of cultural heritage is conducted using the best available technique.	**For 3.7.4.1:** If the mining project (including sites used for associated facilities) contains tangible cultural heritage that is non-replicable, confirm with appropriate company representatives that it was not removed unless the conditions in 3.7.4.1 were met. Interview stakeholders to determine their views on whether or not removal was avoidable, and if unavoidable whether mitigation was carried out in a responsible and respectful manner. Review documentation evaluating the overall benefits of the mining project against the anticipated cultural heritage loss, such as lost benefits to particular ties to the heritage, and loss to the affected community of benefits that might arise from commercial or other use of the site.	**For 3.7.4.1:** • Records (e.g., meeting minutes, correspondence, feedback) demonstrating that affected communities were consulted as part of the analysis to determine whether or not the benefits of the mining project outweighed the costs of losing cultural heritage. • Documentation of evaluation of benefits of the mining project. • Records or documentation confirming that removal of tangible non-replicable cultural heritage was carried out in alignment with best practices (e.g., peer reviews of proposed strategies; examples from academic or professional literature demonstrating that strategies used are considered best practices/techniques; etc.)	**Explanatory Note for 3.7.4:** NOTE: 3.7.4 is applicable even if no cultural heritage screening or assessment has taken place. **Explanatory Note for 3.7.4.1:** "Nonreplicable cultural heritage" may relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where (i) the cultural heritage is unique or relatively unique for the period it represents, or (ii) cultural heritage is unique or relatively unique in linking several periods in the same site.[466] Re: 3.7.4.1.a, this requirement aligns with IFC (2012, Para.12). Like IFC, IRMA expects the company to have carried out some analysis of the benefits and costs of proceeding with the project if tangible nonreplicable cultural heritage is likely to be affected. There is no simple equation for determining if benefits outweigh the cultural heritage losses. Generally, however: ". . .consideration of project benefits. . . should focus on the public benefits of the project, particularly for those who may have immediate ties to the heritage. The analysis should also look at whether those benefits are sustainable beyond the life of the project. Any lost benefits that would otherwise arise from

[465] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. GN12. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

[466] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. Para. 12, Footnote 5. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

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			commercial or other use of the site based on its existing cultural heritage should also be taken into account."[467] Re: 3.7.4.1.b, as per IFC, prior to removal of the cultural heritage, the operating company should:[468] a) consult with or commission a peer review of proposed techniques by recognized experts to confirm that the best available techniques have been chosen for removal; and b) consult with the historical or traditional owners and users of the cultural heritage to consider their views.
3.7.4.2. All mitigation work involving tangible non-replicable cultural heritage shall be carried out and documented by competent professionals, using internationally recognized practices for the protection of cultural heritage.	For 3.7.4.2: Confirm though review of credentials that any mitigation work was carried out by competent professionals. Review methodology and, to the extent possible, verify that it aligns with international best practices.	For 3.7.4.2: • See examples of evidence for 3.7.1.1. • Documentation of actual mitigation measures undertaken to address impacts on tangible non-replicable cultural heritage. • Records or documentation confirming that mitigation measures have been carried out in alignment with best practices (e.g., peer reviews of proposed strategies, examples from academic or professional literature demonstrating that strategies used are considered best practices/techniques, etc.).	Explanatory Note for 3.7.4.2: Competent professionals can be in-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow established and scientifically robust methodologies that would withstand scrutiny by other professionals. In considering minimization and restoration, the operating company may engage international, national, and local expertise. Considerations around relocation of physical cultural heritage may also involve the host country government. With respect to local expertise, the recommendations of recognized cultural heritage practitioners, such as elders, priests, mediums, and traditional healers from affected communities should be given key consideration. According to the International Finance Corporation (IFC): "An internationally recognized practice is defined as the exercise of professional skill, knowledge, diligence, prudence and foresight that would reasonably be expected from experienced professionals engaged in the same type of undertaking under the

[467] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. GN23. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

[468] Ibid.GN22.

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			same or similar circumstances globally. Where the client is in doubt on what constitutes internationally recognized practice, international peer reviewers are able to provide guidance."[469] Techniques proposed by the competent professionals could undergo a peer review by international external experts, or technical experts selected by stakeholders, to ensure that no better, feasible techniques are available.
3.7.5. Critical Cultural Heritage 3.7.5.1. Except under exceptional circumstances, the operating company shall not remove, significantly alter, or damage critical cultural heritage. In exceptional circumstances when impacts on critical cultural heritage are unavoidable, the operating company shall: a. Retain external experts to assist in the assessment and protection of critical cultural heritage, and use internationally recognized practices for the protection of cultural heritage; and b. Collaborate with affected communities to negotiate measures to protect critical cultural heritage and provide equitable outcomes for affected communities, and document the mutually accepted negotiation process and outcomes.	For 3.7.5.1: If the mining project (including sites used for associated facilities) contains critical cultural heritage, confirm through interviews with appropriate company representatives and relevant stakeholders, and document review, that critical cultural heritage was not removed, significantly altered or damaged unless the company collaborated with affected communities on protective measures and equitable outcomes, and retained external experts to assist in the assessment and protection of critical cultural heritage. Review credentials of external experts. If indigenous peoples' critical cultural heritage may be impacted, confirm through interviews with the operating company and indigenous peoples' representatives that negotiations occurred during the FPIC process unless otherwise specified by the indigenous peoples.	For 3.7.5.1: • See examples of evidence for 3.7.1.1. and 3.7.1.2. • Documented evidence of consideration of all feasible mitigation measures, including avoidance or critical cultural heritage, and rationale for decisions made. • Records or documentation confirming that mitigation measures have been carried out in alignment with best practices (e.g., peer reviews of proposed strategies; examples from academic or professional literature demonstrating that strategies used are considered best practices/techniques; etc.). • Records of consultations/communications with affected communities to negotiate measures to protect critical cultural heritage (e.g., meetings, comment letters; other written or verbal forms of	Explanatory Note for 3.7.5: NOTE: 3.7.5 is applicable even if no cultural heritage screening or assessment has taken place. According to the International Finance Corporation (IFC), critical cultural heritage consists of one or both of the following types of cultural heritage: (i) the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes; or (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation.[470] Explanatory Note for 3.7.5.1: This requirement aligns with the IFC Performance Standard (Para. 14), with the intent that affected communities be provided the opportunity to participate in decisions about the future of critical cultural heritage and to negotiate equitable outcomes that may not only outweigh any loss, but provide important benefits.[471] Although IFC does not define exceptional circumstances, IFC guidance does state that: "The client is strongly advised to avoid any significant damage to critical cultural heritage. If it appears that a project may

[469] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. GN12. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

[470] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. Para. 12. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

[471] Ibid. GN24.

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(Note: Where impacts may occur to indigenous peoples' critical cultural heritage, negotiation shall take place through the Free, Prior and Informed Consent process outlined in IRMA Chapter 2.2) unless otherwise specified by the indigenous peoples).		feedback). • Documentation of mutually accepted negotiation process. • Documentation of outcome (e.g., an agreement for how critical cultural heritage will be protected and communities will be provided benefits that outweigh any losses and can be sustained over the long-term).	significantly damage critical cultural heritage, the client may proceed with such activities only after a good faith negotiation with and a documented process of informed participation of the Affected Communities. Good faith negotiation generally involves for each party: (i) willingness to engage in a process and availability to meet at reasonable times and frequency in ways acceptable to all parties; (ii) provision of information necessary for informed negotiation; (iii) exploration of key issues of importance; and (iv) willingness to change initial position and modify offers where possible."[472] Also, IFC states that: "The client will document (i) the mutually accepted process between the client and the Affected Communities, and (ii) evidence of agreement between the parties as the outcome of the negotiations. This requires agreement by the culturally appropriate decision-making body within the Affected Community. The appropriate decision-making body will be identified through a social analysis performed by an external expert and the decision-making body will be seen by the majority as both their legitimate representative and as able to enter into a valid agreement. Agreement does not necessarily require unanimity and may be achieved even when individuals or sub-groups explicitly disagree. However, the benefits coming from an agreement must be shared by everyone in the Affected Communities, irrespective of whether they supported the project or not.[473] The latter concept of negotiated agreements is captured in IRMA 3.7.5.1.b. For 3.7.5.1.a, according to IFC:

[472] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. GN25. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

[473] International Finance Corporation (IFC). 2012. Performance Standard 8: Cultural Heritage. Guidance Note. GN26. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

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			"An internationally recognized practice is defined as the exercise of professional skill, knowledge, diligence, prudence and foresight that would reasonably be expected from experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally. Where the client is in doubt on what constitutes internationally recognized practice, international peer reviewers are able to provide guidance."[474] Techniques proposed by the competent professionals could undergo a peer review by international external experts, or technical experts selected by stakeholders, to ensure that no better, feasible techniques are available.
3.7.5.2. When a new mine is proposed within a legally protected cultural heritage area, including areas proposed by host governments for such designation, or a legally defined protected area buffer zone, the operating company shall: .5.2. When a new mine is proposed within a legally protected cultural heritage area, including areas proposed by host governments for such designation, or a legally defined protected area buffer zone, the operating company shall: a. Comply with the requirement 3.7.5.1; b. Comply with the protected area's management plan; c. Consult with agencies or bodies responsible for protected area governance and management,	For 3.7.5.2: Confirm that the operating company has carried out research to establish whether or not the exploration activities and mining are in legally protected areas. This may include review of documentation related to Chapter 4.6 (e.g., as part of the screening process in that chapter companies are required to document the boundaries of legally protected areas, and document the conservation values being protected in those areas. If the mining project is partially or wholly located in a legally protected area, confirm through review of documents and interviews with operating company representatives and relevant stakeholders that in addition to (a) meeting the requirements related to critical cultural heritage, that (b) the company is in compliance with existing regulations and management plans; (c) it carried out consultations with relevant government	For 3.7.5.2: • Documentation of how the mining project management complies with an existing protected area management plan. • Records of consultations/communications with relevant stakeholders and host governments regarding the proposed mining project. • Sign-in sheets for consultation meetings. • Documentation of efforts made to promote and enhance the conservation of the protected areas. • See also examples of evidence for 3.7.5.1.	Explanatory Note for 3.7.5.2: For the purposes of this requirement, "enhancing conservation aims" could include actions undertaken to further protect, enhance or promote the protection of cultural heritage, including the biodiversity or ecosystem processes that may support that conservation. If the protected area has been designated to protect other values in addition to cultural heritage, then programs could also enhance the conservation of those values. Any enhancements should be discussed and agreed by relevant stakeholders (e.g., host governments that manage protected areas; stakeholders who are likely to be affected by impacts to legally protected areas or their buffer zones). "Buffer zones" are areas peripheral to a specific protected area, where restrictions on resource use and special development measures are undertaken in order to enhance the conservation values in the protected area.

[474] Ibid. GN12.

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affected communities and other key stakeholders on the proposed mining project; and d. Implement additional programs, as appropriate, to promote and enhance the conservation aims of the protected area.	authorities or non-governmental protected area sponsors/managers and other stakeholders, and (d) implemented additional programs to promote or enhance the protected area's conservation aims.		
3.7.5.3. IRMA will not certify new mines that are developed in or that adversely affect the following protected areas if those areas were designated to protect cultural values (See also Chapter 4.6). • World Heritage Sites, and areas on a State Party's official Tentative List for World Heritage Site Inscription; • International Union for Conservation of Nature (IUCN) protected area management categories I-III; • Core areas of UNESCO biosphere reserves.	For 3.7.5.3: Confirm that the operating company has carried out research to establish that new exploration activities and mining are not in the areas listed in 3.7.5.3. (See Means of Verification for 3.7.5.2)	For 3.7.5.3: • Documents (e.g., maps, studies) that show that exploration activities and mining are not in the listed protected areas (i.e., World Heritage Sites, and areas on a State Party's official Tentative List for World Heritage Site Inscription, International Union for Conservation of Nature (IUCN) protected area management categories I-III, and Core areas of UNESCO biosphere reserves), or do not adversely impact those areas.	Explanatory Note for 3.7.5.3: Chapter 3.7 is focused on the protection of cultural heritage, and so requirement 3.7.5.3 is specific to cultural values. A similar requirement in Chapter 4.6 (4.6.5.3) prohibits IRMA certification of mines that are developed in or that affect World Heritage Sites, IUCN protected area management categories I-III and core areas of UNESCO biosphere reserves if they were designated to protect values other than cultural values (e.g., biodiversity, unique geological formations, etc.
3.7.5.4. An existing mine located entirely or partially in a protected area listed in 3.7.5.3 shall demonstrate that: a. The mine was developed prior to the area's official designation; b. Management plans have been developed and are being implemented to ensure that activities during the remaining mine lifecycle will not permanently and materially damage the integrity of the cultural values for which the	For 3.7.5.4: If, through review of an existing mine's location, it is determined that the mine is located in a World Heritage Site (WHS), or an area on a State Party's Tentative List for WHS inscription, or an area classified as IUCN Category I-III management area, or in a core area of a UNESCO biosphere reserve, and that the site was designated to protect cultural values, then: For 3.7.5.4.a: Confirm through review of mining project records or documents (construction records, mine plans, etc.) that the	For 3.7.5.4: • Documents (e.g., maps, studies) that show that exploration activities and/or mining occur in a listed protected area (i.e., World Heritage Sites, and areas on a State Party's official Tentative List for World Heritage Site Inscription, International Union for Conservation of Nature (IUCN) protected area management categories I-III, and Core areas of UNESCO biosphere reserves). • Documentation (e.g., permits,	Explanatory Note for 3.7.5.4: Chapter 3.7 is focused on the protection of cultural heritage, and so requirement 3.7.5.4 is specific to cultural values. A similar requirement in Chapter 4.6 (4.6.5.4) applies to existing mines that may affect World Heritage Sites, IUCN protected area management categories I-III and core areas of UNESCO biosphere reserves if those areas were designated to protect values other than cultural values (e.g., biodiversity, unique geological formations, etc.).

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
area was designated or recognized; and c. The operating company collaborates with relevant management authorities to integrate the mine's management strategies into the protected area's management plan.	mine was developed prior to the date when the protected area was designated as such. For 3.7.5.4.b: Review relevant mine management plans (e.g., Cultural Heritage Management Plans, possibly Biodiversity and Ecosystem Services Management Plan, etc.) and mitigation strategies, and consult with stakeholders including protected area managers to confirm that the mine's plans are consistent with the protection of the cultural values in the protected area. For 3.7.5.4.c: Review any relevant mine management plan(s) and the protected area's management plan and/or interview protected area managers to confirm that the mine's strategies have been integrated into the overall protected area management plan.	information on protected area designation) that show the mine was developed prior to protected area designation. • Mine management plans, for example, a Cultural Heritage Management Plan, detailing mitigation strategy for impacts on cultural heritage. • Documentation of consultation meetings with relevant stakeholders confirming that the mine's management plans are aligned with the management plans of the relevant protected area.	
3.7.5.5. To safeguard irreplaceable cultural heritage and respect indigenous peoples' right to self-determination, the operating company shall not carry out new exploration or develop new mines in areas where indigenous peoples are known to live in voluntary isolation.	For 3.7.5.5: Review literature on known locations of indigenous peoples living in voluntary isolation (see Guidance), and/or consult with relevant local or regional experts (e.g., NGOs, academics, indigenous peoples' organizations) to confirm that there are no known indigenous peoples living in voluntary isolation in the project area.	For 3.7.5.5: • Records of correspondence or meetings with stakeholders and experts to determine if territories are known to be inhabited by indigenous peoples living in voluntary isolation. • Review of proposed mine location and documentation to determine if territories are known to be inhabited by indigenous peoples living in voluntary isolation.	Explanatory Note for 3.7.5.5: Peoples in isolation are indigenous peoples or subgroups thereof that do not maintain regular contact with the majority population and tend to shun any type of contact with outsiders. Most isolated peoples live in tropical forests and/or in remote, untraveled areas, which in many cases are rich in natural resources. For these peoples, isolation is not a voluntary choice but a survival strategy.[475] "The principle of no contact is the expression of the right of indigenous peoples in voluntary isolation to self-determination. One of the reasons for protecting the rights of the indigenous peoples in voluntary isolation is cultural diversity: the loss of a culture is a loss to all humankind."[476]

[475] UN Human Rights Council (UNHRC). 2009. Draft Guidelines on the Protection of Indigenous Peoples in Voluntary Isolation and in Initial Contact of the Amazon Basin and El Chaco. Para. 7. https://digitallibrary.un.org/record/659795/files/A_HRC_EMRIP_2009_6-EN.pdf

[476] Inter-American Commission on Human Rights (IACHR). 2013. Indigenous Peoples in Voluntary Isolation and Initial Contact in the Americas. OEA /Ser.L/V/II, Doc. 47/13. p. 10. http://www.oas.org/en/iachr/indigenous/docs/pdf/report-indigenous-peoples-voluntary-isolation.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			Requirement 3.7.5.5 prohibits exploration or mining in areas where indigenous peoples are known to live in voluntary isolation, both to respect those indigenous peoples' right to self-determination,[477] and recognizing that free, prior and informed consent (FPIC) is not possible when indigenous peoples reject contact and the presence of persons who do not belong to their people in their lands and ancestral territories.[478] Companies can work with local indigenous organizations, government agencies, NGOs and civil society groups to determine if there are peoples in voluntary isolation that may be affected by a proposed exploration or mining project. They should be identified only through indirect means such as aerial photography of their camps, visits to abandoned camps, footprint analysis, abandoned implements, contacts reported by nearby peoples and/or testimony from indigenous persons who, for one reason or another, have left their isolation. The no-contact principle must always be taken as a basic requirement in the performance of such actions.[479]
3.7.6. Commercial Use of Cultural Heritage 3.7.6.1. Where the operating company proposes to use the intangible cultural heritage, including knowledge, innovations, or practices of local communities for commercial purposes, the company shall inform these communities of their rights under national and international law; the scope and nature of the proposed commercial	**For 3.7.6.1 and 3.7.6.2:** If relevant, confirm with operating company representatives and relevant stakeholders that the company: has informed communities of their rights under national law, and of the scope, nature and potential consequences of the proposed commercial development; has undertaken a collaborative process with good faith negotiations, and has provided fair and	**For 3.7.6.1:** • Proposal for use of intangible cultural heritage, including the scope of this use and how it may potentially impact on communities. • Records of correspondence or meetings with relevant community stakeholders related to commercial use of intangible cultural heritage.	**Explanatory Note for 3.7.6:** NOTE: 3.7.6 is applicable even if no cultural heritage screening or assessment occurred. For the purposes of this requirement, intangible cultural heritage refers to cultural resources, knowledge, innovations and/or practices of local communities embodying traditional lifestyles. At the present time, there are not clear examples of mining companies proposing to use intangible cultural heritage for commercial purposes. This requirement is from IFC, and the examples provided in IFC guidance include commercialization of

[477] UN Human Rights Council (UNHRC). 2009. Draft Guidelines on the Protection of Indigenous Peoples in Voluntary Isolation and in Initial Contact of the Amazon Basin and El Chaco. Para. 22. https://digitallibrary.un.org/record/659795/files/A_HRC_EMRIP_2009_6-EN.pdf

[478] Doyle, C. and Carino, J. 2014. Making Free Prior & Informed Consent a Reality: Indigenous Peoples and the Extractive Sector. p. 12. http://www.ecojesuit.com/wp-content/uploads/2014/09/Making-FPIC-a-Reality-Report.pdf and UN Global Compact. 2012. A Business Reference Guide: UN Declaration on the RIghts of Indigenous Peoples. p. 24. http://solutions-network.org/site-fpic/files/2012/09/UN-declaration-on-IR.pdf

[479] UN Human Rights Council (UNHRC). 2009. Draft Guidelines on the Protection of Indigenous Peoples in Voluntary Isolation and in Initial Contact of the Amazon Basin and El Chaco. Para. 9. https://digitallibrary.un.org/record/659795/files/A_HRC_EMRIP_2009_6-EN.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
development; and the potential consequences of such development.	equitable sharing of benefits, consistent with the local communities' customs and traditions.		traditional medicinal knowledge or other sacred or traditional technique for processing plants, fibers, or metals, or locally-sourced industrial design.[480] It is expected that community stakeholders will help to identify if there are cases where the mining project or operating company has proposed and/or used a community's intangible cultural heritage for commercial purposes.
3.7.6.2. The operating company shall not proceed with such commercialization unless it: a. Collaborates with affected communities using a good faith negotiation process that results in a documented outcome; and b. Provides for fair and equitable sharing of benefits from commercialization of such knowledge, innovation, or practice, consistent with their customs and traditions.	For 3.7.6.1 and 3.7.6.2: If relevant, confirm with operating company representatives and relevant stakeholders that the company: has informed communities of their rights under national law, and of the scope, nature and potential consequences of the proposed commercial development; has undertaken a collaborative process with good faith negotiations, and has provided fair and equitable sharing of benefits, consistent with the local communities' customs and traditions.	For 3.7.6.2: • Proposal for use of intangible cultural heritage, including the scope of this use and how it may potentially impact on communities. • Records of correspondence or meetings with relevant community stakeholders related to commercial use of intangible cultural heritage. • Benefit-sharing agreement related to commercial use of cultural heritage.	
3.7.6.3. Where the operating company proposes to use indigenous peoples' cultural heritage for commercial uses, negotiation shall take place through the Free, Prior and Informed Consent process outlined in IRMA Chapter 2.2 unless otherwise specified by the indigenous peoples.	For 3.7.6.3: If indigenous peoples' cultural heritage is proposed for commercial use by the operating company, confirm through interviews with the operating company and indigenous peoples' representatives that negotiations occurred during the FPIC process unless otherwise specified by the indigenous peoples.	For 3.7.6.3: • Free, Prior and Informed Consent agreement (or similar agreement) that includes provisions related to company's commercial use of the indigenous peoples' cultural heritage.	

[480] IFC. 2012. Performance Standard 8: Cultural Heritage. Guidance Note, GN29. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
3.7.7. Cultural Heritage Management 3.7.7.1. A cultural heritage management plan or its equivalent shall be developed that outlines the actions and mitigation measures to be implemented to protect cultural heritage.	**For 3.7.7.1:** Review the cultural heritage management plan or its equivalent. Note that the plan may be integrated into the environmental and social management plan (see IRMA Chapter 2.1) or other relevant plants. Confirm that the plan includes the actions and measures to be taken to protect cultural heritage.	**For 3.7.7.1:** • Cultural heritage management plan or its equivalent (e.g., a section on cultural heritage included in the mining project's environmental and social management plan).	**Explanatory Note for 3.7.7:** NOTE: 3.7.7 may be applicable even if no cultural heritage screening or assessment occurred, e.g., a cultural heritage management plan would be required if cultural heritage is encountered and mitigation measures implemented. The cultural heritage plan may be integrated into the environmental and social management plan (see IRMA Chapter 2.1).
3.7.7.2. If a new or existing mine is in an area where cultural heritage is expected to be found, the operating company shall develop procedures for: a. Managing chance finds, including, at minimum, a requirement that employees or contractors shall not further disturb any chance find until an evaluation by competent professionals is made and actions consistent with the requirements of this chapter are developed; b. Managing potential impacts to cultural heritage from contractors and visitors; c. Allowing continued access to cultural sites, subject to consultations with affected communities and overriding health, safety, and security considerations; and d. If the mining project affects indigenous peoples' cultural heritage, the operating company	**For 3.7.7.2:** If the assessment revealed the project to be in an area where cultural heritage is expected to be found, confirm that the operating company developed a "chance find procedure" and other relevant procedures. As per 3.7.1.1 and 3.7.1.2 confirm that development of procedures was carried out by competent professionals and that the company consulted with affected communities and other relevant stakeholders (e.g., regulatory agencies) in their development. Also, confirm with company, and relevant affected stakeholders, that chance finds were not disturbed until after an assessment by competent professionals was made. Interview relevant operating company staff with responsibility for managing cultural heritage-related risks and impacts about their procedures for managing potential impacts to cultural heritage from operational activities, contractors and visitors. Review any related documentation.	**For 3.7.7.2:** • A "chance find" procedure or equivalent. • Records or documentation of how this procedure was developed in collaboration with relevant stakeholders, for example: minutes of consultation meetings, and sign-in sheets for each meeting, correspondence with stakeholders, etc. • A procedure for managing impacts on cultural heritage from contractors and mine site visitors. • A procedure or agreement with affected communities allowing them continued access to certain cultural sites. • A procedure or agreement with indigenous peoples regarding what information about indigenous peoples' cultural heritage may be shared and with whom.	**Explanatory Note for 3.7.7.2:** A chance find procedure is a project-specific procedure that outlines what will happen if previously unknown heritage resources, particularly archaeological resources, are encountered during project construction or operation. The procedure includes record keeping and expert verification procedures, chain of custody instructions for movable finds, and clear criteria for potential temporary work stoppages that could be required for rapid disposition of issues related to the finds. It is important that this procedure outlines the roles and responsibilities and the response times required from both project staff, and any relevant heritage authority, as well as any agreed consultation procedures.[481] Procedures need not be proactively developed if cultural heritage screening or assessment has taken place and demonstrate that it is highly unlikely that cultural heritage will be found in the area where the mine is being developed. However, if cultural heritage is subsequently encountered it would be expected that chance find procedures would immediately be developed.

[481] IFC. 2012. Performance Standard 8: Cultural Heritage. Guidance Note, GN15. https://www.ifc.org/wps/wcm/connect/39e39000498007fda1fff3336b93d75f/Updated_GN8-2012.pdf?MOD=AJPERES

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shall collaborate with indigenous peoples to determine procedures related to the sharing of information related to cultural heritage.	If the mining project site contains cultural heritage or prevents access to previously accessible cultural sites, confirm with relevant affected communities that access, as determined through community consultation process, is being provided to them. **For 3.7.7.2.d:** If relevant, interview representatives from affected indigenous peoples to ensure that the operating company has collaborated with them to determine what information is acceptable to share with employees and others.		
3.7.7.3. The operating company shall ensure that relevant employees receive training with respect to cultural awareness, cultural heritage site recognition and care, and company procedures for cultural heritage management.	**For 3.7.7.3:** Review any procedures and records related to cultural heritage training, and interview relevant employees to confirm that they understand the cultural heritage procedures and management approach.	**For 3.7.7.3:** • Records or documentation of employee trainings (e.g., materials, attendance records, etc.) on cultural awareness, site recognition and care, and cultural heritage management (including trainings on procedures mentioned in 3.7.7.2).	**Explanatory Note for 3.7.7.3:** "Relevant employees" may include, for example, those who are likely to be working in areas where cultural heritage sites may be encountered (e.g., those involved in excavation and earth-moving activities, biological or land surveys, etc.), as well as those who will be engaging with stakeholders on issues related to cultural heritage or cultural issues (including cross-cultural communications), such as community liaison officers, staff who attend and participate in public meetings, etc. Regardless of whether or not cultural heritage risks are identified in screening or assessment, relevant employees should be trained on issues related to cultural awareness and sensitivity. Additionally, as per IRMA Chapter 1.1, requirement 1.1.4.1, the operating company is required to demonstrate that it takes appropriate steps to ensure compliance with the IRMA Standard by contractors engaged in activities relevant to the mining project. Consequently, if there are any contractors that may engage with stakeholders on issues related to cultural heritage, they should undergo cultural awareness training, and if contractors are likely to encounter cultural heritage sites, they should also be trained in cultural heritage site recognition and care, and company procedures for cultural heritage management.

NOTES

This chapter uses, as its basis, the IFC Performance Standard 8 (PS 8) Cultural Heritage.

While this chapter applies to both indigenous and non-indigenous cultural heritage, it does not specify requirements applicable to Indigenous and Community Conserved Areas (ICCAs) designated as such by indigenous peoples or local communities. These are areas governed and/or managed by the people or community in a manner that conserves nature and/or cultural values.[482] Such areas may be considered by indigenous peoples as a part of their cultural heritage and, as such, could be raised during the cultural heritage screening process and addressed in Chapter 3.7, and/or addressed during the free, prior and informed consent process in Chapter 2.2.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	Some host countries may have laws relating to the assessment and protection of cultural heritage. As per Chapter 1.1, if host country laws related to cultural heritage exist, a company is required to abide by those laws. However, if IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to violate host country law.
1.2—Community and Stakeholder Engagement	Engagement with stakeholders and indigenous peoples regarding cultural heritage shall conform to the requirements in Chapter 1.2. In particular, criterion 1.2.3 is important to ensure that stakeholders have the capacity to fully understand their rights and collaborate effectively in the development of prevention/mitigation plans and monitoring processes. Also, 1.2.4 ensures that communications and information are in formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely, culturally appropriate manner.
1.3—Human Rights Due Diligence	If the infringement of human rights is predicted during cultural heritage assessment, or if human rights related to cultural heritage have been infringed upon at a new or existing mine, a company will be expected to prevent, mitigate and remediate the impacts as per Chapter 1.3. This includes the mitigation or remediation of human-rights-related impacts from past cultural heritage management activities at existing mines. Requirement 3.7.5.5 related to indigenous peoples in voluntary isolation was written not only to protect the cultural heritage of those indigenous peoples, but also to respect their right to self-determination, which means that their decision to remain isolated must be respected.
2.1—Environmental and Social Impact Assessment and Management	The cultural heritage assessment required in 3.7.1 may be done in coordination with or as part of the Environmental and Social Impact Assessment in Chapter 2.1, rather than as a stand-alone assessment.
2.2—Free, Prior and Informed Consent	The identification and assessment of mining activities that impact cultural heritage of indigenous peoples may be addressed as part of the FPIC process as per Chapter 2.2.
4.6— Biodiversity, Ecosystem Services and Protected Areas	Some legally protected areas are designated as such to preserve critical cultural heritage. The operating company is required in Chapter 4.6 to identify legally protected areas that may be affected by mining-related activities. That information will be applicable for requirements in 3.7.5 pertaining to areas that are designated to protect cultural heritage. Also, the requirements in Chapter 3.7 align with those in Chapter 4.6 regarding actions to be taken by the operating company if mines are to be developed in protected areas. Indigenous and Community Conserved Areas (ICCAs) designated as such by indigenous peoples, may be created to protect cultural heritage and therefore may be addressed in Chapter 3.7. However, consideration of the ecological attributes of protected ICCAs may also be addressed in Chapter 4.6 of the IRMA Standard.

[482] ICCA Consortium website: "Three defining characteristics for ICCAs." https://www.iccaconsortium.org/index.php/discover/

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to risks or impacts from a project.

Associated Facility

Any facility managed by the operating company that would not have been constructed, expanded or acquired but for the exploration or development of the mining project (including ore processing facilities, stationary physical property such as power plants, port sites, roads, railroads, borrow areas, fuel production or preparation facilities, parking areas, shops, offices, housing facilities, storage facilities, etc.).

Biosphere Reserves

Biosphere reserves are areas comprising terrestrial, marine and coastal ecosystems. Each reserve promotes solutions reconciling the conservation of biodiversity with its sustainable use. Biosphere reserves are 'Science for Sustainability support sites' – special places for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity. Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located. Their status is internationally recognized.

Chance Find

The discovery of unknown cultural heritage. A chance find procedure is a project-specific procedure that outlines the actions to be taken if previously unknown cultural heritage is encountered.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Conservation Values

The ecological, biological, geomorphological, geological, cultural, spiritual, scenic or amenity values, features, processes or attributes that are being conserved.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle the company should take into account the concerns and views expressed by stakeholders in the final decision.

Contractor

An individual, company, or other legal entity that carries out duties subject to a contractual agreement that defines, for example, work, duties or services, pay, hours or timing, duration of agreement, and that remains independent for employment, tax, and other regulatory purposes. This includes sub-contractors.

Critical Cultural Heritage

Consists of: (i) the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes, (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation; or (iii) natural areas with cultural and/or spiritual value such as sacred groves, sacred bodies of water and waterways, sacred trees, and sacred rocks.

Ecosystem Services

The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Free, Prior and Informed Consent

Consent based on: engagement that is free from external manipulation, coercion and intimidation; notification, sufficiently in advance of commencement of any activities, that consent will be sought; full disclosure of information regarding all aspects of a proposed project or activity in a manner that is accessible and understandable to the people whose consent is being sought; acknowledgment that the people whose consent is being sought can approve or reject a project or activity, and that the entities seeking consent will abide by the decision.

Indigenous Peoples

A modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Inform

The provision of information to inform stakeholders of a proposal, activity or decision. The information provided may be designed to help stakeholders in understanding an issue, alternatives, solutions or the decision-making process. Information flows are one-way. Information can flow either from the company to stakeholders or vice versa.

Intangible Cultural Heritage

Cultural resources, knowledge, innovations and/or practices of local communities embodying traditional lifestyles.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Mitigation

Refers to actions taken to reduce the likelihood of a certain adverse impact occurring.

Mitigation Hierarchy

The mitigation hierarchy is a set of prioritized steps to alleviate environmental (or social) harm as far as possible through avoidance, minimization (or reduction) and restoration of adverse impacts. Compensation/offsetting are only considered to address residual impacts after appropriate avoidance, minimization and restoration measures have been applied. (See Glossary for full definition)

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Nonreplicable Cultural Heritage

May relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the (i) cultural heritage is unique or relatively unique for the period it represents, or (ii) cultural heritage is unique or relatively unique in linking several periods in the same site.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Protected Area/Protected Area Management Categories (IUCN)

A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. (See IRMA Glossary for an expanded definition based on IUCN protected area management categories)

Replicable Cultural Heritage

Tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites and/or structures." (IFC PS 8, Guidance Note).

Significant Changes to Mining-Related Activities

Changes in scale or scope (e.g., production increases, new or expanded activities or facilities, alterations in waste management activities, closure, etc.) that may create significant environmental, social and/or human rights impacts, or significantly change the nature or degree of an existing impact.

Tangible Cultural Heritage

A unique and often non-renewable resource that possesses cultural, scientific, spiritual, or religious value, and are considered worthy of preservation for the future. Includes moveable or immovable objects, sites, structures, groups of structures, natural features, or landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural value.

Tentative List for World Heritage Site Inscription

The list of sites that relevant State Parties are formally considering for nomination as a World Heritage Site in the next five to ten years.

World Heritage Site

A site/property inscribed on the World Heritage List, which has outstanding universal value and meets the conditions of authenticity and integrity. The World Heritage property includes within its borders all of the attributes that are recognized as being of outstanding universal value.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

The IRMA Standard:

Requirements

Environmental Responsibility

Chapter 4.1—Waste and Materials Management

BACKGROUND

The mining process uses materials that, if mismanaged, create risks to human health, safety and the environment. Fuels used by heavy machinery, chemicals, such as solvents used to clean or maintain equipment, and wastes from onsite sewage treatment facilities can be harmful to living organisms if spilled or otherwise released to the environment. Mining also generates large volumes of waste materials that may be associated with risks to health, safety and the environment, depending on the chemical and physical characteristics of the material and how it is managed.

Most mined material will remain on the site as wastes in two general forms: waste from processing ore into a concentrate or final product (e.g., tailings, spent heap leach materials, etc.), and soil and rock removed during mining that will not be processed for minerals (e.g., overburden, waste rock, sub-economic ore, etc.). These waste materials can contain target minerals and other constituents including sulfide and other metal-bearing minerals. In addition, some tailings may contain process chemicals, and waste rock may contain nitrogen-based explosives compounds.

If water treatment is necessary to remove metals or other constituents from mine-impacted waters before discharging water to the environment, the process may generate waste sludges that contain high concentrations of metals or other contaminants.

Mining-related wastes have the potential to contaminate water bodies, air and soil. Water contamination is the most prevalent problem associated with mine wastes and potentially hazardous materials used or generated as a result of mining activities. Mining wastes may also pose a risk to nearby communities, as the storage of a large volumes of material behind dams and/or in constructed impoundments holds the potential for catastrophic failure.

There are, however, existing and emerging materials, technologies, and waste management practices that aim to prevent or greatly reduce the potential for contamination from hazardous materials and mine wastes and catastrophic failures of mine waste facilities. These include implementing best practices in the handling, storage, transport and disposal of potentially hazardous materials. Also, geochemical testing can be used to determine whether mining wastes like tailings and waste rock have the potential to generate acid and/or leach metals and other contaminants, and if this potential exists, then mitigation measures can be put in place to prevent acid generation and metals leaching.

TERMS USED IN THIS CHAPTER

Acid Rock Drainage (ARD) ■ Affected Communities ■ Alternatives Assessment ■ Best Available/Applicable Practice (BAP) ■ Best Available Technology (BAT) ■ Collaboration ■ Competent Professional ■ Conceptual Site Model (CSM) ■ Consultation ■ Critical Control ■ Existing Mine ■ Facility ■ Heap Leach ■ Host Country Law ■ Independent Review ■ Metals Leaching (ML) ■ Mine Closure ■ Mine Waste Facility ■ Mining Impacted Waters (MIW) ■ Mining Project ■ Mitigation ■ Mitigation Hierarchy ■ Operating Company ■ Post-Closure ■ Practicable ■ Process Water ■ Risk Control ■ Stakeholder ■ Tailings ■ Waste Rock ■ Water Balance

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

Increasingly, mining companies are also implementing: stronger accountability mechanisms such as ensuring waste facility decisions are approved at the highest levels of the company; more rigorous assessments of sources of potential contamination and physical risks posed by mine waste facilities; and independent review of waste facility siting, design, construction, operation and closure plans.

OBJECTIVES/INTENT OF THIS CHAPTER

To manage wastes and materials in a manner that minimizes their short- and long-term physical and chemical risks, and protects the health and safety of communities and future land and water uses.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant for all mines.

IRMA recognizes that some of the requirements in the IRMA Standard are emerging best practices (see Notes at the end of the chapter for more information). Consequently, during IRMA's Launch Phase (2018 into 2019) we will not expect that all requirements will have been completely fulfilled. Companies will be expected, however, to have started to develop the processes and procedures necessary to fully meet the chapter requirements within a reasonable timeframe (e.g., 1 to 2 years). When IRMA launches it full certification program later in 2019, it is expected that the requirements in this chapter will be required to be met in order to achieve certification.

CRITICAL REQUIREMENTS IN THIS CHAPTER

A risk assessment has been done to identify chemical and physical risks associated with existing mine waste (including tailings) facilities (4.1.4.1). Mine waste facility design and mitigation of identified risks shall be consistent with best available technologies and best available/applicable practices (4.1.5.1).

The operating company regularly evaluates the performance of mine waste facilities to assess the effectiveness of risk management measures, including critical controls for high consequence facilities (4.1.5.6).

The mine does not use riverine, submarine or lake disposal for mine wastes (4.1.8.1).

Waste and Materials Management Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.1.1. Policy and Governance 4.1.1.1. The operating company shall develop a policy for managing waste materials and mine waste facilities in a manner that eliminates, if practicable, and otherwise minimizes risks to human health, safety, the environment and communities.	**For 4.1.1.1:** Confirm through review of operating company documentation and interviews with company that a waste management policy and commitments are signed-off and in place to manage waste materials and facilities in a manner that protects human health, safety, the environment and communities. Human health and safety applies to workers as well as others who may come into contact with, or be otherwise affected by the waste.	**For 4.1.1.1:** • Mine waste management policy or its equivalent.	Explanatory Note for 4.1.1.2: A policy for managing waste materials and mine waste facilities does not need to be long or overly detailed, but should provide overall guidance for the management of wastes. It might look something like the following: "It is the policy of _____ to store all mine waste in a manner that will protect the human and natural environment, avoid pollutants from migrating beyond the mine site, and be protective of mine workers in placing this waste at its interim and final storage locations. Wastes will be recycled to the maximum extent possible. Hazardous wastes will be managed to minimize worker exposure and to maximize protection of the human and natural environment in the long-term." Note that "natural environment" also includes the subsurface environment, e.g. protection of groundwater resources, so the policy could be even more explicit in this regard if desired.
4.1.1.2. The operating company shall demonstrate its commitment to the effective implementation of the policy by, at minimum:	**For 4.1.1.2.a:** Confirm that the waste management policy (or its equivalent) is endorsed and signed by the CEO, Board of Directors or other high-level body (e.g.,	**For 4.1.1.2:** • Mine waste management policy or its equivalent that has been signed off by senior management and endorsed at the	Explanatory Note for 4.1.1.2: Re: 4.1.1.2.a, senior management would be the mine manager, or a manager that reports directly to the mine manager, and to whom the mine manager has designated, in writing, the responsibility for

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a. Having the policy approved by senior management and endorsed at the Director/Governance level of the company; b. Communicating the policy to employees; c. Having a process in place to ensure that relevant employees understand the policy to a degree appropriate to their level of responsibility and function, and that they have the competencies necessary to fulfill their responsibilities; d. Having procedures and/or protocols in place to implement the policy; and e. Allocating a sufficient budget to enable the effective implementation of the policy.	a subcommittee of the Board of Directors tasked with oversight of waste management activities). **For 4.1.1.2.b:** Confirm through employee interviews that they are aware of the policy; and that employees with waste management responsibilities understand how the policy influences their work, i.e., organizational structure, accountabilities, roles and responsibilities should be clearly defined. Review contracts, as the roles and responsibilities should also be outlined within those documents. **For 4.1.1.2.c:** Confirm through worker/employee interviews and review of contracts that competent personnel are in place to carry out the activities necessary to ensure the stewardship of each facility (e.g., Design engineers or Engineer of Record are in place, are qualified licensed professional engineers with sound technical knowledge, and other employees have either formal education or sufficient training and experience to carry out tasks such as construction, maintenance, surveillance, monitoring, emergency response, etc.). **For 4.1.1.2.d:** Confirm that: a risk management program is in place, with responsible person and implemented training program; an Operations, Maintenance and Surveillance (OMS) manual is in place (See 4 1.4.5) and is being followed, and staff have been adequately trained on its use; a change management system is in place, and active; protocols are in place to elevate all relevant findings of mine managers, consultants and independent reviewers to senior management team, above the general manager level; and an independent technical review panel or board is in place, with clear scope (See 4.1.4.9).	director/governance level of the company. • Records of communications with company employees (e.g., trainings, written materials) conveying the information contained in the waste policy and their responsibilities regarding waste management. • Records of employee competencies (e.g., resumes, CVs, trainings, certifications, etc.). • Operations, Maintenance and Surveillance manual that address mine waste management issues. • Mine waste risk management procedures. Operating budget that contains mine waste management tasks.	overseeing all mine waste management at the mine. Director/Governance Level may be the CEO, Board of Directors or other high-level body (e.g., a subcommittee of the Board of Directors tasked with oversight of waste management activities). Re: 4.1.1.2.b, communicating this policy to relevant employees (i.e., those who have waste management responsibilities) should be done during initial employee training, and on a regular basis afterward. It should be explained verbally to relevant employees, not just presented in written documents or wall placards. The verbal explanation could be included with annual safety training requirements, since much of the waste management policy is ultimately safety oriented. Re: 4.1.1.2.c and d, procedures and protocols should include a risk management program, with responsible persons assigned and an implemented training program; an Operations, Maintenance and Surveillance (OMS) manual (see 4 1.5.5), with staff adequately trained on its use; a change management system; protocols to elevate all relevant findings of mine managers, consultants and independent reviewers to senior management team, above the general manager level; and an independent review panel or board, with clearly defined scope (see 4.1.6). Design engineers or Engineer of Record should be in place, and be qualified licensed professional engineers with sound technical knowledge. Other employees should have either formal education or sufficient training and experience to carry out tasks such as construction, maintenance, surveillance, monitoring, emergency response, etc.). Re: 4.1.1.2.d, budgets should include mine waste facility capital and operating costs, and costs related to human resources necessary to carry out the work and implement the waste policy. The budget should include schedules of

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	For 4.1.1.2.e: Review budget, and confirm that facility capital and operating costs are included in the business planning processes; and human resources capital and expertise is sufficient to carry out the work necessary to implement the waste policy. The budget should include schedules of activities that integrate the required resources related to waste management. Examples of activities to be scheduled include timing of construction, access to construction material, reviews, inspections, and any other item critical to successfully implementing the waste management system.		activities that integrate the required resources related to waste management. Examples of activities to be scheduled include timing of construction, access to construction material, reviews, inspections, and any other item critical to successfully implementing the waste management system.
4.1.2. Safe Management of Materials Other Than Mine Wastes 4.1.2.1. The operating company shall: a. Identify all materials, substances and wastes (other than mine wastes) associated with the mining project that have the potential to cause impacts on human health, safety, the environment or communities; and b. Document and implement procedures for the safe transport, handling, storage and disposal of those materials, substances and wastes.	Auditing Note for 4.1.2: The auditor should be familiar with national definitions of hazardous wastes, and also regional or global regulations or conventions related to the transboundary shipments of wastes (if wastes are transported and disposed outside of the host country). Auditors should note If mines go beyond mere disposal and are making efforts to recycle or (re)use waste materials. IRMA is considering adding requirements related to efficient use of materials to a future version of the Standard. **For 4.1.2.1:** Confirm, through review of documents, that the operating company has identified and documented the materials, substances and wastes (other than mine wastes) associated with the mining project that could potentially cause impacts on the environment if improperly handled, stored, transported or disposed. Perform on-site confirmation of materials locations. Review procedures and interview operating company and workers to confirm that procedures are documented and are being implemented (i.e., adhered to by workers) for their safe transport, handling,	**For 4.1.2.1:** • Records of materials, substances and wastes associated with the mining project (e.g., Material Safety Data Sheets (MSDS) for chemicals and other materials transported to, used or stored at the mine) that pose a potential hazard to health, safety or the environment. • Documented procedures for the transportation, handling, storage and disposal of potentially hazardous materials, substances and wastes. • Documented procedures related to hazardous materials in the Emergency Preparedness and Response Plan (or its equivalent) required in Chapter 2.5. • Documentation of programs to recycle or reuse waste materials.	Explanatory Note for 4.1.2.1: Requirement 4.1.2.1 applies to materials, substances and wastes that are not considered mine wastes. These may include used and unused chemicals, old tires, unused explosives, septic system wastes, cleaning fluids, solvents, fuels and any other materials, substances and wastes that may pose a risk to human health, safety the environment if not managed well. For the purposes of this chapter, "mine wastes" include tailings, waste rock, spent ore from heap leaches, wastes generated during mineral processing (e.g., residues and used processing fluids, wastes from thermal processing – including mercury wastes in Chapter 4.8). It does not include chemicals that go into mineral processing that have not been used (those belong in the category of wastes that are not considered “mine wastes”, above). Mine wastes are the primary focus of this chapter (see criteria 4.1.1 and 4.1.3 to 4.1.6). Re: 4.1.2.1.a, identifying and tracking these materials is standard procedure at most mines. Material Safety Data Sheets should be available at the mine for all or most of these materials. Some of these materials and substances may be included in an Emergency Preparedness and Response Plan (see IRMA Chapter 2.5). For example, that plan should include

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	storage, and disposal of the materials, substances and wastes. Documentation should list facilities and provide their locations on a map, and provide information on storage, handling and disposal practices (indicating if measures are to be implemented on or off site).		measures to prevent accidents and respond to incidents that might occur during transport of hazardous chemicals through communities or in close proximity to water courses that flow through communities. In addition to implementing procedures for the safe use or disposal of certain waste materials, the beneficial (re)use and recycling of some wastes may also be investigated. For example, some companies are looking at composting technologies for organic wastes to assist in remediation of areas with elevated metals, as well as general site rehabilitation efforts, especially where there is a limited availability of good quality topsoil.[483] Other companies are implementing recycling programs for tires and other "waste" materials.
4.1.3. Mine Waste Source Characterization and Impact Prediction 4.1.3.1. The operating company shall identify all existing and/or proposed mine waste facilities that have the potential to be associated with waste discharges or incidents, including catastrophic failures, that could lead to impacts on human health, safety, the environment or communities.	Auditing Note for 4.1.3: The auditor should be familiar with the recommendations and guidance in INAP 2009 (Chapter 4), Price 2009, and MAC 2017 (Appendix 3).[484] **For 4.1.3.1:** Confirm through review of company documentation such as lists of facilities and their locations on a site map, and on-site confirmation that the facilities are located as per the documents.	**For 4.1.3.1:** • Map or other documentation identifying all existing mine waste management facilities, and, if expansions are planned or anticipated, the potential locations of future waste management facilities.	Explanatory Note for 4.1.3.1: "Mine waste facilities" are those that contain, store, are constructed of, or come in contact with wastes that are generated or created during mining (e.g., waste rock, pit walls, pit floors or underground workings, runoff or discharge from exposed mined areas) and mineral processing (e.g., tailings, spent ore, effluent). These facilities may include, but are not necessarily limited to: open pits, pit lakes, underground mine workings, subsidence areas, waste rock facilities, tailings storage facilities, heap leach facilities, process water facilities, stormwater facilities, borrow areas for construction and/or reclamation, roads or impoundments constructed from waste rock, water treatment facilities, etc.

[483] For example, see US Environmental Protection Agency website: "Abandoned Mine Lands: Technical Resources. Composting at Mine Sites." https://www.epa.gov/superfund/abandoned-mine-lands-technical-resources

[484] International Network for Acid Prevention (INAP). Global Acid Rock Drainage (GARD) Guide. http://www.gardguide.com/; Price 2009; and Mining Association of Canada. 2017. A Guide to the Management of Tailings Facilities (Third Ed). Appendix 3. http://mining.ca/documents/guide-management-tailings-facilities-third-edition

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.1.3.2. The operating company shall perform a detailed characterization for each mine waste facility that has associated chemical risks. Characterization shall include:[485] a. A detailed description of the facility that includes geology, hydrogeology and hydrology, climate change projections, and all potential sources of mining impacted water (MIW);[486] b. Source material characterization using industry best practice to determine potential for acid rock drainage (ARD) or metals leaching (ML). This shall include: i. Analysis of petrology, mineralogy, and mineralization; ii. Identification of geochemical test units; iii. Estimation of an appropriate number of samples for each geochemical test unit; and iv. Performance of comprehensive geochemical testing on all samples from each geochemical test unit.	For 4.1.3.2.a: Review of company documentation such as the Environmental and Social Impact Assessment (see IRMA Chapter 1.2), the Operations, Maintenance and Surveillance manual (see 4.1.5.5) or others, to confirm that the geological, hydrological, and climate characteristics of each facility have been documented. (See Explanatory Notes/Guidance for more information on what are the minimum requirements for facility descriptions). For 4.1.3.2.b: Review company documentation to confirm that source characterization has been completed for materials from each facility that may be associated with adverse chemical (i.e., contamination) impacts. Source material characterization should include the analyses listed in b.i through iv (for more information, see chapter 4 of the Global Acid Rock Drainage (GARD) Guide issued by the International Network for Acid Prevention[490]). Construction materials should be included in the analysis if mine waste materials are proposed to be used or have been used to build roads or other structures. For 4.1.3.2.c: Review company documentation to confirm that a Conceptual Site Model (CSM) has been developed for each facility that may be associated with adverse chemical (i.e., contamination) impacts. This should include both a visual schematic and an accompanying narrative.	For 4.1.3.2: • Documentation of facility descriptions (this may be contained in an Operation, Monitoring and Surveillance (OMS) Manual or equivalent). • Reports containing information on site geology, hydrogeology, hydrology. • Documentation of source characterization of mined materials/wastes (e.g., a detailed geochemical study that contains raw data from the testing, and interpretation of the data; results from numerical geochemical models). • Documentation of conceptual models/reports (e.g., descriptions of the sources, release, transport and fate of contaminants related to mine waste facilities). • Facility water balance and chemical mass balance models/reports.	Explanatory Note for 4.1.3.2: 4.1.3.2 addresses chemical risks, while 4.1.3.3 addresses physical risks. Chemical risks associated with mine waste facilities refer to risks related to the chemical composition of mined materials and wastes. Risks include the potential for materials to leach contaminants to the environment. Chemical risks also include hazardous constituents (e.g., constituents that may be toxic, harmful or irritating to humans or biota, carcinogenic, mutagenic, affect reproduction, be corrosive, explosive, or otherwise dangerous to the environment) if there is the potential that these constituents may be mobilized and enter the environment. If a particular mine waste facility has no associated chemical risks (e.g., the facility is not constructed from materials that will leach contaminants into the environment, and does not contain or store hazardous constituents that will mobilize to the environment), then it does not need to undergo the detailed characterization in 4.1.3.2. The operating company, however, should be able to provide evidence in the form of geochemical characterization that wastes and facility construction materials are not chemically reactive. Re: 4.1.3.2.a, "mining impacted water," also referred to as mining influenced water or MIW, includes acid rock drainage (ARD), neutral mine drainage, saline drainage, and metallurgical process waters of potential concern. In Australia, the term acid and metalliferous drainage (AMD) is used as a synonym for ARD. A key characteristic of most of these waters is that they contain elevated metals that have

[485] See also IRMA Chapter 4.2, criteria 4.2.2

[486] Mining impacted water, also referred to as mining influenced water or MIW, includes acid rock drainage (ARD), neutral mine drainage, saline drainage, and metallurgical process waters of potential concern. In Australia, the term acid and metalliferous drainage (AMD) is used as a synonym for ARD. A key characteristic of most of these waters is that they contain elevated metals that have leached from surrounding solids (e.g., waste rock, tailings, mine surfaces, or mineral surfaces in their pathways). This fact is commonly acknowledged by the phrase "metal leaching" (ML), frequently resulting in acronyms such as ARD/ML.

[490] International Network for Acid Prevention (INAP). Global Acid Rock Drainage (GARD) Guide. http://www.gardguide.com/

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
c. A conceptual model that describes what is known about release, transport and fate of contaminants and includes all sources, pathways and receptors for each facility;[487] d. Water balance and chemistry mass balance models for each facility;[488] e. Identification of contaminants of concern for the facility/source materials, and the potential resources at risk from those contaminants.[489]	**For 4.1.3.2.d:** Review company documentation to confirm that a water balance and chemistry mass balance have been developed and calibrated for each facility that may be associated with adverse chemical (i.e., contamination) impacts. See Explanatory Notes for more guidance on chemistry mass balance. **For 4.1.3.2.e:** Review company documentation on source characterization and predictions to confirm that the operating company has identified contaminants of concern (e.g., identified those predicted to be released at levels that contravene IRMA Water Quality Criteria in IRMA Chapter 4.2, or those that could be released in excess of air quality standards in IRMA Chapter 4.3). Confirm that potential resources (e.g., air, water, aquatic or terrestrial plants and animals, humans, etc.) at risk have been identified, either through the facility conceptual model (4.1.3.2.c) or through other more detailed studies or modeling (e.g., see IRMA Chapter 4.2, requirement 4.2.2.3.c on hydro-geochemical and hydrogeological models).		leached from surrounding solids (e.g., waste rock, tailings, mine surfaces, or mineral surfaces in their pathways). This fact is commonly acknowledged by the phrase "metals leaching" (ML), frequently resulting in acronyms such as ARD/ML. Re: 4.1.3.2.b, source material characterization should include the analyses listed in 4.1.3.1.b.i through iv (for more information, see chapter 4 of the Global Acid Rock Drainage (GARD) Guide issued by the International Network for Acid Prevention[491]). Petrology would explain the type of rocks, mineralogy the minerals that make up the rocks. Geochemical test units typically align with different rock types, but there can be exceptions. Each geochemical test unit should be sampled and tested. The GARD Guide gives guidance on how many samples are needed per geochemical unit, and what tests should be performed. The tests required are driven in large part by the mineralogy of the geochemical unit. If the GARD guidelines are not followed, the operating company should be able to technically justify why some other procedure was followed. Results of source material characterization should be presented for each geochemical unit, with some analysis or technical explanation of the results provided. Construction materials should be included in the analysis if mine waste materials are proposed to be used or have been used to build roads or other structures. Re: 4.1.3.2.c, a conceptual model, in this case, is a qualitative description of what is known about the sources, release,

[487] This information will feed into the Conceptual Site Model required in IRMA Chapter 4.2, requirement 4.2.2.3.

[488] This information should feed into the site-wide water balance model in IRMA Chapter 4.2, requirement 4.2.2.3.

[489] This should be done using the results from 4.1.3.2.a-d and also hydro-geochemical/hydrogeological modeling as per IRMA Chapter 4.2, if relevant. (See Chapter 4.2, requirements 4.2.2.3.b).

[491] International Network for Acid Prevention (INAP). Global Acid Rock Drainage (GARD) Guide. http://www.gardguide.com/

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			transport and fate of contaminants related to a particular facility. A Conceptual Site Model (CSM) should be developed for each facility that may be associated with adverse chemical (i.e., contamination) impacts. This should include both a visual schematic and an accompanying narrative report. This information will feed into the Conceptual Site Model required in IRMA Chapter 4.2, requirement 4.2.2.3. Re: 4.1.3.2.d, water must be controlled to gain access to the mine workings and is typically required in ore extraction processes. The chemical quality and quantity of mine effluents must also be managed since this water may affect the receiving environment and water users. Water and mass balance models are frequently used in the mining industry to explore water management alternatives and assess the uncertainty underlying current and future water management scenarios. A simple deterministic water and mass balance model built on linked Excel spreadsheets, along with sound engineering judgment, may be adequate to provide a basic understanding of flows and effluent water quality over a given range of operating and climatic conditions. The mass balance calculation should include all contaminants of concern (see 4.1.3.1.e), and should document their flow through the mine's processing and waste storage systems. Greater model complexity will likely be required to assess more complex mining project conditions. Ultimately, simulation software should be used to develop dynamic flow models and predict long term contaminant loadings and environmental performance over the entire life of a mine using precedent precipitation data. Water chemistry

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			parameters, contaminant loadings and rates of contaminant decay can be input into such models.[492] Re: 4.1.3.2.e, contaminants of concern should include those predicted to be released at levels that contravene host country standards or IRMA Water Quality Criteria in IRMA Chapter 4.2, or those that could be released in excess of air quality standards in IRMA Chapter 4.3.
4.1.3.3. The operating company shall identify the potential physical risks related to tailings storage facilities and all other mine waste facilities where the potential exists for catastrophic failure resulting in impacts on human health, safety, the environment or communities. Evaluations shall be informed by the following: a. Detailed engineering reports, including site investigations, seepage and stability analyses; b. Independent technical review (See 4.1.5.9); c. Facility classification based on risk level or consequence of a failure, and size of the structure/impoundment; d. Descriptions of facility design criteria; e. Design report(s); f. Short-term and long-term placement plans and schedule for	Auditing Note for 4.1.3.3: The auditor should be familiar with the recommendations of CDA 2014, MAC 2011, , MAC 2017 and similar international best practice documents, as well as internal technical standards and guidelines developed and implemented by the operating company. For 4.1.3.3: Confirm through review of company documentation and interviews with company that the company has undertaken evaluations and inspections to identify physical (e.g., safety and stability) risks associated with tailings storage facilities and all other facilities where the potential exists for catastrophic failure resulting in loss of human life or environmental damage. For 4.1.3.3.a: Review engineering reports to determine if physical risks with the facility have been identified. For 4.1.3.3.b: Confirm that independent review has occurred for the facility (if necessary). If done, the review should have highlighted any physical risks related to the facility. For 4.1.3.3.c: Review documentation to confirm that a facility classification has occurred. Classification should	For 4.1.3.3: • Facility Engineering Design Reports. • Facility Classification Reports/Memos. Independent Review Reports. • Staff and EoR Inspection Reports. • Hydrology and Facility Mass Balance Reports. • Inundation Analysis and EPP/ERP. • Facility operations, maintenance and surveillance (OMS) manual (may be contained within a larger site-wide manual).	Explanatory Note for 4.1.3.3: Tailings dams, tailings impoundments, waste rock piles and heap leach facilities are all large enough to pose potential physical risks. Not only might they fail during earthquake or flood events, they are also capable of collapsing under their own weight if not properly designed. Re: 4.1.3.3.a, detailed engineering reports, based on site investigations, seepage and stability analyses, should be provided for all relevant site facilities. This information should be used as the basis for facility classification (see 4.1.3.3.c). The level of detail should be based on the project status ranging from 30-70% completion during initial design and project permitting, 90% for projects prior to construction, and based on construction and as-built reports for existing structures. Re: 4.1.3.3.b, independent review required only for facilities identified as high-consequence as per 4.1.3.3.c. Re: 4.1.3.3.c, facility classification should be performed consistent with applicable regulatory requirements. However, if they are not similar to or consistent with various recognized guidelines for example, Australian National Committee on

[492] Golder Associates. 2011. Guidance Document on Water and Mass Balance Models for the Mining Industry. (Report submitted to Yukon Government) http://www.env.gov.yk.ca/publications-maps/documents/mine_water_balance.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
tailings and waste rock or other facilities subject to stability concerns; g. Master tailings placement plan (based on life of mine); h. Internal and external inspection reports and audits), including, if applicable, an annual dam safety inspection report; i. Facility water balances (See also 4.1.3.2.d); and j. Dam breach inundation (if applicable) and waste rock dump runout analyses.	be similar to or consistent with various recognized guidelines such as, for example, ANCOLD (2012 [493], [494]), CDA (2014) [495] or similar recognized documents prepared by ICOLD[496] or its member national organizations. **For 4.1.3.3.d:** Review documentation such as memoranda from the Engineer of Record (EoR) to the company, which should summarize critical design, operating and mine closure criteria for facility and be signed off by the EoR. **For 4.1.3.3.e:** Review documentation. Design report(s) should include all appendices and other supporting information and signed off by the EoR. **For 4.1.3.3.f and g:** Review deposition plans to determine if there are stability concerns or other physical risks posed by materials placement, and ensure there is sufficient capacity remaining for waste deposition and water management over the life of mine. **For 4.1.3.3.h:** Review internal and external inspection reports, such as reports from the Engineer of Record,		Large Dams (ANCOLD, 2012),[497, 498] Canadian Dam Association (CDA, 2014)[499] or similar recognized documents prepared by the International Commission on Large Dams (ICOLD)[500] or its member national organizations, then the operator should have an independent classification performed consistent with these requirements. Re: 4.1.3.3.d, facility design criteria should be identified as a section and/or table in the detailed engineering reports/design reports, and be signed off by the Engineer of Record (EoR). Re: 4.1.3.3.e, detailed engineering reports are the same as design reports in 4.1.3.3.a. (requirement duplicative, will be removed in next version). Re: 4.1.3.3.f, short-term means one to two years in the future and long-term means life-of-facility. Short-term plans should include quarterly placement schedule and long-term plans should include yearly schedule. Re: 4.1.3.4.g, master tailings placement plan is the same as a long-term plan as per 4.1.3.3.f. (requirement duplicative, will be removed in next version). Re: 4.1.3.3.h, all high-consequence facilities require regular (daily, weekly, monthly, quarterly) inspections by the

[493] Australian National Committee on Large Dams (ANCOLD). May 2012. Guidelines on Tailings Dams; Planning, Design, Construction, Operation, and Closure. Available at: https://www.ancold.org.au/?page_id=334

[494] Australian National Committee on Large Dams (ANCOLD). October 2012. Guidelines on the Consequence Categories for Dams. Available at: https://www.ancold.org.au/?page_id=334

[495] Canadian Dam Association. Dam Safety Guidelines. 2007. See also, Application of Dam Safety Guidelines to Mining Dams. 2014. Both publications available at: www.imis100ca1.ca/cda/Main/Publications/Dam_Safety/CDA/Publications_Pages/Dam_Safety.aspx?hkey=52124537-9256-4c4b-93b2-bd971ed7f425

[496] The International Commission on Large Dams (ICOLD). See www.icold-cigb.net for more information on over 200 technical publications.

[497] Australian National Committee on Large Dams (ANCOLD). May 2012. Guidelines on Tailings Dams; Planning, Design, Construction, Operation, and Closure. Available at: https://www.ancold.org.au/?page_id=334

[498] Australian National Committee on Large Dams (ANCOLD). October 2012. Guidelines on the Consequence Categories for Dams. Available at: https://www.ancold.org.au/?page_id=334

[499] Canadian Dam Association. Dam Safety Guidelines. 2007. See also, Application of Dam Safety Guidelines to Mining Dams. 2014. Both publications available at: www.imis100ca1.ca/cda/Main/Publications/Dam_Safety/CDA/Publications_Pages/Dam_Safety.aspx?hkey=52124537-9256-4c4b-93b2-bd971ed7f425

[500] The International Commission on Large Dams (ICOLD). See www.icold-cigb.net for more information on over 200 technical publications.

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	internal audits, regulatory inspection reports and external inspections/audits. **For 4.1.3.3.i:** Review facility water balances (see 4.1.3.2.d), which may contain information that can elucidate physical and capacity or containment risks, e.g., what levels of precipitation may cause impoundments to overtop and weaken structural stability. **For 4.1.3.3. j:** Confirm that dam breach inundation (if there are any dams associated with the mining project) and waste rock dump runout analyses have been carried out to identify potential consequences or hazard posed by such structures.		operators consistent with their operations, maintenance and surveillance manuals, an annual dam safety inspection report by the Engineer of Record, and independent review/inspections every 3-5 years or similar as per ANCOLD, CDA, or similar. (See references in 4.1.3.3.c) Re: 4.1.3.3.i, facility water balances should indicate critical indicators such as allowable pool volume and level and take into account appropriate probable maximum flood criteria. Re: 4.1.3.3.j, all high-consequence facilities will include a breach inundation and/or runout analysis and it should be applied to an Emergency Preparedness Plan (EPP) or Emergency Response Plan (ERP), addressed in IRMA Chapter 2.5. For example, an operating tailings storage facility (TSF) should include a breach inundation analysis, and a closed TSF no longer containing water, or a waste rock pile considered to be high-consequence, should include a run-out analysis. A breach analysis should be performed consistent with applicable regulations or in the absence of regulations current best practice as identified by Bernedo (2013).[501]
4.1.3.4. Facility characterizations shall be updated periodically to inform waste management and reclamation decisions throughout the mine life cycle.[502]	**For 4.1.3.4:** Confirm that facility characterizations have been updated annually or at a frequency commensurate with the risk profile of the facility.	**For 4.1.3.4:** • Updated design or facility reports. Updated information on site geology, hydrogeology, hydrology. • Updated characterization of mined materials/wastes. • Updated conceptual models. • Updated facility water balance and	Explanatory Note for 4.1.3.4: Initial facility characterizations are based on qualitative and quantitative data that have been collected by the operating company. When new physical, hydrological or geochemical data are collected, or facility monitoring provides information that suggests that previous assumptions / characterizations are no longer valid, or there are changes in the mining project that affect mine waste facilities (e.g., there are changes in waste management practices, changes to materials being disposed, changes in

[501] Bernedo, C. 2013. "Predictive Models and Available Software," Presentation at USSD Workshop on Dam Break Analysis Applied to Tailings Dams. https://docplayer.net/14116454-Ussd-workshop-on-dam-break-analysis-applied-to-tailings-dams.html

[502] See also IRMA Chapter 2.6—Planning and Financing Reclamation and Closure, 2.6.2.2.c, g, and l.

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		chemical mass balance models/reports. • Modifications or revisions to operation and/or reclamation Plans.	site water management that may affect facility water balance, etc.) the operating company should update the facility's physical, hydrological or geochemical characterizations. Updates to facility characterization information should feed into updates to facility designs, operating plans and/or reclamation plans or reports. Updates to facility characterization information may also be used to update permits and/or financial assurance estimates, typically conducted every 3-5 years. See also IRMA Chapter 2.6—Planning and Financing Reclamation and Closure, 2.6.2.2.c, g, and l.
4.1.3.5. Use of predictive tools and models for mine waste facility characterization shall be consistent with current industry best practice, and shall be continually revised and updated over the life of the mine as site characterization data and operational monitoring data are collected.	For 4.1.3.5: Confirm that the operating company can cite sources and provide rationale for how the models and predictive tools are scientifically robust and consistent with those widely accepted by industry and competent professionals (e.g., academics, government scientists) as the best practices or tools to be using for the given purpose. Models and facility water balances should be calibrated prior to updating characterizations. (See Detailed Explanatory Notes for more guidance on best practices)	For 4.1.3.5: • Updated design or facility reports. • Updated information on site geology, hydrogeology, hydrology. • Documented methods for characterizing mined material/wastes; methods for developing conceptual models; methods for calculating water balance and chemical mass balance models. • Updated characterization of mined materials/wastes (e.g., detailed geochemical study that contains raw data from the testing, and interpretation of the data; results from numerical geochemical models). • Updated conceptual models. • Updated facility water balance and chemical mass balance models/reports.	Explanatory Note for 4.1.3.5: Any tools and models used in providing the information in Sections 4.1.3.2 and 4.1.3.3 should be consistent with current industry best practice as described in the notes for those sections. Also, predictive tools and models should be updated if new data on physical, hydrological or geochemistry has been collected, or if monitoring suggests that the assumptions used in predictive tools and models are no longer valid. Models should also be updated if there are changes in the mining project that affect mine waste facilities (e.g., there are changes in waste management practices, changes to materials being disposed, changes in site water management that may affect facility water balance, etc.).
4.1.4. Waste Facility Assessment	For 4.1.4.1: Confirm that the operating company has carried out a risk assessment for each facility that	For 4.1.4.1:	Explanatory Note for 4.1.4.1.a: The "project conception and planning phase" begins at the outset of planning of a

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4.1.4.1. (Critical Requirement) A risk-based approach to mine waste assessment and management shall be implemented that includes: a. Identification of potential chemical risks (see 4.1.3.2 f) and physical risks (see 4.1.3.3) during the project conception and planning phase of the mine life cycle; b. A rigorous risk assessment to evaluate the potential impacts of mine waste facilities on health, safety, environment and communities early in the life cycle; c. Updating of risk assessments at a frequency commensurate with each facility's risk profile, over the course of the facility's life cycle; and d. Documented risk assessment reports, updated when risks assessments are revised (as per 4.1.4.1.c).	documents the potential chemical and physical risks and potential impacts on health, safety, environment and communities; that this has been done early in the life cycle, and has been updated over the course of the facility's life. Updates should always occur if there are mine waste management practices that affect facility operation or capacity; or if there are proposed expansions or changes to facility design.	• Risk assessment documents.	proposed mine, and is integrated with conception and planning for the overall site, including the mine plan and plans for ore processing. General steps include: Opportunity, Concept, Pre-Feasibility, Feasibility, and Detailed engineering. The remainder of the mine life cycle includes phases such as: Design; Initial Construction; Ramp-up, Operations and Ongoing Construction; Standby Care and Maintenance; Mine Closure; and Post-Closure.[503] Re: 4.1.4.1.b, risk assessment and management should take into account physical and chemicals risks posed by mine waste facilities; environmental risks such as earthquakes, landslides or avalanches, which could impact facilities; short- and long-term risks related to climate change; and other risks external to the operating company and the facility, including regulatory and permitting risks, e.g., not obtaining permits in a timely manner, or permits that are not aligned with the design intent of the facility.[504] During risk assessments consideration should be given to what might be the potential cumulative impacts from the identified risks, and how different proposed mitigation measures might decrease the cumulative impacts. When mine waste facilities are located near national borders or coastlines, the potential for causing transboundary impacts should also be considered. Re: 4.1.4.1.c, risk assessments should be completed as frequently as required to meet the tailings management objectives established for any given facility. The acceptable level of risk should be defined in the context of the facility and for its specific life phase, taking into account the likelihood and consequence of catastrophic failure, and

[503] Mining Association of Canada. 2017. A Guide to the Management of Tailings Facilities (Third Ed). p. 37. http://mining.ca/documents/guide-management-tailings-facilities-third-edition

[504] Ibid. p. 18.

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			perspectives of the owner, regulators and communities of interest.[505]
4.1.4.2. The operating company shall carry out and document an alternatives assessment to inform mine waste facility siting and selection of waste management practices. The assessment shall: a. Identify minimum specifications and performance objectives for facility performance throughout the mine life cycle, including mine closure objectives and post-closure land and water uses; b. Identify possible alternatives for siting and managing mine wastes, avoiding a priori judgements about the alternatives; c. Carry out a screening or "fatal flaw" analysis to eliminate alternatives that fail to meet minimum specifications; d. Assess remaining alternatives using a rigorous, transparent decision-making tool such as Multiple Accounts Analysis (MAA) or its equivalent, which takes into account environmental,	Auditing Note for 4.1.4.2: It may be useful for auditors to review the recommendations of MAC 2017 Appendix 3: Assessment of Alternatives, to understand how to recognize the various components in an Alternatives Assessment.[506] For 4.1.4.2: Confirm, through review of company documentation and interviews with company that, that as per MAC guidance, the alternatives assessment includes: • Identification of performance objectives, describing how the facility is expected to perform throughout the entire life cycle, including the long-term mine closure objectives and post-closure land use. • Identification of possible (i.e., reasonable, conceivable, and realistic) alternatives, ensuring none have been avoided due to a priori (i.e., preconceived) judgments or biases about the alternatives. All reasonable alternatives should be given due consideration. • A screening of possible alternatives to eliminate from further consideration any alternatives that do not meet the performance objectives or that otherwise have characteristics that would be "show-stoppers". This step is also referred to as fatal-flaw analysis. Stakeholders need to be engaged in this	For 4.1.4.2: • Alternatives assessments (these may be as standalone report(s), or perhaps as part of a larger study like an ESIA).	Explanatory Note for 4.1.4.2: Re: 4.1.4.2.a, an alternatives assessment is a process to identify and objectively and rigorously assess the potential impacts and benefits (including environmental, technical and socio-economic aspects) of different options so that an informed decision can be made.[508] For the purposes of this chapter, the alternatives assessment evaluates different options for locating (siting and layout) tailings and other mine waste facilities, and informs the site-specific best available technologies (BAT) and best available/applicable practices (BAP) for designing facilities and managing wastes throughout the mine life cycle.[509] Re: 4.1.4.2.b, alternatives assessments should identify all possible (i.e., reasonable, conceivable, and realistic) mine waste facility locations, disposal technologies, waste storage options and disposal locations. As described by Environment Canada and the Mining Association of Canada, at this early stage it is imperative that no a priori judgments be made about any of the alternatives. (Environmental Canada, 2016; MAC, 2017, p. 46) The government of British Columbia, in the wake of the Mt. Polley tailings dam failure, developed the following guidance (Government of BC, 2016, pp. 12, 13), which IRMA strongly recommends companies utilize when assessing options for

[505] Ibid.

[506] ibid.

[508] Adapted from Environment Canada. 2016. Guidelines for the Assessment of Alternatives for Mine Waste Disposal. https://www.canada.ca/en/environment-climate-change/services/managing-pollution/publications/guidelines-alternatives-mine-waste-disposal/chapter-2.html and Mining Association of Canada. 2017. Guide to the Management of Tailings Facilities, p. 46. http://mining.ca/sites/default/files/documents/MAC-Guide-to-the-Management-of-Tailings-Facilities-2017.pdf.

[509] Mining Association of Canada (MAC). 2017. A Guide to the Management of Tailings Facilities (3rd Ed). http://mining.ca/documents/guide-management-tailings-facilities-third-edition

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technical, socio-economic and project economics considerations, inclusive of risk levels and hazard evaluations, associated with each alternative; e. Include a sensitivity analysis to reduce potential that biases will influence the selection of final site locations and waste management practices; and f. Be repeated, as necessary, throughout the mine life cycle (e.g., if there is a mine expansion or a lease extension that will affect mine waste management).	exercise (see 4.1.6.1, below) and independent experts should review this information (See 4.1.5.1) • Assessment of remaining alternatives should take place using multiple accounts analysis or a similar decision-making tool.[507] Stakeholders need to be engaged in this exercise (see 4.1.6.1, below) and independent experts should review this information (See 4.1.5.1). • A sensitivity analysis must be undertaken to test the robustness and validity of the outcomes of the detailed assessment of alternatives against various biases and assumptions. • Results should be documented in a comprehensive technical report. The alternatives assessment should be repeated if there is a need to move or expand an existing facility, or to develop a new mine waste facility. Also, if major changes to existing waste management practices are proposed.		mine waste management in order to protect human health, safety and the environment: • Physical stability is of paramount importance, and options that require a compromise to physical stability should be discarded, • Facilities should be chemically and biologically stable, or be designed to mitigate transport of contaminants into the receiving environment, • Footprint areas of the facility should be minimized, • In-pit or underground backfill should be maximized, • Impacts to receiving environments should be minimized, • Post-closure land use objectives should be defined, including ecosystems support and productive uses for future generations where possible, • All available technologies should be considered, • Efforts to reduce and remove water from containment within tailings facilities should be made, • Alternatives to water covers should be considered in planning stages. Re: 4.1.4.2.c, the purpose of screening is to eliminate alternatives with "fatal flaws" from further consideration and develop a short list of alternatives for more detailed assessment. Re: 4.1.4.2.d, Multiple accounts analysis (MAA) is a tool that is used to support decision-making related to the tailings planning and design process. For more information on Multiple Accounts Analysis, see MAC Tailings Guide, 2017, Appendix 3.[510]

[507] For more information, see Mining Association of Canada. 2017. Guide to the Management of Tailings Facilities (3rd Ed). "Multiple Accounts Analysis", p. 47. http://mining.ca/sites/default/files/documents/MAC-Guide-to-the-Management-of-Tailings-Facilities-2017.pdf; and also Environment and Climate Change Canada, 2013, Guidelines for the Assessment of Alternatives for Mine Waste Disposal. http://www.mae.gov.nl.ca/env_assessment/projects/Y2016/1851/1851_nov2_draft%20eis_guidelines_app_b.pdf

[510] Mining Association of Canada (MAC). 2017. A Guide to the Management of Tailings Facilities (3rd Ed). http://mining.ca/documents/guide-management-tailings-facilities-third-edition

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			Note that "project economics" must include not only capital and operating costs over life of mine but also closure and post-closure costs. Re: 4.1.4.2.e, any decision-making process is subject to bias and subjectivity. The goal of sensitivity analysis is to transparently manage bias and subjectivity to the point where an external reviewer would agree that the decision is justifiable and reasonable, irrespective of their own value system.[511]
4.1.5. Mitigation of Risks and Management of Mine Waste Management Facilities 4.1.5.1. (Critical Requirement) Mine waste facility design and mitigation of identified risks shall be consistent with best available technologies (BAT) and best available/applicable practices (BAP).	Auditing Note for 4.1.5.1: Auditors should also be familiar with current industry best practices related to the management of wastes including tailings, waste rock, heap leaches, MIW, etc. (More information will be provided in Detailed Explanatory Notes) **For 4.1.5.1:** Confirm that the company can provide evidence that it is employing BAT & BAP in the management of tailings and other mine waste facilities that could pose a significant risk to human safety and the environment.	**For 4.1.5.1:** • Documentation of methods followed or guidance/approach used to determine the appropriate level of risk for the design of each waste facility. • Documentation of methods followed or guidance/approach used to determine the BAT/BAP to mitigate identified risks.	Explanatory Note for 4.1.5.1: Mining companies or organizations or governments across the world may have developed internal standards or guidelines that are similar in nature, or aligned with BAP in this area, and adherence to these is acceptable as long as best practice is implemented. Re: BAT, there are several reference documents that contain useful information including, for example: European Commission (2009)[512] and MEND (2017).[513] Best industry design criteria have been used for tailings dams and other structures that may be subject to catastrophic failures, and that the criteria have been designed to prevent catastrophic events during operations and post-closure. Examples of industry accepted quality guidelines include ANCOLD,[514] CDA,[515] or equivalent.

[511] Environment Canada. 2016. Guidelines for the Assessment of Alternatives for Mine Waste Disposal. https://www.canada.ca/en/environment-climate-change/services/managing-pollution/publications/guidelines-alternatives-mine-waste-disposal/chapter-2.html

[512] European Commission. 2009. Reference Document on Best Available Techniques for the Management of Tailings and Waste-Rock in Mining activities. http://eippcb.jrc.ec.europa.eu/reference/BREF/mmr_adopted_0109.pdf

[513] MEND Secretariat. 2017. Study of Tailings Management Technologies. Mine Environment Neutral Drainage (MEND) Project Report 2.50.1. Prepared by Klohn Crippen Berger. http://mend-nedem.org/wp-content/uploads/2.50.1Tailings_Management_TechnologiesL.pdf

[514] Australian National Committee on Large Dams (ANCOLD). Visit www.ancold.org.au.

[515] Canadian Dam Association. Dam Safety Guidelines. 2007. See also, Application of Dam Safety Guidelines to Mining Dams. 2014. Both publications are available at: www.imis100ca1.ca/cda/Main/Publications/Dam_Safety/CDA/Publications_Pages/Dam_Safety.aspx?hkey=52124537-9256-4c4b-93b2-bd971ed7f425

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4.1.5.2. Mitigation of chemical risks related to mine waste facilities shall align with the mitigation hierarchy as follows: a. Priority shall be given to source control measures to prevent generation of contaminants; b. Where source control measures are not practicable or effective, migration control measures shall be implemented to prevent or minimize the movement of contaminants to where they can cause harm; and c. If necessary, MIW shall be captured and treated to remove contaminants before water is returned to the environment or used for other purposes.	**For 4.1.5.2:** Confirm that the operating company has applied mitigation measures for chemical risks (i.e., risk of contamination from mine waste facilities) in a manner that aligns with the mitigation hierarchy.	**For 4.1.5.2:** • Documentation of mitigation strategies implemented, over time, at each waste management facilities.	Explanatory Note for 4.1.5.2: The mitigation hierarchy prioritizes avoidance or prevention of impacts, and if that is not technically feasible or practicable then moves to minimization of impacts, then restoration/rehabilitation of impacted areas, and finally, if impacts remain, requires compensation, or offsetting, for ecological impacts. (See full definition of mitigation hierarchy for more information) Source control is given priority because it combines efforts to prevent the formation of contamination (e.g., measures to prevent sulfur oxidation and generation of acid rock drainage) and formation and migration of leachate. Source control typically involves the use of chemical mitigation such as neutralizing agents and more commonly geosynthetic liners and covers and/or store and release soil covers to prevent oxygen and and meteoric water infiltration. Migration control does not stop contaminant generation, but aims to minimize the impacts on the environment by physically containing contaminants (e.g., using a pumpback system). Capture and treatment is also a method to minimize impacts on the environment by capturing and removing pollutants from contaminated waters. The lower tiers of the mitigation hierarchy, i.e., restoration or rehabilitation of impacted areas and compensation for residual impacts are not explicitly required here. Mines that have impacts requiring restoration/rehabilitation and/or compensation for residual impacts should refer to the requirements in other IRMA chapters (e.g,. Chapters 2.6, 4.2 and 4.6). Re: 4.1.5.2.c, it may not always be necessary to treat mining impacted waters (MIW) prior to re-use. For example, recycling of MIW for use in ore processing may not require any treatment.

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4.1.5.3. For high-consequence rated mine waste facilities, a critical controls framework shall be developed that aligns with a generally accepted industry framework, such as, for example, the process outlined in Mining Association of Canada's Tailings Management Guide.[516]	For 4.1.5.3: Confirm that critical controls framework includes: identification of facilities high-consequence ratings (see 4.1.4.1), and their plausible failure modes (i.e., how unwanted events might happen, e.g., by overtopping of a dam); development of actions designed to manage high-consequence risks; implementation of actions; identification of measurable performance indicators and surveillance requirements; and performance monitoring. Confirm that performance monitoring (internal, external or preferably both) has occurred and that the controls are being effective, or, if not effective that the framework has been revised to improve its effectiveness.	For 4.1.5.3: • Documentation (e.g., report or memo) of the high-consequence analysis by a professional engineer or similarly qualified person using an appropriate hazard classification system. • Documentation of critical controls framework for each high-consequence facility (e.g., may be found in Operation, Monitoring and Surveillance (OMS) Manual or other document). • Emergency Prevention/Emergency Response Plan. • Inundation analysis.	Explanatory Note for 4.1.5.3: A critical controls framework should be developed for all mine waste facilities that have a high-consequence rating (see 4.1.3.3.c for a related requirement). These ratings should be based on the consequences of unwanted events or failures, as opposed to the risk (i.e., probability is ignored in the development of the consequence rating). Mine waste facilities with a high consequence rating would include those where the consequences of unwanted events or potential catastrophic failures could lead to unacceptable short or long-term impacts on human health, safety, environmental resources or cultural resources, or lead to economic losses for communities and financial and/or reputational damage to companies (e.g., a tailings facility where a breach could result in loss of life and property; a water treatment facility that could cause fish kills if unwanted releases of contaminated water were to occur, or that could affect the environment and water supplies in perpetuity If funding to operate the facility was to cease, etc.). The Mining Association of Canada's (MAC) Guide to the Management of Tailings Facilities says that processes for management of critical controls should be implemented, the key elements of which are as follows:[517] • Identify risk controls associated with potential failure modes and causes; • Identify those risk controls deemed to be critical on an owner or facility-specific basis; • Appoint a "risk owner" and "critical control owner" for that risk; • Define the critical controls and their performance criteria, measurable performance indicators, and

[516] Mining Association of Canada. 2017. A Guide to the Management of Tailings Facilities (Third Ed). Section 4.4.3. http://mining.ca/documents/guide-management-tailings-facilities-third-edition

[517] Mining Association of Canada. 2017. A Guide to the Management of Tailings Facilities (Third Ed). p. 24. http://mining.ca/documents/guide-management-tailings-facilities-third-edition

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			surveillance requirements; • Identify pre-defined actions to be executed if control is lost; • Verify execution of critical controls by the critical control owner or designate, at a frequency commensurate with the frequency of control execution; • Report deficiencies in critical controls to the Responsible Person(s) and, where appropriate, the Accountable Executive Officer, and identify actions to address those deficiencies; • Track implementation of actions to address critical control deficiencies, and report to the Responsible Person(s) and, where appropriate, the Accountable Executive Officer; and • Periodically review and update risk controls and critical controls, based on updated risk assessments, risk management plans, and past performance.
4.1.5.4. Mine waste management strategies shall be developed in an interdisciplinary and interdepartmental manner and be informed by site-specific characteristics, modeling and other relevant information.	Auditing Note for 4.1.5.4: The auditor should be familiar with the recommendations of INAP 2009 Chapter 4 and Figure 4-1, which shows the integration of the processes and Table 4-2 Characterization Activities by Mine Phase. The approach taken for environmental and community health and safety protections by the operating company should recognize and use information in a highly similar manner. For 4.1.5.4. Confirm through review of company documentation and interviews with operating company that the development of waste management strategies has followed an interdisciplinary approach. (See Explanatory Notes for more information)	For 4.1.5.4: • Documentation of meetings or correspondence (e.g., meeting attendee lists, interdepartmental memos/reports) involving personnel from various disciplines and departments. • Operation, Monitoring and Surveillance (OMS) Manual or equivalent. • See also examples of evidence from 4.1.3, 4.1.4 and 4.1.5.	Explanatory Note for 4.1.5.4: "Interdisciplinary" in this context means that mine waste management strategies may need the input and interaction of personnel with different expertise, such as geochemists, hydrogeologists, hydrologists, and geotechnical experts. For example, hydrogeological modeling can provide critical information on the necessity for different approaches to waste management (e.g., whether or not acid generation/metals leaching will occur). "Interdepartmental" in this context means that development of mine waste management strategies may need the input and interaction of several relevant business or operational departments or unit at the mine site (e.g., those responsible for ore processing will need to be involved, at least for some aspects of the risk management strategies. Also, if mine water is managed with tailings, then those responsible for ore extraction operations my also need to be involved).

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			It is assumed that if operating company has carried out facility-specific source material characterization, developed facility-specific conceptual models and water and chemistry mass balances, evaluated physical risks posed by each facility, and carried out risk assessments for each relevant mine waste facility.
4.1.5.5. The operating company shall develop an Operation, Maintenance and Surveillance (OMS) manual (or its equivalent) aligned with the performance objectives, risk management strategies, critical controls and closure plan for the facility, that includes: a. An operations plan that documents practices that will be used to transport and contain wastes, and, if applicable, effluents, residues, and process waters, including recycling of process waters;[518] b. A documented maintenance program that includes routine, predictive and event-driven maintenance to ensure that all relevant parameters (e.g., all civil, mechanical, electrical and instrumentation components of a	Auditing Note for 4.1.5.5: See Detailed Explanatory Notes for more guidance on the Operation, Maintenance and Surveillance (OMS) manual. **For 4.1.5.5.a:** Confirm that an operations plan has been developed for each mine waste facility that includes practices for the transport, containment and, if applicable, recycling of wastes. **For 4.1.5.5.b:** Confirm that a maintenance program is in place to ensure that relevant parameters are maintained, including (if present), but not limited to the following: site access; ditch, spillway and drop structure capacity; support structure integrity; equipment availability and reliability; pipeline wear and thickness criteria; minimum tailings line thickness and associated requirements; process and surveillance instrumentation controls; switches, interlocks and meters; erosion; vegetation; design economic life. **For 4.1.5.5.c:** Confirm that a monitoring and surveillance plan is in place[519] and documented in OMS manual. Surveillance could include, but is not limited to:	**For 4.1.5.5:** • Operation, Monitoring and Surveillance (OMS) Manual or equivalent.	Explanatory Note for 4.1.5.5: Re: 4.1.5.5.a, some of the water-related issues may be covered in the adaptive management plan for water (or its equivalent) as per IRMA Chapter 4.2 (see requirement 4.2.4.4). The general requirements for an Operation, Maintenance and Surveillance (OMS) manual are provided by the Mining Association of Canada (MAC, 2011).[520] MAC is currently revising this guidance and the new guidance when published should be used.

[518] Some of the water-related issues may be covered in the Adaptive Management Plan for water (or its equivalent) as per IRMA Chapter 4.2 (see requirement 4.2.4.4).

[519] For more information, see Mining Association of Canada. 2011. *Developing an Operation, Maintenance and Surveillance Manual for Tailings and Water Management Facilities*. Note: updates to the 2011 version of the OMS Manual are in progress. http://mining.ca/oms-guide

[520] Mining Association of Canada (MAC). 2011. Developing an Operation, Maintenance and Surveillance Manual for Tailings and Water Management Facilities. http://mining.ca/sites/default/files/documents/DevelopinganOMSManualforTailingsandWaterManagementFacilities2011.pdf

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mine waste facility) are maintained in accordance with performance criteria, company standards, host country law and sound operating practices; c. A surveillance program that addresses surveillance needs associated with the risk management plan and critical controls management, and includes inspection and monitoring of the operation, physical and chemical integrity and stability, and safety of mine waste facilities, and a qualitative and quantitative comparison of actual to expected behavior of each facility; d. Documentation of facility-specific performance measures as indicators of effectiveness of mine waste management actions; and e. Documentation of risk controls and critical controls (see also 4.1.5.3), associated performance criteria and indicators, and descriptions of pre-defined actions to be taken if performance criteria are not met or control is lost.	• Visual indicators, such as cracks, slumps, seepage or anomalous vegetation, dead or ill birds, wildlife or livestock in or near facilities, and actions that should be taken if those indicators are observed. • Criteria for special event-driven inspections and actions, such as first filling, earthquakes, extreme precipitation events, floods, operational upsets. • Instrumentation to monitor facility behavior in comparison to performance criteria • Periodic facility inspections and review of data • Periodic reviews/audits of the surveillance program Determine if mortalities of migratory birds, local birds or wildlife, or livestock have been documented. If so, confirm that the operating company has revised its mitigation approaches in an effort to prevent future mortalities. **For 4.1.5.5.d:** Confirm that technical performance indicators and maintenance indicators have been developed. **For 4.1.5.5.e:** Confirm that pre-defined actions have been defined for steps that will be taken if performance indicators are not met, or if controls are not effective at the mine waste facilities.		
4.1.5.6. (Critical Requirement) On a regular basis, the operating company shall evaluate the	**For 4.1.5.6:** Confirm that a process is in place to regularly evaluate the performance of mine waste facilities, and that the results from these evaluations	**For 4.1.5.6:** • Documentation (e.g., reports and/or memos documenting evaluations) of regular internal and/or external	Explanatory Note for 4.1.5.6: Re: on a regular basis: "Performance evaluation occurs at various timescales, from hourly or daily, to annual or more, depending on the aspect

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performance of mine waste facilities to: a. Assess whether performance objectives are being met (see 4.1.4.2.a and 4.1.4.5.c); b. Assess the effectiveness of risk management measures, including critical controls (see 4.1.4.5.e); c. Inform updates to the risk management process, (see 4.1.4.1.c) and the OMS (see 4.1.4.7); and d. Inform the management review to facilitate continual improvement (see 4.1.4.8).	feed into the updates to the risk management process, the OMS and management reviews.	performance evaluations.	of performance being evaluated."[521] Performance evaluations related to high risk facilities should occur at least once per year, although for some performance objectives related to these facilities evaluations may need to be more frequent. Re 4.1.5.6.a, performance objectives and measurable indicators should be documented in the Operation, Maintenance and Surveillance (OMS) manual or an equivalent document that outlines mine waste management plans and actions. According the Mining Association of Canada, "The OMS manual documents facility-specific performance measures as indicators of progress on management actions and objectives. These measures include technical performance indicators as well as indicators tied to management actions, including maintenance activities."[522] Performance criteria, measurable indicators and surveillance requirements should be developed for all risk management measures (e.g., risk controls and critical controls).[523] Re: 4.1.5.6.b, typically the determination of whether or not mine waste facilities are being effectively operated or maintained is made as a result of internal surveillance (e.g., inspections and monitoring), or external input (e.g., regulatory inspections). According to the Mining Association of Canada, "Surveillance involves inspection and monitoring of the operation, structural integrity and safety of a facility. It consists of both qualitative and quantitative comparison of actual to expected behaviour. Regular review of surveillance information can provide an early indication of performance

[521] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. p. 34. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

[522] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. p. 25. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

[523] Ibid. pp. 24, 25.

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			trends that, although within specification, warrant further evaluation or action."[524] Re 4.1.5.6.c, updates to the risk management process include updates to the risk assessments (as per 4.1.4.1.c) and the Operation, Maintenance and Surveillance manual (as per 4.1.5.7). If current risk management measures and controls are not effectively minimizing risks associated with mine waste facilities (e.g., if physical or chemical risks such as instability, unanticipated seeps from wastes, overtopping of impoundments, etc. are present despite mitigation measures) then there may be the need to carry out additional risk assessment and/or revise management strategies in the OMS.
4.1.5.7. The OMS manual shall be updated and new or revised risk and critical control strategies implemented if information reveals that mine waste facilities are not being effectively operated or maintained in a manner that protects human health and safety, and prevents or otherwise minimizes harm to the environment and communities.	For 4.1.5.7: Determine if mitigation strategies are being effective at preventing impacts on human health, safety and environment. For example, determine if monitoring or surveillance have uncovered any problems, or if any deviations from performance criteria for facilities have been experienced as per 4.1.4.5.b. (e.g., tailings characteristics do not meet design specifications). If there is any indication that management strategies are not being entirely effective or that operational conditions have changed, confirm that the strategies/risk controls/critical controls have been revised and updated as necessary. Monitoring and surveillance plans may also need to be revisited.	For 4.1.5.7: • Company and regulatory inspection reports. • Maintenance reports. • Corrective action plans. • OMS, and revisions to the manual. • Records of worker grievances related to the management of mine waste facilities.	Explanatory Note for 4.1.5.7: As mentioned in the notes for 4.1.5.6, typically the determination of whether or not mine waste facilities are being effectively operated or maintained is made as a result of internal surveillance (e.g., inspections and monitoring), or external input (e.g., regulatory inspections). According to the Mining Association of Canada (MAC): "Surveillance involves inspection and monitoring of the operation, structural integrity and safety of a facility. It consists of both qualitative and quantitative comparison of actual to expected behaviour. Regular review of surveillance information can provide an early indication of performance trends that, although within specification, warrant further evaluation or action."[525]

[524] Mining Association of Canada (MAC). 2011. Developing an Operation, Maintenance and Surveillance Manual for Tailings and Water Management Facilities. Section 7-1. http://mining.ca/sites/default/files/documents/DevelopinganOMSManualforTailingsandWaterManagementFacilities2011.pdf

[525] Mining Association of Canada (MAC). 2011. Developing an Operation, Maintenance and Surveillance Manual for Tailings and Water Management Facilities. Section 7-1. http://mining.ca/sites/default/files/documents/DevelopinganOMSManualforTailingsandWaterManagementFacilities2011.pdf

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			For example, performance or stability of a waste facility may be affected if tailings characteristics begin to deviate from design specifications. In addition to looking for deviations from expected behavior, the operating company should have developed actual performance criteria or indicators for mine waste facilities. According to MAC: "The OMS manual documents facility-specific performance measures as indicators of progress on management actions and objectives. These measures include technical performance indicators as well as indicators tied to management actions, including maintenance activities."[526] If, through surveillance or some other means (e.g., input from government inspectors, grievances from workers or stakeholders) a company becomes aware that it is not meeting its performance criteria or objectives, the company would be expected to develop new or revised risk controls and critical control strategies. Mines that suggest no evidence of operational or maintenance issues would be considered exceptional. In most cases mines will have some history of these issues and should be able to demonstrate how changes were implemented to address them.
4.1.5.8. The operating company shall implement an annual management review to facilitate continual improvement of tailings storage facilities and all other mine waste facilities where the potential exists for contamination or catastrophic failure that could impact human health,	For 4.1.5.8: Confirm that annual reviews of tailings storage facilities and/or other mine waste facilities where the potential exists for catastrophic failure resulting impacts on human health, safety, the environment or communities, have been subject to an annual review. Confirm that the review aligned with the MAC Tailings Protocol, and that the review was	For 4.1.5.8: • Annual Management Review report or other documentation. • Records showing that an accountable executive officer has received a report on the annual management review of relevant mine waste management	Explanatory Note for 4.1.5.8: Re: 4.1.5.8.a, the review should align with the Mining Association of Canada's (MAC) Tailings Management Protocol (indicator 4) and Guide to the Management of Tailings Facilities, i.e., "Guide" (Section 7). See also the MAC Tailings Management Protocol Table of Conformance for more information on steps in the review process.[528]

[526] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. p. 25. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

[528] In particular, see MAC Draft Tailings Management Table of Conformance (June 2017) or any final version, for the steps that should take place in the annual management review.

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safety, the environment or communities. The review shall: a. Align with the steps outlined in the Mining Association of Canada's Tailings Management Protocol[527] or a similar framework; and b. Be documented, and the results reported to an accountable executive officer.	documented and results reported to an accountable executive officer.	facilities. (e.g., meeting minutes, signature or correspondence indicating that the report has been received).	Although the MAC protocol and guidance are specific to tailings facilities, IRMA expects that a similar review would take place for any mine waste facility where the potential exists for contamination or catastrophic failure that could impact human health, safety or the environment. According to the MAC Guide: "the management review should identify and evaluate the potential significance of changes since the previous management review that are relevant to the tailings management system, including: • Changes to regulatory requirements, standards and guidance, industry best practice, and commitments to communities of interest; • Changes in mine operating conditions (e.g., production rate) or site environmental conditions; • Changes outside the mine property that may influence the nature and significance of potential impacts resulting from the tailings facility on the external environment or vice versa; and • Changes in the risk profile of the tailings facility. The management review should also provide a summary of significant issues related to the overall performance of the tailings facility and tailings management system, updated since the previous management review."[529] Re: 4.1.5.8.b, according to the MAC Guide "the management review for continual improvement is reported to the Accountable Executive Officer to ensure that the Owner is satisfied that the tailings management system is effective and continues to meet the needs of the facility."[530]

[527] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

[529] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. Section 7. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

[530] Ibid.

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			An accountable executive officer is someone designated by the company's Board of Directors or other governance body to be responsible for tailings management. According to the Mining Association of Canada, this person should:[531] • Be aware of key outcomes of tailings facility risk assessments and how these risks are being managed; • Have accountability and responsibility for putting in place an appropriate management structure; • Assign responsibility and appropriate budgetary authority for tailings management and define the personnel duties, responsibilities and reporting relationships, supported by job descriptions and organizational charts, to implement the tailings management system through all phases in the facility life cycle; and • Provide assurance to the operating company Board or governance body and communities of interest that tailings or other mine waste management facilities are managed responsibly.
4.1.6. Independent Review of Mine Waste Management Facilities 4.1.6.1. The siting and design or re-design of tailings storage facilities and other relevant mine waste facilities,[532] and the selection and modification of strategies to manage chemical and physical risks associated with those facilities shall be informed by	For 4.1.6.1: Confirm that independent reviews have been carried out prior to the siting of tailings storage facilities or other relevant mine waste facilities.	For 4.1.6.1: • Policy regarding independent review of tailings storage facilities and other high risk mine waste facilities. • Procedures or terms of reference governing the independent review process. • Evidence of independent review of all high-risk facilities such as reports from the independent reviewers, memos, meeting minutes.	Explanatory Note for 4.1.6.1: All tailings storage facilities must meet this requirement. Other "relevant facilities" would include mine waste facilities where the potential exists for contamination or catastrophic failure that would result in impacts on human health, safety, the environment, or the livelihoods of communities. Independent reviews should occur during all life-cycle stages of facility, from concept to post-closure. The frequency of reviews should be commensurate with the risks/consequences related to the facility. At minimum,

[531] Ibid. p. 20.

[532] Relevant facilities would be other mine waste facilities where the potential exists for catastrophic failure that would result in impacts on human health, safety, the environment, or the livelihoods of communities

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independent reviews throughout the mine life cycle.[533]			independent technical review should happen when there are any changes to facility designs or operations, or modification to waste management practices that could affect the chemical or physical stability of the facility.
4.1.6.2. Reviews shall be carried out by independent review bodies, which may be composed of a single reviewer or several individuals. At high-risk mine waste facilities, a panel of three or more subject matter experts shall comprise the independent review body.	**For 4.1.6.2:** Confirm that independent review bodies are composed of the appropriate number of reviewers for the risk-level of the facilities, and that reviewers have appropriate and complementing expertise.	**For 4.1.6.2:** • Policy regarding independent review of tailings storage facilities and other high risk mine waste facilities. • Procedures or terms of reference governing the independent review process. • Documentation such as letters of engagement identifying independent review body members.	Explanatory Note for 4.1.6.2: For the purposes of this requirement, "high-risk facilities" are, at minimum, those where a breach could result in inundation of residence(s) and loss of life (on or off property).[534] According to the Mining Association of Canada, the particular expertise of the subject matter experts who make up the independent review bodies will vary based on the risks posed by the facility. For example: "At high-risk facilities, (where a breach could plausibly result in inundation of residence(s) and loss of life) a panel of three or four subject-matter experts with different but complementary areas of expertise and experience may be required to cover the various disciplines associated with management of the facility (e.g., geotechnology, hydrology, hydrogeology, and geochemistry). In other instances, temporary [independent review (IR)] involvement for niche disciplines (e.g., paleo seismology, seismic hazard assessment) outside the expertise of the core IR body may be required. Redundancy of technical disciplines within the IR body should be considered in accordance with a facility's risk profile."[535]

[533] Independent reviewers should not be directly involved with the design or operations of the facility; but rather, should review all key documents and information, analyses, design values and conclusions related to the decisions made by others.

[534] Adapted from MAC, 2017, p. 58. Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

[535] Ibid. p. 58.

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4.1.6.3. Independent reviewers shall be objective, third-party, competent professionals.	For 4.1.6.3: Confirm that independent reviews have been carried out by competent professionals that do not have conflicts of interest (i.e., that are sufficiently independent of the operating company and project). (See Detailed Explanatory Notes for more information).	For 4.1.6.3: • Procedures or terms of reference governing the independent review process. • Documentation such as letters of engagement identifying independent review body members. • Documentation of independent reviewer qualifications (e.g., curriculum vitae, resume, biographies, etc.).	Explanatory Note for 4.1.6.3: Independent reviews should be carried out by competent professionals and/or internationally recognized subject matter experts who are not employed at the mining project, are not directly involved with the design or operations of the facility, and do not have any other relevant conflict of interest. The Mining Association of Canada includes the following description based on Robertson and Shaw (2003): "the reviewer generally reviews all key documents and does at least "reasonableness of results" checks on key analyses, design values, and conclusions. Design, construction and operational procedures are reviewed at a level sufficient to develop an independent opinion of the adequacy and efficiency of the designs, construction and operations. The reviewer generally relies on the representations made to the reviewer by key project personnel, provided the results and representations appear reasonable and consistent with what the reviewer would expect. A review report is produced which documents the reviewer's observations as to the adequacy of the design, construction and operations and indicates any recommendations that flow from these."[536]
4.1.6.4. Independent review bodies shall report to the operation's general manager and an accountable executive officer of the operating company or its corporate owner.	For 4.1.6.4: Confirm that the reports are received by the mine operation's general manager and also by an accountable executive officer.	For 4.1.6.4: • Procedures or terms of reference governing the independent review process. • Documentation of reporting to operation's general manager and an accountable executive officer of the operating company or its corporate owner (e.g., memos or other communications).	Explanatory Note for 4.1.6.4: There may be a process in place for the independent review body to report directly to a mining project representative who is not the general manager (e.g., the environmental manager who reports to the operation's general manager). If that is the case, it would be acceptable, as long as the results are also shared with the general manager and an accountable executive officer. An accountable executive officer is someone designated by the company's Board of Directors or other governance body

[536] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. p. 57. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

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			to be responsible for tailings management. According to the Mining Association of Canada, this person should:[537] • Be aware of key outcomes of tailings facility risk assessments and how these risks are being managed; • Have accountability and responsibility for putting in place an appropriate management structure; • Assign responsibility and appropriate budgetary authority for tailings management and define the personnel duties, responsibilities and reporting relationships, supported by job descriptions and organizational charts, to implement the tailings management system through all phases in the facility life cycle; and • Provide assurance to the operating company's Board or governance body and communities of interest that tailings or other mine waste management facilities are managed responsibly.
4.1.6.5. The operating company shall develop and implement an action plan in response to commentary, advice or recommendations from an independent review, document a rationale for any advice or recommendations that will not be implemented, and track progress of the plan's implementation. All of this information shall be made available to IRMA auditors.[538]	For 4.1.6.5: Review recommendations from independent technical reviews. Confirm that the operating company has developed action plans in response to concerns raised or recommendations made by the independent review team/board/panel. If there are recommendations that are not being followed, confirm that the company has documented a rationale for not doing so. Confirm that action plans are being implemented.	For 4.1.6.5: • Independent reviewer comments/report. • Documentation of company's response to independent reviewer comments (e.g., written response/report, or meeting notes where comments and responses were provided informally). • Action plan or other documentation of company's intended actions flowing from independent reviewer recommendations. • Documentation of operating company progress on implementing independent	Explanatory Note for 4.1.6.5: This requirement is based on guidance from the Mining Association of Canada.[539] Non-disclosure agreements will be signed by IRMA auditors, but even so, confidential business information may be withheld as long as the company provides to auditors a description of the confidential information or materials that are being withheld and an explanation of the reasons for classifying the information as confidential; and if a part of a document is confidential, only that confidential part shall be redacted, allowing for the release of non-confidential information. (See IRMA Chapter 1.1, requirement 1.1.6.4)

[537] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. p. 20. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

[538] See Explanatory Note for 4.1.6.3 for more information.

[539] Ibid. p. 59.

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		reviewer recommendations (e.g., written reports, memos or meeting notes where progress was reported to accountable executive officer or mining project management).	In the interest of transparency and accountability, independent review findings and recommendations could also be shared publicly (e.g., summarized for public disclosure in a manner that protects confidential information).
4.1.7. Stakeholder Engagement in Mine Waste Management 4.1.7.1. Stakeholders shall be consulted during the screening and assessment of mine waste facility siting and management alternatives (see 4.1.4.2), and prior to the finalization of the design of the facilities.	Auditing Note for 4.1.7.1: At existing mines, where waste facility screening, siting and assessment of facilities occurred without stakeholder engagement, mines that did not engage with stakeholders will not be expected to have met this requirement. (A note should be added that this was an existing site, and that stakeholder engagement did not occur as per the requirement. If existing mines did carry out stakeholder engagement as per the requirement, they may be scored accordingly). Mines are expected to demonstrate, however, that they have informed a broad range of stakeholders about the current design and management of the facilities. For 4.1.7.1: Interview stakeholders and independent review experts/panels/boards if relevant, to confirm that they were consulted during the screening and assessment of alternatives for siting of facilities that pose a risk to community health and safety and the environment; that they were consulted on the mitigation strategies to be employed to prevent or minimize impacts from these facilities; and also that they were consulted prior to the company's sign off on the final design of the facilities.	For 4.1.7.1: • Documentation of outreach to stakeholders related to mine waste facility siting and waste management options, and the final design of mine waste facilities. • Documentation of meetings and correspondence with stakeholders (e.g., meeting minutes, electronic communications, written input from stakeholders and company responses, records of phone calls or in-person conversations) related to mine waste facility siting and waste management options, and the final design of mine waste facilities. • Documentation of communications with stakeholders on current design and management of mine waste facilities.	Explanatory Note for 4.1.7.1: At existing mines, where waste facility screening, siting and assessment of facilities occurred without stakeholder engagement, mines will not be expected to have met this requirement. But given the attention and concern over the potential for catastrophic failure of mines waste facilities, mines will be expected to have informed stakeholders about the current design and management of mine waste facilities. And if there are any new waste management facilities proposed, mines will be expected to conform with this requirement. It is possible that screening and assessment of mine waste facility siting and management alternatives will take place as part of the Environmental and Social Impact Assessment (see Chapter 2.1). However, it is important that stakeholders be engaged specifically on mine waste facility siting and management alternatives, which may or may not always occur during an ESIA. If outreach occurred, but no stakeholders participated, mines should be able to demonstrate that they at least made good faith efforts to carry out stakeholder consultation on these issues. According to the Mining Association of Canada, "There are a number of aspects that are important for an effective alternatives assessment. . . External input is required through the steps described above. Input of [communities of interest

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			(COI)], including regulators, informs the process, and Independent Reviewers should also be engaged."[540] Communities of interest should also be engaged during the screening of alternatives, detailed assessment of alternatives, and facility definition/final design of tailings facility.[541] The Mining Association of Canada defines communities of interest as: ". . .all individuals and groups who have an interest in, or believe they may be affected by, decisions respecting the management of operations. They include, but are not restricted to: employees; Aboriginal or Indigenous peoples; mining community members; suppliers; neighbours; customers; contractors; environmental organizations and other non-governmental organizations; governments; the financial community; and shareholders.[542] This is similar to IRMA's definition of stakeholders, i.e., "Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively." The appropriate stakeholders will vary from mine to mine, but should include host governments, rights holders such as indigenous peoples if present, representatives from potentially affected communities (e.g., local emergency response providers, local governments, public health agencies), and people living close to the mine. Other stakeholders might include NGOs, academics, investors, or other with an interest in responsible mine waste management.

[540] Ibid. p. 47.

[541] Ibid. p. 48.

[542] Ibid. p. 4.

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4.1.7.2. Emergency preparedness plans or emergency action plans related to catastrophic failure of mine waste facilities shall be discussed and prepared in consultation with potentially affected communities and workers and/or workers' representatives, and in collaboration with first responders and relevant government agencies. (See also IRMA Chapter 2.5)	For 4.1.7.2: Confirm through review of company documentation and interviews with company that consultations with representatives of the affected community and local government have occurred.	For 4.1.7.2: • Emergency preparedness plan or its equivalent. • Records of meetings or communications with stakeholders (e.g., meeting minutes, memos, written communications, reports) related to the development of the emergency preparedness plan or its equivalent.	Explanatory Note for 4.1.7.2: As described by the Mining Association of Canada, "an emergency preparedness and response plan is an essential component of a tailings management system. This plan should be developed in collaboration with local first responders, [communities of interest], and relevant regulators, and is an important component of an effective communications strategy."[543] IRMA Chapter 2.5 is the primary chapter that addresses Emergency Preparedness and Response related to mining projects. However, fatalities in downstream communities from tailings facility failures underscore the critical need to include community representatives in emergency preparedness and response planning related to mine waste facilities. Consequently, emergency preparedness and response requirements have also been included in Chapter 4.1. Emergency preparedness plans may go by other names (e.g., emergency preparedness and response plans., emergency action plans, etc.). These plans should be developed and documented for each mine facility that may be associated with waste discharges or incidents, including catastrophic failures, that could lead to impacts on human safety or the environment. The facility-level plans may be separate documents but they should all be integrated with the overall site-level emergency response plan. The overall mine site emergency response plan, in turn, should be integrated into any Community Preparedness Plans developed to address all potential types of emergencies (i.e., not just mining) in a community. See Chapter 2.5 and resources mentioned in that chapter for examples of relevant government agencies to include in the planning process.

[543] Ibid. p. 28.

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4.1.7.3. Emergency and evacuation drills (desktop and live) related to catastrophic failure of mine waste facilities shall be held on a regular basis. (See also IRMA Chapter 2.5)	For 4.1.7.3: Interview stakeholders and review company records to confirm that emergency and evacuation drills have taken place.	For 4.1.7.3: • Records of meetings, memos or reports related to emergency and evacuation drills.	Explanatory Note for 4.1.7.3: One of the key elements of an emergency response plan is "alerting the public and coordinating evacuation using sirens or other warnings; well-rehearsed warnings, evacuation procedures and easily reached shelters."[544] The United Nations has developed an Awareness and Preparedness for Emergencies at the Local Level (APELL) for Mining, which is the basis for IRMA Chapter 2.5. The UN APELL states that: "Initial testing [of the emergency response plan] should take place without involving the public, to uncover deficiencies in coordination among groups and in the training that has taken place so far." They add, however, that "Nothing can replace a full scale emergency drill as a means of identifying further areas for improvement."[545] The UN APELL also provides guidance on emergency drills and informing communities about evacuation procedures.[546] There is no definition of "regular basis," as the frequency of drills should be commensurate with the risks posed by a catastrophic failure of a mine waste facility. As a rule of thumb, however, the Mining Association of Canada's Crisis Management and Communications Protocol requires that "table top" crisis simulations exercises be conducted annually, and that full crisis simulations are conducted every three years at mining facilities.[547] MAC provides guidance and examples of crisis simulations.[548]

[544] United Nations Environment Programme (UNEP). 2001. Awareness and Preparedness for Emergencies at the Local Level (APELL) for Mining. (Technical Report 41). p. 25. http://www.unep.fr/shared/publications/pdf/WEBx0055xPA-APELLminingEN.pdf

[545] United Nations Environment Programme (UNEP). 2001. Awareness and Preparedness for Emergencies at the Local Level (APELL) for Mining. (Technical Report 41). p. 29. http://www.unep.fr/shared/publications/pdf/WEBx0055xPA-APELLminingEN.pdf

[546] Ibid. pp. 29-31.

[547] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. p. 7. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

[548] Ibid. pp. 29, 30.

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4.1.7.4. If requested by stakeholders, the operating company shall report to stakeholders on mine waste facility management actions, monitoring and surveillance results, independent reviews and the effectiveness of management strategies.	For 4.1.7.4: Interview stakeholders and operating company to determine if requests have been made regarding sharing of information on waste management (e.g., operational plans, maintenance, monitoring or surveillance information, independent reviews and effectiveness of mitigation strategies).	For 4.1.7.4: • Documentation of fulfillment of information requests (e.g., records of initial requests, and records of information mailed or sent electronically to stakeholders). • Records of meetings with stakeholders (e.g., meeting minutes, copies of presentations, attendee lists) where requested information was conveyed in person or in a presentation to the community, etc.	Explanatory Note for 4.1.7.4: Engagement with stakeholders or "communities of interest" (COI) plays an important role in the effective implementation of a mine waste management strategies. According to the Mining Association of Canada (MAC), "Such engagement is two-way, providing COI with opportunity to ask questions about tailings management, provide information, and express their concerns. It is also an opportunity for the Owner [or operating company] to respond to proactively provide information, and address concerns and questions as they arise."[549] As per IRMA Chapter 1.2, there may be limits to what is reported to stakeholders. That chapter says that any information that relates to the mine's performance against the IRMA Standard must be made available to relevant stakeholders upon request, unless the operating company deems the request to be unreasonable or the information requested is legitimate confidential business information. If part of a document is confidential only that confidential part can be redacted, allowing for the release of non-confidential information. Also, if original requests for information are deemed unreasonable, efforts must be made by the operating company to provide stakeholders with overviews or summaries of the information requested.
4.1.8. Additional Considerations 4.1.8.1. (Critical Requirement) At the present time, mine sites using riverine, submarine and lake disposal of mine waste materials will not be certified by IRMA.	For 4.1.8.1: Confirm, through review of company documentation, on-site observations and interviews with company, that riverine, submarine and lake disposal of mine wastes is not occurring.	For 4.1.8.1: • Mine waste facility design reports. • OMS manual or other documents describing mine waste disposal practices.	Explanatory Note for 4.1.8.1: The definition of rivers and streams includes watercourses that are perennial (flow year-round) and intermittent (flow for part of the year). It does not include water courses that are ephemeral (flow only in response to precipitation). Lake is defined as any permanent, non-flowing body of water surrounded by land.

[549] Mining Association of Canada (MAC). 2017. Tailings Management Protocol. Towards Sustainable Mining. p. 4. http://mining.ca/sites/default/files/documents/TSM-Tailings-Management-Protocol-2017.pdf

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			Submarine tailings disposal is also sometimes referred to as marine disposal of mine tailings or deep sea tailings placement. It refers to disposal of mine tailings into marine waters via a pipeline. According to a report prepared for the International Maritime Organization, "Marine disposal is no longer practiced along shorelines in shallow water."[550] At the present time neither shallow nor deep sea tailings placement is allowed by IRMA. IRMA's leadership believes that riverine tailings disposal is not consistent with IRMA's guiding principles. IRMA participants have divergent views on the issue of waste disposal into lakes and oceans. Further work is required to determine the specific requirements under which such disposal methods could be considered, and we welcome contributions from interested parties to help advance this debate. If lake or marine disposal is occurring at existing mines, those mines may still be scored against the IRMA Standard, but at the present time they will not be considered eligible for certification when IRMA certification begins in 2019. IRMA encourages feedback on this current position.

NOTES

This chapter aims to align with requirements in the Mining Association of Canada's (MAC) 2017 Tailings Management Protocol and Guide to the Management of Tailings Facilities (Tailings Guide).[551] The IRMA Standard, however, applies the MAC protocol and guidance to mine waste facilities other than tailings storage facilities, as other large mine waste facilities such as waste rock or heap leach facilities (which are used to process/extract metals from ores, but also end up as long-term waste sites) need to be similarly managed to protect human health, safety, the environment and communities in the short- and long-term.

[550] International Maritime Organization (IMO) and United Nations Environment Programme (UNEP). 2013. International Assessment of Marine and Riverine Disposal of Mine Tailings. p. 9. http://www.imo.org/en/OurWork/Environment/LCLP/newandemergingissues/Documents/Mine%20Tailings%20Marine%20and%20Riverine%20Disposal%20Final%20for%20Web.pdf

[551] Mining Association of Canada. 2017. Toward Sustainable Mining (TSM) Tailings Management Protocol. http://mining.ca/towards-sustainable-mining/protocols-frameworks/tailings-management-protocol; and Mining Association of Canada. 2017. A Guide to the Management of Tailings Facilities (Third Ed). http://mining.ca/documents/guide-management-tailings-facilities-third-edition

The MAC Tailings Management Protocol is one of the most recent standards being applied for tailings management at the global level. It was updated based on recommendations from external independent experts and an internal working group following a 2014 tailings dam failure at a Canadian mine. The changes in the new 2017 MAC Tailings Management Protocol and Tailing Guide have been viewed by leading experts and MAC companies as an important step in preventing future tailings disasters and adverse effects on the environment, human health and safety.[552]

The 2017 version of the MAC Tailings Management Protocol does not take effect for MAC members until 2019. IRMA recognizes that the MAC Tailings Protocol, and therefore some of the requirements in the IRMA Standard, are new. Consequently, during IRMA's Launch Phase (2018 into 2019) we will not expect that all requirements will have been completely fulfilled. Companies will be expected, however, to have started to develop the processes and procedures necessary to fully meet the chapter requirements within a reasonable timeframe. When IRMA Launches it full certification program later in 2019, the requirements in this chapter will be required to be met in order to achieve certification.

IRMA's leadership believes that riverine tailings disposal is not consistent with IRMA's guiding principles. IRMA participants have divergent views on the issue of waste disposal into lakes and oceans. Further work is required to determine the specific requirements under which such disposal methods could be considered, and we welcome contributions from interested parties to help advance this debate.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	Some host countries may have laws relating to the assessment and protection of cultural heritage. As per Chapter 1.1, if host country laws related to cultural heritage exist, a company is required to abide by those laws. However, if IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to break the host country law.
1.2—Community and Stakeholder Engagement	4.1.7 addresses stakeholder engagement related to mine waste management. Any engagement with stakeholders must conform with requirements in Chapter 1.2. For example, 1.2.4 ensures that communications and information are in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner, and 1.2.2.2 requires dialogue and meaningful engagement that includes providing stakeholders with feedback on how stakeholder input has been taken into account.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Stakeholders who have complaints related to an operating company's waste and materials management, can raise complaints through the company's operational-level grievance mechanism. As per Chapter 1.4, the operating company is required to have an operational-level grievance mechanism available to stakeholders, including procedures for filing complaints, and having complaints recorded, investigated and resolved in a timely manner.
2.1—ESIA and Management	Potential impacts on the environment or communities from mine wastes and materials such as chemicals should be scoped, at least in a general manner, during the ESIA process (see 2.1.3). In 2.1.3.3, screening of potential impacts on wildlife should include those related to mine wastes and storage, transport and disposal of other materials.
2.5—Emergency Preparedness and Response	The protection of communities and workers from catastrophic failures of mine waste facilities and during emergencies related to the transport and storage of hazardous materials (e.g., spills) should be addressed in Emergency Response Planning. Chapter 2.5 mandates coordination between the mine and emergency responders in adjacent communities.
2.6—Planning and Financing Reclamation and Closure	As per Chapter 2.6, the planning of reclamation and closure of mine waste facilities should being include progressive remediation, and take into consideration post-closure land-use, long-term stability, long-term water treatment, backfilling of pits, underground workings
3.2—Occupational Health and Safety	Risks to workers related to mine waste management and handling of other materials (e.g., chemicals, other wastes) should be evaluated as part of the occupational health and safety risk assessment process in Chapter 3.2.
3.3—Community Health and Safety	Risks to communities from incidents/failures/accidents related to mine waste or other materials (e.g., chemicals, other wastes) should be evaluated as part of the Community Health and Safety Assessment in Chapter 3.3.

[552] Mining Association of Canada. 2017. A Guide to the Management of Tailings Facilities (Third Ed). pp. iii - v. http://mining.ca/documents/guide-management-tailings-facilities-third-edition

Cross References to Other Chapters	
4.2—Water Management	Mine waste management has potential implications for water management. As a result, Chapter 4.2, similar to 4.1, addresses characterization of wastes, water balance, chemical modeling and Conceptual Site Models (see 4.2.2), prevention of water contamination through management of mine wastes (see 4.2.3), and mitigation and monitoring of waters that may be contaminated by mine wastes (see 4.2.3 and 4.2.4, respectively).
4.4—Air Quality Management	Mine waste management may contribute to air quality emissions (e.g., particulate matter/dust). Chapter 4.2 addresses the assessment of potential emissions, and them mitigation and monitoring of actual emissions.
4.6—Biodiversity, Ecosystem Services and Protected Areas	Mine waste management approaches may pose risks to threatened or endangered species, biodiversity, ecosystem services or protected areas. These risks may be identified and evaluated during the screening, and if necessary, assessment processes in Chapter 4.6. The risks may also be identified during the Waste Facility Assessment process (4.1.4). Mitigation strategies may be developed as per 4.1.5, or developed as part of or integrated into the Biodiversity Management Plan (see 4.6.4). Any assessment and mitigation development processes should include input from experts and stakeholders that have expertise in biodiversity, ecosystem services or protected areas issues.
4.7—Cyanide Management	Chapter 4.7 requires that discharges to surface waters (e.g., from cyanide-bearing wastes) shall not contaminate water. If cyanide is used at the mining project, risk controls to manage cyanide should be included in the OMS plan (4.1.5.5.a), and monitoring for potential impacts on ecosystems and wildlife from cyanide-containing wastes should take place as per 4.1.5.5.c.
4.8—Mercury Management	Chapter 4.8 contains requirements related to mercury wastes, which, if they are derived from thermal processing of ore, are considered mine wastes. If such wastes are being considered for on-site storage (e.g., co-disposal in tailings impoundments), requirement 4.8.2.3.a requires a risk-based evaluation (this may be done as part of the risk assessment in 4.1.4.1), and allows on-site storage if the risk of long-term contamination is low. If disposal is to occur, however, the tailings storage facility must be lined as per 4.8.2.3.b. If mercury wastes are stored or disposed of on-site, relevant information should be included in the (include in OMS plan) as per 4.1.5.5.a. As per requirement 4.8.2.2, if wastes are not disposed of on site, they shall only be sold for an end use listed in Annex A (Products) or Annex B (Processes) of the Minamata Convention on Mercury or sent to a regulated repository.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Acid Rock Drainage (ARD)

The drainage produced when rocks with sulfide or other acid-producing minerals are under oxidizing conditions (exposed to water and oxygen) and generate an acidic water stream. Acid rock drainage generally contains elevated concentrations of metals, sulfate, and other constituents and has a pH < 6. The terms acid mine drainage and acid and metalliferous drainage (both AMD) are sometimes used as synonyms for ARD.

Affected Community

A community that is subject to potential risks or impacts from a project.

Alternatives Assessment

Generally, a process to identify and objectively and rigorously assess the potential impacts and benefits (including environmental, technical and socio-economic aspects) of different options so that an informed decision can be made.[553] For IRMA purposes, it refers to a process to assess options for locating tailings and other waste facilities, and for selecting the site-specific best available technologies and practices for

[553] Adapted from Environment Canada. https://www.canada.ca/en/environment-climate-change/services/managing-pollution/publications/guidelines-alternatives-mine-waste-disposal/chapter-2.html and MAC, Tailings Guide, p. 46.

managing wastes throughout the mine life cycle. Technologies and practices may need to be reassessed during different stages of the life cycle, for example if there is a mine expansion that requires additional waste storage and processing, or a mine life extension.

Best Available Technology (BAT)

Site-specific combination of technologies and techniques that are economically achievable and that most effectively reduce risks (e.g., physical, geochemical, ecological, social, financial and reputational) to an acceptable level during all stages of operation and closure, and support an environmentally and economically viable mining operation.

Best Available/Applicable Practice (BAP)

Encompasses management systems, operational procedures, techniques and methodologies that, through experience and demonstrated application, have proven to reliably manage risk and achieve performance objectives in a technically sound and economically efficient manner. BAP is an operating philosophy that embraces continual improvement and operational excellence, and which is applied consistently throughout the life of a facility, including the post-closure period.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Conceptual Site Model (CSM)

A qualitative description, based on site measurements and observations, of what is known about the release, transport and fate of contaminants at a site. A CSM includes a schematic or diagram and an accompanying narrative description.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Critical Control

An action, object (engineered) or system (combination of action and object) put in place to prevent or reduce the likelihood of an unwanted event, or to minimize or mitigate consequences if an unwanted event occurs, in particular for high-consequence risks.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Heap Leach/Heap Leaching

An industrial mining process to extract precious metals, copper and other compounds from ore. Typically, mined ore is crushed and heaped on an impermeable leach pad, and chemicals (reagents) are applied that percolate through the ore and absorb specific minerals and metals. The solution is collected and target metals are recovered from the solution.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Independent Review

Independent evaluation of all technical aspects of the design, construction, operation, maintenance of a tailings or other mine waste facility by competent, objective, third-party review on behalf of the operating company/mine owner.

Metals Leaching

The release of metals by contact with solvents. Leaching may be natural or induced (e.g., related to mining operations). Mining commonly accelerates metal leaching. Metals leaching can also be referred to as "contaminant" leaching.

Mine Closure

A period of time when ore-extracting and processing activities of a mine have ceased, and final decommissioning and mine reclamation are occurring. It typically includes pre-closure (detailed closure design and planning), closure (actual activities of closure of mine workings and construction/decommissioning) and post-closure (mainly long-term reclamation, monitoring, and treatment) periods, each with its own specific activities.

Mine Waste Facility

Facilities that contain, store, are constructed of, or come in contact with wastes that are generated or created during mining (e.g., waste rock, pit walls, pit floors or underground workings, runoff or discharge from exposed mined areas) and mineral processing (e.g., tailings, spent ore, effluent). These facilities include, but are not limited to open pits, underground mine workings and subsidence areas, waste rock facilities, tailings storage facilities, heap leach facilities, process water facilities, stormwater facilities, borrow areas for construction and/or reclamation, water treatment facilities, and water supply dams/impoundments.

Mining Impacted Waters (MIW)

Any water whose chemical composition has been affected by mining or mineral processing. Also referred to as mining influenced waters or mine impacted waters. Includes acid rock drainage (ARD), acid mine drainage or acid and metalliferous drainage (AMD), neutral mine drainage, saline drainage, and metallurgical process waters of potential concern. A key characteristic of most mining impacted waters (also known as mining influenced waters) is that they contain elevated metals that have leached from surrounding solids (e.g., waste rock, tailings, mine surfaces, or mineral surfaces in their pathways). This fact is commonly acknowledged by the phrase "metals leaching" (ML), frequently resulting in acronyms such as ARD/ML.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mitigation

Actions taken to reduce the likelihood of a certain adverse impact occurring.

Mitigation Hierarchy

The mitigation hierarchy is a set of prioritized steps to alleviate environmental (or social) harm as far as possible through avoidance, minimization (or reduction) and restoration of adverse impacts. Compensation/offsetting are only considered to address residual impacts after appropriate avoidance, minimization and restoration measures have been applied. (See Glossary for full definition)

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Post-Closure

The period after the reclamation surety holder declares the activities required by the reclamation and closure plan are complete; any significant objections raised during the public comment period on the final release of the financial surety have been resolved; and the reclamation surety has been returned to the operator, or it has been converted to a post-closure trust fund or equivalent (i.e. if there is a need to fund long-term management and monitoring of the site). This phase continues until final sign-off and relinquishment can be obtained from the regulator and stakeholders.

Practicable

Practicable means giving equal weight to environmental, social, and economic benefits and costs. This is not a technical definition. It is the discussion between the affected parties on the balance between these interrelated costs and benefits that is important.

Process Water

Water that is used to process ore using hydrometallurgical extraction techniques. It commonly contains process chemicals.

Risk Control

An action, object (engineered) or system (combination of action and object) put in place to prevent or reduce the likelihood of an unwanted event, or to minimize or mitigate consequences if an unwanted event occurs.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Tailings

The waste stream (gangue and other material) resulting from the milling and mineral concentration processes that are applied to ground ore (i.e., washing, concentration, and/or treatment). Tailings are typically sand to clay-sized materials that are considered too low in mineral values to be treated further. They are usually discharged in slurry form (i.e., mixture of solids and fluids) to a final storage area commonly referred to as a tailings storage facility (TSF) or tailings management facility (TMF).

Waste Rock

Barren or mineralized rock that has been mined but is of insufficient value to warrant treatment and, therefore, is removed ahead of the metallurgical processes and disposed of on site. The term is usually used for wastes that are larger than sand-sized material and can be up to large boulders in size; also referred to as waste rock dump or rock pile.

Water Balance

An accounting of the inflow to, outflow from, transfers and storage changes of water over a fixed period.

Water Quality Criteria

Numerical concentrations or a narrative statement recommended to support and maintain a designated water use. Criteria are based on scientific information about the effects of water pollutants on a specific water use.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 4.2—Water Management

BACKGROUND

Mine operations can affect water quality in many ways, including: the discharge of mine water to the environment; seepage through mine wastes to groundwater and surface water; breaches or failures of tailings and water storage facilities; chemical spills; and the release of uncontrolled stormwater.

Remediation of mining-caused pollution can be extremely costly, and the design of mine systems to prevent surface and groundwater contamination should be the goal of the mining operation. Responsible mining operators can minimize water pollution by using a variety of source control approaches including: limiting infiltration of air and water to acid-generating/metal leaching waste and mined materials; collecting mine-influenced water as close to the source as possible; and carefully controlling the discharge of stormwater and treated water to the environment.

Mines are often a large water user for their locale, even if not over a large region. The impacts of water used by a mining project are highly location-specific, depending on the local climate as well as on competition for water for uses other than mining. In arid regions water scarcity may be a critical concern, whereas in high rainfall regions or areas where the water table is above the level of the mine challenges arise from the need to divert water in order to develop a mine. The depletion of groundwater, surface water, and springs by mine dewatering operations and water usage by large mine facilities can take decades to replenish after mining ceases, and in some instances, groundwater levels and flow directions can be altered indefinitely.

Responsible mining operators can protect water resources by using water efficiently; ensuring that total withdrawals maintain environmental flows in nearby streams, springs, lakes, wetlands and any other surface water resources; minimizing groundwater drawdown; and treating mine-influenced water and discharging it in ways that minimize harm to surrounding water users and environmental resources. Responsible mining operations can also clean up previously impacted water to make it usable, and in some cases provide a water supply from an alternative source.

Responsible mining operators are also aware of their context and aware of not only their impacts, but their dependencies and opportunities as well. Mining operations can contribute positively by participating in collective action that addresses shared water challenges and opportunities among diverse stakeholders, and by adopting approaches that lead to positive water governance outcomes at the local and regional levels. The proactive and collaborative identification of potential water quality and quantity issues and the development of suitable management strategies adapted throughout the life cycle of a mine can help prevent or minimize surface water and groundwater contamination and impacts on water quantity.

TERMS USED IN THIS CHAPTER

Acid Rock Drainage (ARD) ■ Adaptive Management ■ Affected Community ■ Background ■ Baseline ■ Basin/Catchment/Watershed ■ Collaboration ■ Competent Professionals ■ Conceptual Flow Model (CFM) ■ Conceptual Site Model (CSM) ■ Consultation ■ Dewatering ■ Ecosystem Services ■ Host Country Law ■ Metals Leaching (ML) ■ Mine Closure ■ Mining Project ■ Mitigation ■ Mitigation Hierarchy ■ Mixing Zone ■ Natural Seep/Spring ■ Operating Company ■ Pit Lake ■ Point of Compliance ■ Post-Closure ■ Practicable ■ Stakeholder ■ Stormwater ■ Tailings ■ Waste Rock ■ Water Balance ■ Water Quality Criteria ■ Whole Effluent Toxicity

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter (before the water quality tables)

OBJECTIVES/INTENT OF THIS CHAPTER

To manage water resources in a manner that strives to protect current and future uses of water.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is applicable to all mines applying for IRMA certification during IRMA's Launch Phase.

CRITICAL REQUIREMENTS IN THIS CHAPTER

Water quality and quality are being monitored at the mine site (4.2.4.1.a through e) and adverse impacts resulting from the mining operation are being mitigated (4.2.4.4).

Water Management Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTE
4.2.1. Water Management Context and Collaboration at the Local and Regional Level 4.2.1.1. The operating company shall identify water users, water rights holders and other stakeholders that may potentially affect or be affected by its mine water management practices.	**For 4.2.1.1:** Confirm through review of operating company documentation and interviews with the company and stakeholders, that efforts have been made to identify water users (from individuals to large industrial users) and water rights holders and stakeholders who may affect and be affected by the mine's water management practices. Identification may have occurred through various forms of outreach and research (e.g., discussions with regulators and review of government records such as permits or licenses and maps related to water rights, locations of groundwater wells in the area, etc.; meetings with stakeholders to identify other users and community water sources; outreach to community organizations; observing who is using surface waters; etc.).	For 4.2.1.1: • Up-to-date documentation of existing water rights holders, non-water rights users, and stakeholders, including contact details. • Documentation of mapping or similar exercise with stakeholders to identify water users and other stakeholders who might have an interest in the mine's water management. • Records of meetings with stakeholders (e.g., meeting minutes, correspondence from stakeholders) where they contributed input on the identity of water users and other water stakeholders. • Records of decisions made following meetings with stakeholders and records of action plans proposed for implementation.	Explanatory Note for 4.2.1.2: This includes identification of surface and groundwater users, whether these users have official water rights or not. Companies should also identify the type of water use (e.g., domestic, industrial, irrigation, etc.), as this will feed into 4.2.1.2. Stakeholders who may potentially affect or be affected by mine water management practices could include government entities, local authorities, non-government entities that work on water issues, etc. This part of the requirement aligns with the International Council on Mining and Metals' position statement on water stewardship, which states that to collaborate to achieve responsible and sustainable water use companies should, "Identify and engage proactively and inclusively with stakeholders that may influence or be affected by a site's water use and discharge."[554]
4.2.1.2. The operating company shall conduct its own research and collaborate with relevant stakeholders to identify current and potential future uses of water, at the local and regional level that may be affected by the mine's water management practices.	**For 4.2.1.2:** Confirm, through review of operating company documentation (e.g., research, meetings with stakeholders), and operating company and stakeholder interviews, that the company has met with stakeholders and used their input and its own research to comprehensively identify how water is currently being used (for what purposes, how much) locally and regionally, and also how water is likely to be used in the future (e.g., what are likely uses in the next 30 to 50 years, and what are the	**For 4.2.1.2:** • Records of meetings with stakeholders (e.g., meeting minutes, correspondence from stakeholders) where they contributed input on the current and potential future uses of water locally and regionally. • Documentation of company research (e.g., social surveys, reports, studies, ESIA, etc.) into current and potential future uses of water at the local and regional level.	Explanatory Note for 4.2.1.2: The intent of 4.2.1.2 is to ensure that the company understands the water-use context in which they are operating. This includes the current and projected future supply/availability of water (both groundwater and surface waters) and also the current and future uses/consumption of water by other users. Also, as per IRMA Chapter 1.1, if there are legislative or regulatory requirements that require surface or groundwater to be protected for a current or future use(s), then those requirements must also be met.

[554] International Council on Mining and Metals (ICMM). 2017. Position Statement on Water Stewardship. https://www.icmm.com/water-ps

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTE
	likely volumes needed and potential sources to meet the projected demand). Discussions should have considered potential current and future uses such as drinking water, water used for cultural/spiritual, agricultural, industrial, commercial recreational, or washing/bathing purposes, water needed to support aquatic organisms that are harvested or raised for food or sale. Current and future potential uses may also include water-dependent natural resources (e.g., aquatic ecosystems and organisms, riparian ecosystems, wetlands, wildlife, etc.) and ecosystem services that could be affected if there are mining-induced changes to water quality or quantity.	• Modelling and reporting (e.g., water balance report, surface water modelling reports, and/or numerical groundwater modelling reports) assessing water consumption and/or impact of mining on local and regional water supplies.	”relevant stakeholders” should include water users, water rights holders, downstream communities (or communities that may be affected by surface or groundwater withdrawals or contamination), government regulators, others engaged in work related to water management at the local or regional level, and others who may affect, be affected by or have an interest in the mine’s management of water. “local and regional level” is meant to encompass the areas that may be affected by a mine site’s water use or water management practices. For IRMA purposes, the “local” area should be considered to be the particular basin/catchment/watershed where the site is located, whereas “regional” encompasses areas beyond the immediate basin/catchment/watershed. Mines may affect local surface water and groundwater quality and quantity (e.g., through discharges, and through water extraction/dewatering), and they may also have an effect on regional water uses (e.g., by supplying water to other areas/regions, or by using water that originates in other regions). “current and potential future uses” could include drinking water, water used for cultural/spiritual, agricultural, industrial, commercial recreational, or washing/bathing purposes, water needed to support aquatic organisms, and water used for aquatic fauna and/or plants that are harvested or raised for food or sale, or are threatened or protected species (see Chapter 3.7 for more on protected, threatened and endangered species). Current and future potential uses may also include water-dependent natural resources such as aquatic ecosystems and riparian vegetation, which may be sensitive to certain contaminants; wildlife that drink water from streams, lakes, springs, etc. that may be affected by mining; wetlands, which may be affected if mine dewatering dries up natural springs or groundwater that feed wetlands, etc.[555]

[555] Water-related ecosystem services are important uses to consider. (See, e.g., Grizzetti, B et al., 2016. “Assessing water ecosystem services for water resource management,” Environmental Science and Policy. 61:194-203. https://www.sciencedirect.com/science/article/pii/S1462901116300892) Water-related ecosystem services may be discussed in 4.2.1.2, but are otherwise required to be scoped, assessed and mitigated as per Chapter 4.6—Biodiversity, Ecosystem Services and Protected Areas.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXPLANATORY NOTE
		Water-related ecosystem services are important uses to consider.[556] Water-related ecosystem services may be discussed in 4.2.1.2, but are otherwise required to be scoped, assessed and mitigated as per Chapter 4.6—Biodiversity, Ecosystem Services and Protected Areas. Some or all of the data needed to determine uses may have been collected as part of the Environmental and Social Impact Assessment or Biodiversity, Ecosystem Services and Protected Areas assessment (See Chapters 2.1 and 4.6, respectively). Many regulatory jurisdictions will have formal "use designations" for surface waters and groundwaters. Formal designations may be made at a national, regional, or local level. The company should have a record of these designations, if they have been made. Lacking a formal designation for the present and/or future uses of surface and ground waters, the company should initiate dialog with local/regional/national stakeholders to discuss identified water quality and quantity impacts to water resources. If there is no formal use designation, then "uses" can be discussed with stakeholders using the use categories of the IRMA Water Quality Criteria by End-Use Tables. It is recognized that it is probably not possible to project "future uses" in a reliable way too far into the future, but it should be reasonable to forecast somewhere in the range of 30 to 50 years. So, as a guideline for estimating future uses, companies and stakeholders should consider potential uses that might be applicable during that sort of timeframe. During review of modelling and reporting associated with water balance and/or numerical groundwater and/or surface water modelling particular focus should be made with regard to how data inputs were obtained i.e., can the assumptions be substantiated or have they been assumed due to a lack data. If there is a lack of data, can that be improved upon through

[556] Grizzetti, B et al., 2016. "Assessing water ecosystem services for water resource management," Environmental Science and Policy. 61:194-203. https://www.sciencedirect.com/science/article/pii/S1462901116300892

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTE
			stakeholder engagement? If so, additional outreach to stakeholders should occur.
4.2.1.3. The operating company shall conduct its own research and collaborate with relevant stakeholders to identify and address shared water challenges and opportunities at the local and regional levels, and shall take steps to contribute positively to local and regional water stewardship outcomes.	For 4.2.1.3: Review documentation, records of meetings, project data, etc., and interview stakeholders to confirm that the company has worked cooperatively with relevant stakeholders to identify water challenges at the local and regional level that may also pose a risk to the environment, water uses and mine (e.g., water shortages; flooding; contamination; etc.), and to identify shared opportunities to improve water stewardship outcomes. Confirm that the company has investigated ways to make a positive difference in the management of water, and over time, that they have implemented measures to deliver positive water management outcomes.	For 4.2.1.3: • Records of meetings with stakeholders (e.g., meeting minutes, correspondence from stakeholders) where they contributed input on shared water challenges at the local and regional level. • Documentation of company research (e.g., reports, studies, ESIA, etc.) into shared water challenges at the local and regional level. • Documentation of company actions to contribute positively to local and regional water stewardship outcomes (e.g., provision of support to government or NGO-led initiatives related to water stewardship; participation in meetings with other water stakeholders seeking to address water challenges; participation in local or regional water planning processes; etc.). • Documentation of collaborative research into water use and/or impact on a local and/or regional level.	Explanatory Note for 4.2.1.3: The intent of 4.2.1.3 is to recognize that many companies are now going beyond a narrow site-focused water management approach, and instead, are evaluating their water stewardship practices in relationship to the broader local or regional water governance context. Many mines are working with others to identify and work together to address shared water challenges; and more and more companies are proactively looking for opportunities to have a positive impact on water challenges faced by local communities or regional managers (e.g., by providing water treatment to communities; providing water from mining operations for beneficial uses elsewhere, such as irrigation or industrial uses; minimizing a mine's water footprint in drought-prone regions; considering if and how pit lakes might provide opportunities (e.g., recreational or economic) for communities post-closure, etc.). Collaborative efforts may include participation in local, regional or basin/catchment/watershed-level water planning/governance processes; participation in meetings or workshops with various public and private water users, providers and regulators; or support for other initiatives spearheaded by the company or others aimed at addressing shared water challenges and opportunities, such as those "that promote better water use, effective catchment management and contribute to improved water security and sanitation."[557] Examples of collaborative (multi-stakeholder) research may include company contribution to regional studies conducted by a number of mining companies or other entities operating in the same area designed to understand the combined effect of their individual operations on the local and/or regional environment.

[557] International Council on Mining and Metals (ICMM). 2017. Position Statement on Water Stewardship. https://www.icmm.com/water-ps

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4.2.2. Site Characterization and Prediction of Potential Impacts 4.2.2.1. The operating company shall gather baseline or background data to reliably determine: a. The seasonal and temporal variability in: i. The physical, chemical and biological conditions of surface waters, natural seeps/springs and groundwaters that may be affected by the mining project; ii. Water quantity (i.e., flows and levels of surface waters, natural seeps/springs and groundwaters) that may be affected by the mining project; and b. Sources of contamination and changes in water quantity or quality that are unrelated to the mining project.	**For 4.2.2.1:** Confirm, through review of data and any relevant studies, that baseline data were collected prior to the development of the mine. Or, if baseline data were not collected prior to mine development, that appropriate reference site(s) were found, and the data necessary to determine background levels has been collected (See Explanatory Note for 4.2.2.1 for more information). **For 4.2.2.1.a.i:** Confirm that data were gathered on the following characteristics of surface waters, natural springs/seeps and groundwaters. See Explanatory Note for 4.2.2.1.a.i for more details on what is meant by physical, chemical and biological conditions) **For 4.2.2.1.a.ii:** See Explanatory Note for 4.2.2.1.a.ii. Confirm that measurements of flows/discharges from surface water such as rivers and streams, levels of surface water such as lakes or ponds, flows of natural seeps and springs, and groundwater levels/elevations have been collected. Use of automatic samplers or continuous flow/level monitors is recommended. • For groundwater, the operating company should also establish baseline conditions for recharge to aquifers and discharges from aquifers. • For surface water locations, a local hydrograph should be established to document the pre-mining natural variations in flow levels. A hydrograph is a graph or plot that shows the rate of water flow in relation to time, given a	**For 4.2.2.1:** • Documentation of surface and groundwater baseline or background water quality and quantity (e.g., raw data, a summary report). • Documentation of sampling methodologies used. • Equipment calibration and QA/QC documentation. • Records and documentation including mapping confirming the location of data points and/or identification of data gaps.	Explanatory Note for 4.2.2.1: The purpose of this section is to ensure that water management strategies are based on sound science that reflects an understanding of the state of the water resources, and ecological resources that are supported by the water resources, prior to mining (i.e., the baseline water quality and quantity). Baseline water quality sampling is used to establish the level of naturally-occurring substances and existing non-mine pollution present in waterbodies and the variability in water quantity before the mine is developed. Documentation of baseline conditions can help to prevent mis-attribution of pollution and water quantity changes to the mine. If baseline sampling was not done, the company should establish background water quality conditions. To reliably determine baseline or background conditions, water samples/measurements should be: • In locations where mining-related activities have the potential to influence surface water or groundwater (e.g., downstream or downgradient from proposed pits, waste rock or tailings facilities, etc.); or for background samples, in locations that are upgradient and downgradient (with respect to surface water flow and groundwater flow direction, which may differ), and are similar in terms of mineralization, but are not affected by the mine. • In sufficient number to provide statistical reliability to the spatial and temporal variability of measurements at each sampling point; • Collected over a period of at least two years. Re: 4.2.2.1.a.i: • "Physical conditions" refers to geomorphology, or characteristics such as depth and width of water bodies. • "Chemical conditions" include, e.g., temperature, pH, oxygen reduction potential (ORP), electrical conductivity (EC), dissolved oxygen (DO), concentrations of nutrients, chemicals,

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	specific point or cross section. This information will be needed if surface water mixing zones are proposed (see 4.2.3.3.b.v). **For 4.2.2.1.b:** Confirm that company has identified existing significant sources of water contamination or water withdrawal/extraction in the area that are affecting or could affect water uses. These sources may be naturally occurring or from other actors in the basin/catchment/watershed. This may have been accomplished through meetings, discussions with stakeholders, and review of information such as local or regional water management planning or land-use planning documents and maps of existing uses, effluent permits, existing industries in the basin/catchment/watershed, proposals for new industrial developments, etc.	metals, dissolved and suspended solids. • "Biological conditions" refers to species of aquatic flora and fauna that are present, and determination of the status of those species (e.g., species composition, abundance, diversity and distribution, population size/density, and other relevant measures/attributes). If protected, threatened or endangered species of flora or fauna are identified, that information should feed into IRMA Chapter 4.6. Re: 4.2.2.1.a.ii, for IRMA purposes, water quantity refers generally to the amount of water present in water bodies that exist on the earth's surface, such as lakes, ponds, rivers, streams, etc. (i.e., referred to as surface waters) and water bodies that exist underground (i.e., groundwaters). It also includes the amount of water that originates underground but expresses itself at the surface (e.g., natural springs or natural seeps). Quantities of water may be expressed as volumes, however, for IRMA's purposes**,** the quantity of water in rivers, streams and springs/seeps may be expressed as "flows" (sometimes referred to as discharge), in feet^3 or meters^3 per second, rather than as volumes. Similarly, for water bodies such as lakes, measurement of surface water height relative to a fixed reference level (e.g., sea level or a national reference plane[558]) may be used instead of the actual volume of water, as changes in the height of the surface of a lake is a good indicator that the volume is either increasing or decreasing (and volume calculations can then be made, if necessary). For groundwater, water quantity may be expressed as the height or level of water relative to a reference elevation (e.g., feet or meters above sea level).[559] Transmissivity, for any particular geohydrological unit, may be expressed in metres per day based upon an assumed or measured unit thickness.

[558] Vuglinskiy, V. 2009. Water Level: Water level in lakes and reservoirs, water storage. Global Terrestrial Observing System, FAO. http://www.fao.org/gtos/doc/ECVs/T04/T04.pdf

[559] HydroG Resources Group. 2014. Manual Groundwater Level Measurement Basics. https://www.slideshare.net/HydroGResources/basic-manual-water-level-measurement

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			Re: 4.2.2.1.b, this is asking the mine to identify the presence of alternative sources of water contamination, unrelated to the mining project. The rationale for 4.2.2.1.b is that the exercise of identifying and collecting baseline data on other sources of pollution helps to quantify contributions from those other sources and reduce the risk of mis-attribution of pollution to the mine site. Also, this data will help the mine understand how it might be contributing, cumulatively, to the degradation (or improvement) of water quality in a basin (i.e., cumulative impacts), and identify sources of contaminants that have the potential to impact upon the mining project. Such information can be useful background for discussions about shared water challenges and opportunities in 4.2.1.3, above.
4.2.2.2. The operating company shall carry out a scoping process that includes collaboration with relevant stakeholders, to identify potentially significant impacts that the mining project may have on water quantity and quality, and current and potential future water uses. The scoping process shall include evaluation of: a. The mining-related chemicals, wastes, facilities and activities that may pose a risk to water quality; and b. The mine's use of water, and any mining activities that may affect water quantity.	For 4.2.2.2: Confirm that the operating company has identified in a comprehensive manner the range of potential impacts that the mine may have on water quantity and quality, and uses, and has carried out further evaluations and consultations with stakeholders to determine the range of potential impacts and which of those impacts are likely to be significant (for more information on scoping processes, see IRMA Chapter 2.1). At minimum, confirm that the company has evaluated the following potential sources of impacts on current and future water uses that may be associated with its operations: chemicals used on site; geochemical composition of ore and waste rock; mining impacted waters (i.e., potential for ARD/ML from ore, wastes and mined surfaces), and need for water treatment; current or future users of water at risk from contamination; whether dewatering of pits or underground working will be necessary; whether pit lakes are likely to form; what are the water requirements of	For 4.2.2.2: • Documentation (e.g., reports, impact assessments, etc.) of evaluations of mining-related chemicals, wastes, facilities and activities that may pose a risk to water quality. Examples of documentation may include various feasibility assessments and detailed design reports e.g., for proposed tailings storage facilities, leaching operations and/or processing. • Documentation (e.g., estimates, calculations, reports, studies, etc.) of the mine's predicted water use, and any mining activities that may affect water quantity. • Records of collaboration with stakeholders (e.g., meeting notes or minutes, attendee lists, correspondence from stakeholders providing input, company responses to feedback, etc.) to identify potentially	Explanatory Note for 4.2.2.2: The intent of this section is to ensure that the operating company has adequately identified the range of ways that the mining project might affect the current and future uses of water resources and the natural resources dependent on them. (For more on current and future uses of water see note for 4.2.1.2). Many mining activities or water quality/quantity issues may pose risks to water resources or natural resources, though not all of these will be relevant at all mine sites. These may include, but are not limited to: mine dewatering; water supply for mining operations; spills or releases of chemicals, mine wastes, ore concentrations, or from process waters; discharge of treated or untreated mining effluent, wastewater or stormwater; release of contaminants from mined materials and surfaces and mine wastes (e.g., due to ARD/ML and movement of mining impacted waters from pit lakes, underground workings or other sources). Some of this information, e.g., on chemicals, wastes, facilities that may pose a risk to water quality, will have been gathered as per Chapter 4.1, Mine Waste and Materials Management, criterion 4.1.2 (Source Characterization and Prediction).

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	the mine, and how will water needs be met (See Explanatory Note for 4.2.2.2 for more details on how auditors can confirm that these questions have been adequately addressed).	significant impacts that the mining project may have on water quantity and quality, and current and potential future water uses.	The scoping exercise may have taken place as part of the ESIA (see IRMA Chapter 2.1), or relevant information may have been collected and some of the evaluations may have been done as part of the ESIA, or in relation to scoping of impacts related to Waste and Materials Management (see IRMA Chapter 4.1), or in the scoping of potential impacts on biodiversity, ecosystems services or protected areas (see IRMA Chapter 4.6).
4.2.2.3. Where potential significant impacts on water quantity or quality, or current and future water uses have been identified, the operating company shall carry out the following additional analyses to further predict and quantify the potential impacts: a. Development of a conceptual site model (CSM) to estimate the potential for mine-related contamination to affect water resources; b. Development of a numeric mine site water balance model to predict impacts that might occur at different surface water flow/groundwater level conditions (e.g., low, average and high flows/levels); c. If relevant, development of other numerical models (e.g., hydrogeochemical/hydrogeological) to further predict or quantify potential mining-related impacts on water resources; and	For 4.2.2.3.a: If potential impacts on or risks to water resources are predicted, confirm that a conceptual site model (CSM) has been developed. This should be a visual schematic (diagram, cross-section, 3D visualization) with accompanying narrative. Confirm that the CSM has been informed by known site characteristics (geology, preferential flow paths including faults that may affect the rate of water or contaminant movement, aquifer properties, hydrology, climate, hydrogeology, physiography, historical land use and current built environment), as well as any information gathered on sources, release, transport and fate of contaminants for particular mine facilities (at least some of this information should have been gathered as per IRMA Chapter 4.1, requirement 4.1.2.3), and knowledge of potential receptors. If there is the potential for contaminants to affect groundwater quality, then the CSM should be informed by a conceptual groundwater flow model, if one has been developed, or information gathered on preferential flow paths, including faults, and other lithological properties that may	For 4.2.2.3: • Documentation of conceptual site model (e.g., cross-section, map and narrative). • Mine site water balance inputs, calculations and results. • Documentation of numerical model descriptions, methods, assumptions, uncertainties, sensitivity analyses. • Documentation of numerical modeling results/predictions. • Documentation of an evaluation to determine of need for water treatment (short- and long-term).	Explanatory Note for 4.2.2.3: Re: 4.2.2.3.a, a Conceptual Site Model (CSM) is a qualitative description, based on site measurements and observations, of what is known about the sources, release, transport and fate of contaminants at a site. A CSM should include a schematic or diagram and an accompanying narrative description. Re: 4.2.2.3.b, a mine site water balance is an accounting of the inflow to, outflow from, and storage changes of water in a hydrologic unit over a fixed period. Assigning values to these elements helps identify the water surplus or deficit at the site over time. Water balance models should be run for high, average and low surface water flow and groundwater level conditions using baseline/background data or historical data as the basis. It is strongly recommended that water balance calculations incorporate climate change scenarios based on data from regional (or local, if available) climate change models, assuming that such models are based on rigorous scientific methods and reliable data. According to Golder Associates, "the assessment of the impact of climate changes on water quality and quantity involves running the water and mass balance model with scenarios of predicted future air temperature and precipitation. An assessment of climate change impacts may also be incorporated in the water and mass balance uncertainty analysis."[560]

[560] Golder Associates. 2011. Guidance Document on Water and Mass Balance Models for the Mining Industry. (Report prepared for the Yukon Government). p. 30. http://www.env.gov.yk.ca/publications-maps/documents/mine_water_balance.pdf

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d. Prediction of whether water treatment will be required to mitigate impacts on water quality during operations and mine closure/post-closure.	affect the movement of groundwater (e.g., fractures, folds, aquitards, etc.). For 4.2.2.3.b: Confirm that a numeric mine site water balance model has been calculated for high, average and low surface water flow/groundwater level conditions. The initial site water balance calculations should use baseline/background data from 4.2.2.1 and/or historical data. It is recommended that calculations factor in data from climate change scenarios. Confirm that, over time, site water balance models are calibrated, evaluated and revised or updated, ideally annually but at least every five years unless there are scientifically credible reasons for not updating that frequently. For 4.2.2.3.c: The types of situations where numerical models might be relevant include for mine sites that have complicated groundwater and surface water interactions and complex heterogeneous basin/catchment/watershed and aquifer systems. In such cases, numerical models will provide a simulation of the potential movement (e.g., flow directions and rates) of surface waters and groundwaters, groundwater recharge, surface leakage and runoff from groundwater flow than the conceptual site model, and will provide predictions of potential concentrations of contaminants likely to be released and transported to receptors, and can be used to guide management decisions. For 4.2.2.3.d: Confirm that the operating company has established whether or not water treatment	Re: 4.2.2.3.c, if the potential exists for contaminants to migrate from waste or operating facilities to surface waters or groundwaters, numerical modeling should be used to predict potential contamination paths and concentrations, and to design mitigation and water treatment schemes. Numerical hydrogeological models can be used to simulate the movement of surface water, groundwater recharge, surface leakage and runoff from groundwater flow in the vicinity of a mining project.[561] Hydrogeochemical models can be used to predict contaminant concentrations at a number of predetermined locations (e.g., points of compliance) or receptors. Re: 4.2.2.3.d, if the analysis shows that treatment will likely be necessary, the operating company will also need to evaluate mitigation options as per 4.2.3.1 to see if the need for treatment can be avoided. If it cannot be avoided, then the company should evaluate different treatment options and develop quantitative estimates of treatment costs. If water treatment is predicted to be needed post-closure, the company will also need to carry out a risk assessment related to long-term water treatment, and establish financial surety to cover the long-term treatment costs (see IRMA Chapter 2.6, requirements 2.6.6.1 and 2.6.7.2).

[561] For example, see: Punkkinen et al. 2016. Guidelines for Mine Water Management. http://www.vtt.fi/inf/pdf/technology/2016/T266.pdf

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	will be required to remove contaminants from mining impacted waters (MIW) in order to meet water quality criteria or maintain background/baseline conditions. The need for treatment should be informed by the results from source material characterizations (IRMA Chapter 4.1, requirement 4.1.2.3), the conceptual site model (4.2.2.3.a), mine site water balance (4.2.2.3.b) and additional hydrogeochemical modeling (4.2.2.3.c), and should determine: • Whether acid rock drainage (ARD) or metals leaching (ML) may occur, when it will begin and how long it is likely to continue; • Whether or not water treatment will be required to mitigate impacts from MIW during operations and closure/post-closure (e.g., due to ARD/ML or elevated levels of other contaminants); and • If treatment is predicted to be required, an estimate of when treatment should start, how long it should last, and the volumes of water that will need to be treated during different phases of mining.		
4.2.2.4. Use of predictive tools and models shall be consistent with current industry best practices, and shall be continually revised and updated over the life of the mine as operational monitoring and other relevant data are collected.	For 4.2.2.4: Confirm that the operating company can cite sources and provide rationale for how the models and predictive tools are scientifically robust and consistent with those widely accepted by industry and competent professionals (e.g., academics, government scientists) as best practices or tools to be using for the given purpose. (See Explanatory Note for 4.2.2.4, for more details on how to verify that the methods and basis for models are credible)	For 4.2.2.4: • Documentation of model descriptions, methods, assumptions, uncertainties, sensitivity analyses. • Documentation confirming company requirements for modelling (e.g., scope of works, credentials for specialist consultant or sub-contractor). • Documentation of modeling results/predictions.	Explanatory Note for 4.2.2.4: Predictive tools and numerical models are widely used to predict water quality for both surface and ground waters, and to predict groundwater flow paths. Tools and models will continue to evolve over time. Relevant mine staff should be aware of advances made in modeling and predictive tools, and should evaluate and apply newer, better tools and models over the life of the mine.

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	Confirm that conceptual site models are updated as new information is collected through the life cycle of the project. If hydrogeochemical/hydrogeological numerical models are used, confirm that numerical models are calibrated and updated as new information is collected through the life cycle of the project, ideally annually but at least every five years.	• Documentation of modeling results compared to actual data. • Documentation of any revisions made to the models, and updates made to predictions. • Documentation that models or methodologies are considered to represent best or most appropriate practices or techniques in the industry (or were considered to be so at the time of their implementation) • Documentation of that new models or tools are evaluated over time.	Predictive tools and models, including the conceptual site model and water balances, should include the following so that their scientific robustness and appropriateness can be evaluated: • Description of the model, its basis, and why it is appropriate for the particular use • Identification of all input parameters and assumptions, including discussion of parameter derivation (i.e., by measurement, calculation or assumption) • Discussion of uncertainty • Sensitivity analysis of important input parameters • Discussion of calibration and updating of the model • How the model will be used to inform operations Modeling is typically done by consultants. Mine personnel should have a copy of the consultant's report, and should understand what assumptions were made for the model, and which input parameters are likely to cause the greatest change in the model results (sensitivity). Mine personnel should also be comparing the predicted model results with actual monitoring data, and set parameters for what constitutes acceptable versus unacceptable deviations between modeled and actual results. When predicted and actual results do not agree, models should be revised and predictions updated to ensure that water management practices are based on the best possible data.
4.2.3. Prevention and Mitigation of Impacts to Water 4.2.3.1. The operating company, in collaboration with relevant stakeholders, shall evaluate options to mitigate predicted significant adverse impacts on water quantity and quality, and current and potential future water	For 4.2.3.1: Confirm through review of documentation (e.g., meeting minutes, reports) and interviews with the operating company and stakeholders that the company has collaborated with relevant stakeholders in its development of measures to mitigate identified risks to water resources. In this case, collaboration means that there has been information sharing and dialogue	For 4.2.3.1: • Adaptive Management Plan or Water Management Plan or equivalent. • Records and/or documentation with instructions from regulators stipulating requirements and/or confirmation from regulators of acceptance of company	Explanatory Note for 4.2.3.1: In this case, collaboration means that there has been dialogue between the company and relevant authorities and other relevant stakeholders, and that the company has taken into consideration their opinions and sought agreement with them on the measures to be taken. "Relevant stakeholders" here should include water users who may be affected by mining activities and/or their technical experts, individual or industrial water users or providers, as well as

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uses that may be affected by the mine's water management practices. Options shall be evaluated in a manner that aligns with the mitigation hierarchy.	between the company and relevant authorities and other relevant stakeholders, and that the company has taken into consideration their opinions and sought agreement with them on the measures to be taken. Confirm that mitigation measures have been developed for all significant impacts to water resources predicted in 4.2.2.3. Through interviews with the company and stakeholders, confirm that consideration has been given to the mitigation hierarchy during the development of mitigation measures. (For more on mitigation hierarchy see more detailed Explanatory Notes for 4.2.3.1)	proposals. • Documentation (e.g., reports, studies, impact assessments, memos, record of decision) demonstrating the mitigation options that were under consideration, and rationale for selecting particular mitigation options. • Documentation (e.g., reports, studies, memos, record of meetings) describing and detailing proposed and/or agreed strategies for avoiding or minimizing impacts, carrying out restoration, and addressing residual impacts that cannot be restored (e.g., offsets, compensation). • Records of meetings or communications (e.g., meeting notes or minutes, attendee lists, correspondence with individuals or organizations, written stakeholder input, company response to input) where mitigation options were discussed and evaluated.	regulators or others who have a role or interest in protecting water resource and aquatic ecosystem health. Mitigation strategies for water quality should include strategies to prevent and minimize impacts of planned and unplanned mining-related discharges and spills, mine water use and dewatering on surface and groundwater quality. "Mitigation hierarchy" is a widely used framework for managing risks and impacts. It prioritizes avoidance/prevention of impacts, typically during the design phase for the project (e.g., by changing the location, scope, nature or timing of infrastructure, activities, processes or operations). If avoidance or prevention is not possible, impacts should be minimized. Then, impacted areas, functions or resources should be restored to the extent possible (e.g., a water treatment plant can restore contaminated water to an acceptable water quality level prior to discharge). If there are residual impacts that cannot be restored, only then should strategies be developed to offset or compensate for residual impacts. Compensation/offsetting might include payments or in-kind contributions to support a more sustainable and equitable use of water in the catchment where the mine is located.[562] Offsetting or compensation strategies should be agreed by affected and/or relevant stakeholders. For example, if offsets are considered to address residual impacts on aquatic ecosystems, they should be developed in collaboration with environmental NGOs, government regulators and community stakeholders who may be affected by offset proposals. If mixing zones (see 4.2.3.2) are proposed as a mitigation strategy, they must be included in the evaluations undertaken with relevant stakeholders as per 4.2.3.1.

[562] Hoekstra, A. 2008. Water Neutral: Reducing and Offsetting the Impacts of Water Footprints. (UNESCO). http://waterfootprint.org/media/downloads/Report28-WaterNeutral.pdf

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4.2.3.2. If a surface water or groundwater mixing zone is proposed as a mitigation strategy: a. A risk assessment shall be carried out to identify, evaluate and document risks to human health, local economies and aquatic life from use of the proposed mixing zone, including, for surface water mixing zones, an evaluation of whether there are specific contaminants in point source discharges, such as certain metals, that could accumulate in sediment and affect aquatic life; and b. If any significant risks are identified, the operating company shall develop mitigation measures to protect human health, aquatic life and local economies including, at minimum: i. Surface water or groundwater mixing zones are as small as practicable; ii. Water in a surface water mixing zone is not lethal to aquatic life; iii. A surface water mixing zone does not interfere with the passage of migratory fish; iv. Surface water or groundwater mixing zones do not interfere with a pre-mine use of water for irrigation, livestock or drinking water, unless that use can be adequately provided for	**For 4.2.3.2.a:** Confirm, through review of documentation, that a risk assessment of the mixing zone was carried out prior to implementation. Also, confirm through review of documentation, that the risk assessment included analysis of whether or not point source discharges might lead to the accumulation of contaminants, in particular metals, that could in turn affect the health of aquatic organisms over the long-term. **For 4.2.3.2.b.i:** Review the calculations for the spatial extent of the mixing zone to determine if an effort was made to make the mixing zone as small as practicable. **For 4.2.3.2.b.ii:** Confirm that water quality in the surface water mixing zone will not be lethal to local aquatic life (i.e., chemical and physical constituents, including turbidity). This may be evaluated based on the results of the whole effluent toxicity testing or by comparing the concentration of constituents measured inside the mixing zone to acute toxicity values, or by other credible scientific means. If, during use of the mixing zone, point source discharges are found to be lethal to a particular species, confirm that the company has identified adaptive management actions to reduce concentrations of constituents responsible for the toxicity. Actions could include improving treatment methods, mixing with cleaner water, or decreasing or ceasing effluent discharge. **For 4.2.3.2.b.iii**: Confirm that the surface water mixing zone does not interfere with the passage of	**For 4.2.3.2:** • Mixing zone risk assessment (including inter-disciplinary considerations, e.g., socio-economic, biodiversity). • Documentation of an evaluation of mitigation measures to reduce contamination in the mixing zone and to reduce the size of the mixing zone (e.g., studies, memos, reports). • Documentation of all water users that could be affected by the mixing zone, and documentation of agreements for any substitution of water supplies, if necessary. • Baseline and seasonal water quality monitoring data from inside the mixing zone. • Biologic monitoring of aquatic life in surface water mixing zones. • Records (e.g., studies or observations) of migratory fish behavior (if any are present). • Records of effluent discharges into mixing zone (including volumes, dates, times), and comparison with records of typical local hydrograph.	Explanatory Note for 4.2.3.2: Re: 4.2.3.2.a, risk assessment is the determination of quantitative or qualitative estimate of risk related to a well-defined situation and a recognized threat. Quantitative risk assessment requires calculations of two components of risk: the magnitude of the potential loss, and the probability that the loss will occur. An acceptable risk is a risk that is understood and tolerated, usually because the cost or difficulty of implementing an effective countermeasure for the associated vulnerability exceeds the expectation of loss. For this requirement, the primary focus of the risks assessed should be risks to communities and natural resources, not risks to the company. Re: 4.2.3.2.b.i, mixing zone modeling is complex. For the purposes of this requirement, the company should have detailed documentation on the assumptions made for the model. Re: 4.2.3.2.b.ii, lethal toxicity may be predicted based on the results of whole effluent toxicity testing, or by comparing the concentration of constituents measured inside the mixing zone to acute toxicity values, or by other credible scientific means. If, during use of the mixing zone, point source discharges are found to be lethal to a particular species, measures should be immediately undertaken to reduce concentrations of point source discharges found to be lethal. Actions could include improving treatment methods, mixing with cleaner water, or decreasing or ceasing effluent discharge. Re: 4.2.3.2.b.iii, companies can demonstrate that the surface water mixing zone does not interfere with the passage of migratory fish by, e.g. confirming that substances known to cause avoidance, like copper for salmonids, are not present in the discharge; or providing documentation that migratory fish are found upstream and downstream of the mixing zone in numbers similar to what existed pre-mining (if baseline values were established for the migratory fish populations).

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by the operating company through another source of similar or better quality and volume, and that this substitution is agreed to by all potentially affected water users; and v. Point source discharges into a surface water mixing zone match the local hydrograph for surface water flows to the extent practicable.[563]	migratory fish. This could be done by interviewing operating company and stakeholders to find out if migratory fish have been observed avoiding the portion of the surface water that contains the mixing zone. Or, to prove that the mixing zone is not interfering, the operating company could provide documentation that migratory fish are found upstream and downstream of the mixing zone in numbers similar to what existed pre-mining (if baseline values were established for the migratory fish populations). For 4.2.3.2.b.iv: Depending on whether surface water or groundwater mixing zones are proposed, review documentation related to use of surface water or groundwater for livestock, irrigation or drinking water. If these uses were in place prior to the mine/mixing zone, confirm, through review of monitoring data and comparison with irrigation/livestock and drinking water end use water quality criteria (See IRMA Water Quality Criteria by End-Use Tables), that the quality of water in the mixing zone is not harmful to irrigated agricultural products, livestock or drinking water; or, if water quality does not meet the end-use criteria in the IRMA tables, confirm that the company has provided the water users with an acceptable alternative source of water. Also, if surface or groundwater supply wells were in place prior to the mine/mixing zone, ensure that the mixing zone is outside of the water intake or cone of depression for those wells; or if wells are affected, confirm with users that they reached an agreement with the company, e.g., to provide	4.2.3.2.b.iv, if there are pre-mine uses of surface and/or groundwater, the company must either demonstrate that it has prevented any further contamination of the water, or it has reached an agreement with stakeholders to replace, mitigate, or compensate those stakeholders. 4.2.3.2.b.v, a hydrograph is a graph or plot that shows the rate of water flow in relation to time, given a specific point or cross section. To the extent possible, discharges should correspond to the pre-mining temporal (diurnal, weekly, monthly) and seasonal variations. Unless safety reasons necessitate, large discharges of water should not take place at a time of year when the river typically has a low flow. High volume releases should be restricted because during an otherwise dry period this could have a detrimental effect on native fish or other aquatic biota that have life cycles adapted to dry periods.

[563] A hydrograph is a graph or plot that shows the rate of water flow in relation to time, given a specific point or cross section.

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	mitigation or compensation for impacts on their water supply. **For 4.2.3.2.b.v:** Review records of effluent discharge flows in comparison to the local hydrograph (i.e., a graph or plot that shows stream flows over time, especially seasonally, at a given location), which should have been established during the collection of baseline water quantity data (see 4.2.4.2.a.ii). Confirm that, to the extent possible, effluent discharges correspond to the pre-mining temporal (diurnal, weekly, monthly, seasonal) variability in stream flow. For example, unless it can be demonstrated otherwise, large discharges of effluent should not take place at a time of year when the river typically has a low flow, as a high-volume release during an otherwise dry period could have a detrimental effect on native fish or other aquatic biota that have lifecycles adapted to dry periods.		
f 4.2.3.3. Waters affected by the mining project shall be maintained at a quality that enables safe use for current purposes and for the potential future uses identified in collaboration with relevant stakeholders (see 4.2.1.2). In particular, the operating company shall demonstrate that contaminants measured at points of compliance are: a. Being maintained at baseline or background levels; or b. Being maintained at levels that are protective of the identified uses of those waters (See IRMA Water	**For 4.2.3.3:** Review water quality monitoring data to confirm that concentrations are being maintained at baseline or background levels established as per 4.2.2.1, or that concentrations meet the appropriate values in the IRMA Water Quality Criteria by End Use Tables. For example, if the only current or potential future end use for a particular affected water body is to water livestock, then those values are the only ones that need to be met. If drinking water and fishing are both identified as current uses of a different affected water body, then for a particular parameter the more stringent value in those two tables would need to be met. See IRMA Water	**For 4.2.3.3:** • Documentation confirming the location of compliance points and other monitoring points e.g., a base-map. • Documentation confirming water quality requirements (e.g., water quality directive from regulators, or similar). • Documentation of existing and potential future surface and groundwater uses (see examples of evidence from 4.2.1.2). • Documentation of surface and groundwater baseline or background water quality (e.g., raw data, a summary report).	f [flag] **4.2.3 Issue in brief:** During IRMA's Launch Phase a mine site may request an exception to 4.2.3.3 if they believe there are site-specific factors that prevent them from meeting the requirement. Sites will still be expected to demonstrate that water quality is protective of identified current and future uses of water. IRMA's Technical Water Committee will review requests for exceptions. Additionally, IRMA is seeking input, in particular, on the proposed criteria for cyanide (IRMA Water Quality Criteria Table 4.2.a. – Aquatic Organisms - Fresh Water Quality Criteria. (For further information, see Table 4.2.a). Explanatory Note for 4.2.3.3: The intent of this requirement is that mining-related releases (as controlled discharges of treated or untreated effluent, seepage, runoff, or unintended releases) to surface waters or groundwater do not significantly change the

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Quality Criteria by End Use Tables 4.2.a to 4.2.h, which correspond to particular end uses).	Quality Criteria by End Use Tables 4.2.a to 4.2.h, which correspond to particular end uses. As per IRMA Chapter 1.1, water quality also has to meet host country laws, including any water quality standards.	• Time-dependent documentation of how monitoring results compared to baseline/background levels and/or IRMA end-use water quality criteria (e.g., table of values, graphical comparison, comparison). • Documentation confirming methodology followed for sampling and chemical analysis undertaken. • Records of any observations and/ or recommendations made by any party supervising or undertaking the sampling.	quality of affected waters from their baseline/background water quality levels, or do not cause any contaminant to exceed levels deemed to be necessary to protect the current or identified future uses of the affected waters. For example, if the only current or potential future end use for a particular affected water body is to water livestock, then those values are the only ones that need to be met. If drinking water and fishing are both identified as current uses of a different affected water body, then for a particular parameter the more stringent value in those two tables would need to be met. See IRMA Water Quality Criteria by End Use Tables 4.2.a to 4.2.h, which correspond to particular end uses. As per IRMA Chapter 1.1, water quality also has to meet host country laws, including any water quality standards. If host country water quality criteria for any parameter are more stringent than IRMA criteria then host country criteria must be met.
4.2.3.4. Unless agreed by potentially affected stakeholders, water resources affected by mining activities shall be maintained at quantities that enable continued use of those resources for current purposes and for the potential future uses identified in collaboration with relevant stakeholders (see 4.2.1.2).	For 4.2.3.4: Confirm that: • If surface water flows are decreased by mining-related water withdrawals or mine dewatering, any temporary depletion has been agreed to by affected users (with mitigation put in place to provide alternative sources for their water needs); and confirm that surface waters for identified future uses will be available after the life of the mine at water quality that will protect future uses. • If surface water flows are increased or decreased due to mine discharges or withdrawals, respectively, confirm that efforts have been made to maintain appropriate environmental flows (e.g., volumes and variations necessary to sustain the ecological and physical integrity of affected water courses or water bodies and affected natural resources).	For 4.2.3.4: • Documentation of surface water and groundwater baseline or background water quantity data (e.g., raw data, a summary report). • Report on environmental flow requirements. • Water quantity monitoring data. • Documentation from regulators (e.g., instruction to undertake a specific action and/or variation to previously agreed requirements) and record of company actions in response. • Records of meetings or correspondence with potentially affected stakeholders related to proposed changes in water quantity/supplies.	Explanatory Note for 4.2.3.4: Mining can change flow direction and quantity of both surface and ground waters. Existing water uses should be preserved by avoidance of impacts, and if that is not possible, mitigation. If surface water flows are increased or decreased due to mine discharges or withdrawals, respectively, efforts should be made to maintain appropriate environmental flows (e.g., volumes and variations necessary to sustain the ecological and physical integrity of water courses and the natural resources and the communities that depend on those waters). Temporary or permanent changes to water quality and quantity should be agreed through a collaborative process with stakeholders. If stakeholders choose not to participate, the reasons for non-participation should be documented. (See also See Note for 4.2.1.2).

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	If groundwater levels are decreased by mine dewatering or the presence of mine facilities, confirm that any temporary depletion of groundwater has been agreed to by affected users (with mitigation put in place to provide alternative sources for their water needs); and confirm that groundwater for identified future uses will be available after the life of the mine at a quality that will protect future uses.	• Records of stakeholder grievances related to changes in water quantity, and the company's responses.	
4.2.4. Monitoring and Adaptive Management 4.2.4.1. (Critical Requirement – a through e) The operating company shall develop and document a program to monitor changes in water quantity and quality.[564] As part of the program the operating company shall: a. Establish a sufficient number of monitoring locations at appropriate sites to provide reliable data on changes to water quantity and the physical, chemical and biological conditions of surface waters, natural springs/seeps and groundwater (hereafter referred to as water characteristics); b. Sample on a frequent enough basis to account for seasonal fluctuations, storm events and	**For 4.2.4.1:** Confirm, through review of documentation that the monitoring program is documented, and includes maps that show water supply, storage and discharge locations, and a monitoring plan that describes how and when monitoring will be carried out to detect changes in surface water and groundwater quality and quantity. **For 4.2.4.1.a:** Confirm, through review of documentation and interviews with the company and relevant stakeholders, that the company has an adequate number and placement of surface water, spring/seep, and groundwater monitoring locations. Monitoring locations need to include compliance sites (see IRMA definition for "point of compliance") and baseline/background sites. To ensure reliability of data, sites should be located as close as practicable to mine related contaminant sources (point source and non-point). Additional	**For 4.2.4.1:** • Documentation of the water monitoring program (e.g., map, water monitoring plan or equivalent). • Sampling plan or other documentation of sampling QA/QC, procedures, equipment used, and party undertaking sampling (e.g., company personnel, third-party consultants, government). • Documentation of chemical analyses. Data should clearly indicate the laboratory used and the techniques employed such that any differences in the chemical analysis conducted over time are identifiable. • Documentation for each laboratory used including laboratory accreditation certificates with test-specific accreditation. • Records confirming decision to use an unaccredited laboratory or a laboratory for an unaccredited test (e.g., memo, record of decision).	Explanatory Note for 4.2.4.1: Re: "changes in water quality or quantity": • For surface waters this means increases or decreases in flows in streams, rivers, or other water courses, or water levels in lakes or other bodies of water. • For groundwater this means, at minimum, increases or decreases in groundwater elevations and/or flow directions • For natural seeps and springs this means increases or decreases in flows. Natural seeps and springs refer to those originating from natural sources that existed before mining began, not those originating from mining wastes. The monitoring program should be documented in a water monitoring plan. The plan should contain not only monitoring activities, but a clearly stated rationale that drives those activities. Information on sample collection quality assurance requirements should also be included in the plan. Even if the mine facility has no planned discharges, a monitoring plan that contains monitoring locations and sampling requirements for unintentional discharges (from mine, processing, and waste facilities) would be required, e.g., even at a no-

[564] See also IRMA Chapter 4.1, Criteria 4.1.4, as water monitoring that occurs here is likely to have relevance to waste management (e.g., one indicator of the effectiveness of waste management practices may be whether or not water quality is being maintained at required levels).

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extreme events that may cause changes in water characteristics; c. Establish trigger levels and/or other indicators to provide early warning of negative changes in water characteristics; d. Sample the quality and record the quantity of mine-affected waters destined for re-use by non-mining entities; e. Use credible methods and appropriate equipment to reliably detect changes in water characteristics; and f. Use accredited laboratories capable of detecting contaminants at levels below the values in the IRMA Water Quality Criteria by End-Use Tables.	points of monitoring could be located inside the mine site boundary as a best practice measure. For 4.2.4.1.b: Confirm that the operating company's monitoring program has been designed to detect seasonal changes in water quantity (e.g., surface water flows, and groundwater levels). This should include provisions for sampling stormwater during or shortly after storms, and during and after extreme events such as periods of heavy precipitation or dry spells. Confirm that the full range of water quantity and quality conditions has been or can be captured. Use of automatic samplers or continuous flow/elevation monitors is recommended. For 4.2.4.1.c: Confirm that trigger levels have been established for each constituent with a water quality criterion (i.e., some constituents may be monitored for informational purposes, such as hardness and some cations. Those do not need trigger levels). Also, confirm that trigger levels or other indicators have been established to provide early indication of potentially adverse changes in surface water or groundwater flows and levels, aquatic or riparian ecosystem components, and other resources identified as being at potential risk from changes in water quality or quantity. For 4.2.4.1.d: Confirm that any mine-affected waters sent offsite (e.g., for use as irrigation water or for other purposes) have been sampled for water quality, and the quantities have been documented. These shall meet the water quality values in IRMA Water Quality Criteria tables for the intended end uses.	• Documentation providing a record of both piezometric groundwater levels and surface water levels assessed with respect to groundwater discharge volumes.	discharge facility there will be groundwater monitoring requirements to ensure that no-discharge facilities are not leaking. See also IRMA Chapter 4.1, criterion 4.1.4, as water monitoring is likely to have relevance to waste management (e.g., one indicator of the effectiveness of waste management practices may be whether or not water quality is being maintained at required levels). Re: 4.2.4.1.a, establishing what constitutes an "adequate" number of monitoring locations is somewhat arbitrary. At a minimum, point discharges of contaminants will be required by regulation. Internal monitoring of sources like tailings and waste rock groundwater interception systems is strongly encouraged. If these do not exist, there should be very clear rationale for their absence. To ensure reliability of data, sites should be located as close as practicable to mine related contaminant sources (point source and non-point). Additional points of monitoring could be located inside the mine site boundary as a best practice measure. Regardless of regulatory requirements, points-of-compliance for surface and ground water discharges should be established and monitored for each source of treated or untreated contaminants. For IRMA purposes a "point of compliance" is the physical location where water quality must meet IRMA used-based standards. The location will vary with the type of discharge (surface, groundwater, mixing zone, etc.). See the Glossary for the complete definition of a "point of compliance". Re: 4.2.4.1.b, seasonal changes, for example high flows and flushing of contaminants in the spring and low flows in winter and fall, bring fluctuations in water quality as well as quantity. However, seasonal flow patterns often vary with mine location, so the monitoring frequency needs to be set to meet local conditions. The monitoring plan should analyze the potential for these changes and define monitoring accordingly. Use of automatic samplers or continuous flow/elevation monitors is recommended.

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	For 4.2.4.1.e: Confirm that credible methods have been used for water quality/quantity analysis and prediction. Credible methods are established methods that are scientifically robust and would withstand scrutiny by other competent professionals. Appropriate equipment will be dependent on what is being measured. For example, if there may be impacts on surface water flow from water management activities, one or more river flow gauging station should be established to verify that sufficient flows are being maintained to support aquatic organisms throughout the year.[565] As mentioned above (4.2.4.1.b), use of automatic samplers or continuous flow/elevation monitors is encouraged. **For 4.2.4.1.f:** Confirm that samples are sent to a nationally or internationally accredited laboratory (either in the host country, or if necessary, elsewhere). Laboratory detection limits will ideally be at least 10 times lower than the values in the IRMA Water Quality Criteria by End-Use Tables.	Re: 4.2.4.1.c, "trigger levels" for water quality purposes, are fractions of a numeric standard set at percentage of the standard or criterion value, e.g., 25%, 50%, 75%. Trigger values should be set at concentrations that are higher than baseline/background water quality values but lower than levels established to protect water uses or aquatic ecosystems (if statistically possible). Trigger levels provide an early indication of whether water quality is degrading or there is a worrisome trend in water quantity at specified monitoring point. This information allows for adaptive management (see 4.2.4.4) before significant impacts actually occur. Re: 4.2.4.1.d, water sent offsite (e.g. sold or donated) might need treatment to the level required for discharge to surface or ground waters. Nonetheless, the quality and quantity of this water needs to be documented. Re: 4.2.4.1.e, "credible methods" are established methods that are scientifically robust and would withstand scrutiny by other competent professionals. The methods are typically specified in a sampling plan (or equivalent), which will also include QA/QC procedures. The sampling plan (or equivalent) should also describe the equipment to be used in sampling, calibration procedures for the equipment (if applicable), sanitation and cleaning procedures, and chain of custody requirements. Re: 4.2.4.1.f, the laboratory processing samples should have an accreditation to process the type of samples (e.g. metals in water, metals in soil, etc.) being processed. The accreditation should also be current, and for the specific test undertaken rather than simply for the laboratory. Where accreditation for a specific test has not be obtained by any laboratory used for the chemical analysis then justification for using the laboratory should be presented to the

[565] Gauging station: A site at which surface flows can be measured. This is necessary for monitoring the effects of surface water or groundwater withdrawals on surface water.

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			auditor; the justification should include discussion on the accuracy of the unaccredited tests undertaken by the laboratory. Ideally the detection limits should be 10 times less than the contaminant limit level specified in the IRMA Water Quality Criteria by End-Use Tables. However, in a number of instances achieving this level may not be possible. Laboratory data reports will list both the detection method used, and the sensitivity. Mine personnel should be aware of the limits of detection used by their laboratory.
4.2.4.2. Samples shall be analyzed for all parameters that have a reasonable potential to adversely affect identified current and future water uses. Where baseline or background monitoring, source characterization,[566] modeling, and other site-specific information indicate no reasonable potential for a parameter to exceed the baseline/background values or numeric criteria in the IRMA Water Quality Criteria by End-Use Tables (depending on the approach used in 4.2.3.3), those parameters need not be measured on a regular basis.	For 4.2.4.2: If all constituents in IRMA Water Quality Criteria tables are not being monitored, determine if the company has identified the appropriate list of constituents in its water quality monitoring program. Confirm that constituents with a reasonable potential to affect water quality or inform water quality management are being monitored.	For 4.2.4.2: • Documentation of the water monitoring program (e.g., water monitoring plan or equivalent). • Documentation of water monitoring requirements from regulators. • Documentation of surface water and groundwater baseline or background water quantity data (e.g., raw data, a summary report). • Water quantity monitoring data. • Documentation of rationale for excluding particular water quality parameters (this may be included in the monitoring plan or equivalent).	Explanatory Note for 4.2.4.2: The intent behind the phrase "all parameters that have a reasonable potential to negatively affect water" is that the IRMA Water Quality Criteria by End-Use Tables, which provide a list of the contaminants and water quality parameters that may be present at mine sites, should be the starting point for mines as they develop their list of monitoring parameters. When collecting baseline water quality or background water quality data, sampling should include the complete list of criteria in IRMA tables, even contaminants that may not be expected to be present, to establish that certain constituents are not present in the baseline/background. But it may not always be necessary to monitor all of the contaminants in the IRMA Water Tables. Some constituents could be removed from the list, e.g., they are not present in ores or wastes based on source characterization (see IRMA Chapter 4.1, 4.1.3.2); they are not found in chemicals used on site (see Chapter 4.1, 4.1.2.1); or they are not predicted by modeling to be more than 1/10th of the IRMA Water Quality Criteria; (see 4.2.2.3). Even if the mining, beneficiation, and processing activities and chemical reagent use have remained the same, at least once every five years an analysis of the complete list of parameters in the

[566] See IRMA Chapter 4.1, requirement 4.1.2 Source Characterization and Prediction.

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			IRMA Water Quality Criteria Tables should be measured at baseline/background sampling locations and points of compliance to verify that a contaminant has not unexpectedly appeared in the water. Note that some constituents in the IRMA Tables are not based on their inherent potential to pose risks to human or aquatic ecosystem health or other uses, but rather, because they can provide important information on water quality trends that may indicate other problems on site. For example, increases in sulfate levels can provide an early indication of the formation of acid rock drainage (ARD), or turbidity can be an indication that stormwater runoff mitigation is not performing well. If caught early, significant impacts can be prevented. If ARD is even remotely a potential, water samples should always be analyzed for sulfate. Additionally, even if a community does not want or need funding to participate in monitoring, the community and/or its experts will need to be granted access to the mine site to carry out or participate in monitoring.
4.2.4.3. The operating company shall actively solicit stakeholders from affected communities to participate in water monitoring and to review and provide feedback on the water monitoring program: a. Participation may involve the use of independent experts selected by the community; and b. If requested by community stakeholders, costs related to participation in monitoring and review of the monitoring program shall be covered in full or in part by the company, and a mutually	For 4.2.4.3: Confirm through review of documentation (such as presentations, letters to stakeholders) and/or interviews with stakeholders that the operating company has actively tried to engage community stakeholders to participate in water monitoring and providing feedback on the monitoring program. To ensure participation, costs related to community participation may need to be covered by the operating company. Such costs might include field labor, an independent expert, and sample analysis using an independent laboratory, if desired by the community. Determine, through interviews with stakeholders and the company, whether or not funding was deemed necessary. If	For 4.2.4.3: • Records of meetings or correspondence (e.g., meeting minutes, outreach materials, letters) inviting potentially affected stakeholders to participate in mine site water monitoring and review and provide feedback on the monitoring program. • Records of stakeholder participation in mine site water monitoring. • Records of task specific training provided to stakeholders proposed to be involved in mine site water monitoring cross-checked against actual records of persons involved in monitoring. • Records of meetings or correspondence	Explanatory Note for 4.2.4.3: Participation of stakeholders should be actively solicited by the operating company. In addition to reviewing the monitoring data with stakeholders, the company should provide regular opportunities for stakeholders (and their experts) to accompany monitoring personnel when they conduct water quality sampling. Many affected communities will not have the resources to participate in water monitoring or the review of the operating company's monitoring program. To ensure participation, costs related to community participation may need to be covered by the operating company. Such costs might include field labor, an independent expert, and sample analysis using an independent laboratory, if desired by the community. If this is the case, then a mutually acceptable agreement for covering costs should be developed.

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acceptable agreement for covering costs shall be developed.	so, confirm that a mutually acceptable agreement for covering costs was developed.	related to review and feedback on the monitoring program (e.g., meeting minutes, written submissions from stakeholders on the monitoring program and company responses, etc.). • Records of stakeholder grievances related to water monitoring, and the company's responses.	
4.2.4.4. (Critical Requirement) The operating company shall develop and implement an adaptive management plan for water that: a. Outlines planned actions to mitigate predicted impacts on current and future uses of water and natural resources from changes in surface water and groundwater quality and quantity related to the mining project; and b. Specifies adaptive management actions that will occur if certain outcomes (e.g., specific impacts), indicators, thresholds or trigger levels are reached, and timelines for their completion.	**For 4.2.4.4:** Confirm that an adaptive management plan (AMP) or its equivalent (i.e., it may have a different name), has been developed, and actions and strategies have been implemented as outlined in the plan. **For 4.2.4.4.a:** Confirm that the AMP includes a comprehensive list of actions to mitigate the predicted impacts on and risks to water quality/quantity. It should include actions for all mitigation measures developed to address the significant risks to water resources predicted in 4.2.2.2 and discussed with stakeholders in 4.2.4.1. (These mitigation measures may not be in the Adaptive Management Plan, but they should be documented somewhere, e.g., in a Water Management Plan or site-wide Environmental Management Plan, etc.). **4.2.4.4.b:** Review the AMP to confirm that it specifies actions to be taken if proposed mitigation measures are not effective, or if predefined thresholds or trigger levels are exceeded. The trigger levels or thresholds that spur adaptive management actions should be clearly delineated. Interview company and review relevant data to determine if any trigger levels or thresholds have	**For 4.2.4.4:** • Adaptive management plan or equivalent. • Records of on-site incident management and actions associated with adaptive management. • Documentation (e.g., correspondence) between monitoring teams and mine site management confirming recommendations for adaptive management and implementation of recommended actions.	Explanatory Note for 4.2.4.4: Mitigation refers to actions taken to reduce the likelihood of a certain adverse impact occurring. Mitigative actions should reduce the extent of any damage to current and future uses of water and natural resources, with any residual impact then requiring remediation. Adaptive management may also be referred to as change management. Adaptive management plans (for water) typically include actions that should be taken if monitoring data indicate that mitigation measures are not being effective at preventing or minimizing impacts on water resources. These plans also outline responsibilities, and timelines for their completion. The plan does not need to be called an "Adaptive Management Plan" as long as it contains the relevant information. Adaptive management measures may be contained in a stand-alone document/plan, or be contained in another document (e.g., a water monitoring plan, a water management plan, a general Environmental and Social Management Plan as per Chapter 2.1, etc.). Trigger levels (also mentioned in 4.2.5.1.d) are often established to provide an early indication of whether water quality at a specified monitoring point is degrading. Similar thresholds or indicators can be established to provide early warning of whether water levels are dropping below or rising above levels considered safety or protective of resources. When those responsible for reviewing

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	been exceeded, or particular outcomes met that warranted actions to be taken. Confirm that actions outlined in AMP were implemented.		monitoring data notice that a trigger/indicator level has been reached, it provides a site with time to institute measures that can prevent water quality from degrading (or quantity from changing) to levels that will significantly impact water uses/users or aquatic ecosystem health. The adaptive management plan should include at least the first round of pre-planned responses that will be taken if certain outcomes occur or a threshold or trigger level is repeatedly reached or exceeded. Actions may include additional monitoring, source controls, installation of diversion structures, pumping, etc. The plan should include measures to shut down operations if remedial actions are not effectively slowing or stopping the degradation or negative changes in water quantity and quality.
4.2.4.5. Annually or more frequently if necessary (e.g., due to changes in operational or environmental factors), the operating company shall review and evaluate the effectiveness of adaptive management actions, and, as necessary, revise the plan to improve water management outcomes.	For 4.2.4.5: Confirm that operating company reviews and evaluates the effectiveness of its adaptive management strategies. If monitoring and/or other information (e.g., updated site mine water balance, updated numerical models) reveals that actions are not effective (e.g., water quality is degrading or likely to degrade, or impacts to water uses or aquatic ecosystems have occurred), confirm that the company has revised the adaptive management plan to include improved actions to prevent further impacts.	For 4.2.4.5: • Adaptive management plan or equivalent. • Records of updates to the plan (e.g., old and new versions of the plan). • Documentation (e.g., memos, correspondence between relevant personnel) regarding when the plan was last reviewed, and what changes were made.	Explanatory Note for 4.2.4.5: A company's evaluation of the effectiveness of its adaptive management plan actions is likely to involve a review of monitoring data, a review of whether any trigger levels/thresholds/outcomes have been reached, a review of changes to site water balance or other operational changes that may influence the effectiveness of mitigation strategies, and review of other relevant information, including feedback from stakeholders or monitoring data from regulatory agencies. If monitoring and/or other information (e.g., updated site mine water balance, updated numerical models) reveals that actions are not being effective (e.g., water quality is degrading or likely to degrade, or impacts to water uses or aquatic ecosystems have occurred), revisions to the AMP should occur and be implemented.
4.2.4.6. Community stakeholders shall be provided with the opportunity to review adaptive management plans and participate in revising the plans.	For 4.2.4.6: Confirm that community stakeholders have been invited to participate in the review of the effectiveness of adaptive management plans and the effectiveness of adaptive management actions taken.	For 4.2.4.6: • Records of meetings or correspondence with stakeholders related to review and revision of the adaptive management plan (e.g., meeting minutes, attendee lists, written submissions from stakeholders on the plan and company responses to their	

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTE
	If monitoring and/or other information reveals that the adaptive management actions are not being effective, confirm that stakeholders have been provided the opportunity to participate in the revision of adaptive management actions to prevent further impacts.	input, etc.). • Documentation (e.g., internal correspondence between mine site stakeholder team and mine site management) confirming assessment of stakeholder proposals.	
4.2.5. Data Sharing, Communications and Reporting on Water Management Performance 4.2.5.1. The operating company shall publish baseline or background data on water quantity and quality, and the following water data shall be published annually, or at a frequency agreed by stakeholders from affected communities:[567] a. Monitoring data for surface water and groundwater points of compliance; and b. Monitoring data for water quantity (i.e., flows and levels of surface waters, springs/seeps and groundwater), and the volume of water discharged and extracted/pumped for mining operations.	For 4.2.5.1: Review the operating company website or other links provided by the company to confirm that operating company has published baseline and/or background water monitoring data, and also that at least on an annual basis the company publishes monitoring data for surface water, natural springs/seeps and groundwater points of compliance, and monitoring data for surface water, springs/seeps and groundwater levels and water extraction/pumping. Interview company stakeholders from affected communities to determine if the stakeholders agreed to publication of data on a different frequency. If so, confirm that data are being published according to that schedule. Also, as per IRMA Chapter 1.2, requirement 1.2.4.3, confirm, through review of records (e.g., meeting minutes) and interviews with company and community stakeholders that stakeholders have been consulted on the appropriate formats and delivery methods for data sharing. Even if the preferred community format for data sharing is by viewing information at a community	For 4.2.5.1: • Links to websites or list of physical locations (e.g. nearby community facility, mine office) where data can be accessed. • Photographs of physical locations showing data as advertised at physical locations. Photographs provided as evidence of advertising data should be accompanied evidence confirming the date and time of the photograph being taken. • Records of correspondence with stakeholders requesting water data (e.g., emails, letters) and company responses.	Explanatory Note for 4.2.5.1: In addition to making baseline water quality or background water quality data available, this requirement applies to operational water quality and quantity monitoring data. Operational monitoring data must be published annually (or less frequently if agreed by stakeholders from affected communities). For the purposes of this requirement "published" means making information available on the operating company's website or an external site (e.g., data may already be available on a government website). As per Chapter 1.2—Community and Stakeholder Engagement, requirement 1.2.4.1, individual stakeholders (or groups of stakeholders) can request from the company copies of monitoring data on a more frequent basis. Also, Chapter 1.2, requirement 1.2.4.3, requires companies to provide data in formats that are understandable and useful (and convey information in a timely manner) to affected communities and stakeholders. For example, some communities may prefer to have all data published in electronic format, while others may prefer to have a simple summary of monitoring results in hard copy.

[567] Additionally, as per Chapter 1.2—Community and Stakeholder Engagement, requirement 1.2.4.3. "Communications shall be carried out and information shall be provided to stakeholders in a timely manner, and shall be in formats and languages that are culturally appropriate and accessible to affected communities and stakeholders."

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTE
	or mine site facility, the operating company must also publish data on a website.		
4.2.5.2. The operating company shall develop and implement effective procedures for rapidly communicating with relevant stakeholders in the event that there are changes in water quantity or quality that pose an imminent threat to human health or safety, or commercial or natural resources.	Auditing Note for 4.2.5.2: These procedures should be included in the company's Emergency Preparedness and Response Plan (EPRP) as per IRMA Chapter 2.5. Auditors should check to ensure that EPRPs are sufficient to cover water-related incidents such as water contamination or flooding that could result from catastrophic or large, unplanned water releases. For 4.2.5.2: Determine if there have been spills, large-magnitude exceedances of water quality criteria or other incidents that posed an imminent threat to human health, safety or commercial or natural resources. If there have been, confirm that the operating company's emergency response procedures were followed, and that they were effective (i.e., they reached the people who needed to be reached in a timely manner).	For 4.2.5.2: • Emergency preparedness procedures or equivalent (e.g., emergency action plan, procedures for internal and external communications in the event of an emergency, etc.). • Documentation of any incidents where changes in water quality or quantity posed a threat to human health, safety or resources (e.g., incident reports, memo's, and/or letters to regulators) • Documentation of emergency response actions taken following any incidents. • Contact lists for government authorities, community representatives and media who need to be informed in the event of an emergency related to changes in water quantity or quality that pose an imminent threat to human health or safety, or commercial or natural resources.	Explanatory Note for 4.2.5.2: "Commercial resources" could include aquaculture or agricultural operations; natural resources would include aquatic organisms, vegetation, wildlife, etc.). Spills or unintended releases of chemicals, significant exceedances of certain water quality criteria, or unintended releases of large volumes of waste or water may pose a risk to community health or safety, or to commercial or natural resources. If such incidents occur, the communications by the company to potentially affected stakeholders should be as rapid as possible (See also IRMA Chapter 2.5, which similarly requires companies to develop procedures to ensure that the company has communication protocols in place to manage emergency situations related to the mine. Potential water-related emergencies should be addressed in the emergency response plan developed as per Chapter 2.5).
4.2.5.3. The operating company shall discuss water quality management strategies, performance and adaptive management issues with relevant stakeholders on an annual basis or more frequently if requested by stakeholders.	For 4.2.5.3: Confirm, through review of records (e.g., meeting minutes) and interviews with stakeholders that operating company has met with interested stakeholders and discussed water quality and quantity monitoring result, the effectiveness of mitigation strategies, and adaptive management issues on an annual basis or more frequently if requested by stakeholders.	For 4.2.5.3: • Records of presentations and meetings with stakeholders related to water management strategies and performance and adaptive management (e.g., meeting minutes or notes, attendee lists). • Records of requests from stakeholders and actions undertaken by the company (e.g., letters, memo's, meeting minutes, advertisements).	Explanatory Note for 4.2.5.3: Discussions could include, for example: • The results of water quality and quantity monitoring (e.g., have there been any exceedances, and if so, what was done to prevent their recurrence; have any trends in contaminant concentrations or water levels been noticed, and if so, what are the potential implications) • The success or challenges with mitigation strategies, and adaptive management issues (e.g., have trigger levels been reached, and if so, what steps were taken as a result)

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if there are host country laws that pertain specifically to the topics addressed in any IRMA chapter the operating company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirement, as long as complying with it would not require the operating company to break the host country law. E.g., if host country water quality criteria are more protective of human health or the environment than IRMA requirements, the host country requirements supersede IRMA requirements.
1.2—Community and Stakeholder Engagement	The requirements to consult or collaborate with stakeholders regarding mine water management (in 4.2.1.2, 4.2.1.3, 4.2.4.1) shall conform with IRMA stakeholder engagement requirements in Chapter 2.8. This includes determining if the stakeholders have the capacity to effectively participate in discussions, and provision for access to independent experts if necessary to ensure meaningful engagement in water monitoring (requirement 4.2.5.3). Similarly, communications with stakeholders (e.g., in 4.2.1.2, 4.2.1.3, 4.2.4.1 and 4.2.6) shall conform with requirements in Chapter 1.2.4, which require that communications and information are in culturally appropriate formats and languages that are accessible and understandable to affected stakeholders, and are provided in a timely manner, and 1.2.2.2 requires dialogue and meaningful engagement that includes providing stakeholders with feedback on how their input has been taken into account.
1.3—Human Rights Due Diligence	In 2010, the United Nations recognized the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights. (UN General Assembly, 28 July 2010, A/RES/64/202) The potential for the mining project to infringe on this right should be evaluated as part of human rights due diligence in Chapter 1.3.
1.4—Complaints and Grievance Mechanism and Access to Remedy	If not resolved by other means, issues related to mining-related water impacts may be discussed and resolved through the mine's operational-level grievance mechanism (see IRMA Chapter 1.4).
2.1-Environmental and Social Impact Assessment and Management	Scoping of impacts related to water may have been done as part of the Environmental, and Social Impact Assessment process (See 2.1.3). If potential impacts were identified during scoping, they should have been further assessed as per 4.2.2.
2.5—Emergency Preparedness and Response	Chapter 2.5 mandates coordination between the mine and emergency responders in adjacent communities. Requirement 4.2.5.2 requires that the operating company develop and implement procedures for rapidly communicating with stakeholders in the event that there are changes in water quantity or quality that pose an imminent threat to human health or safety, or commercial or natural resources. (See). These procedures should be incorporated into the emergency response plan in Chapter 2.5.
2.6—Planning and Financing Reclamation and Closure	The need for long-term water treatment (i.e., post-closure) should have been evaluated in Chapter 4.2, requirement 4.2.2.3.d. If it is predicted to be necessary, Chapter 2.6 include additional requirements for a risk assessment prior to long-term water treatment (see 2.6.6.1), and provision of financial assurance to cover the cost of long-term water treatment (see 2.6.7.2). Also, the conceptual site model, site water balance and numerical hydrogeochemical or hydrogeological models mentioned in 4.2.2.3, if used, can and should inform reclamation and closure planning (e.g., areas requiring soil remediation, whether wet or dry closure will be possible, the potential future impacts of climate change on the site, the water quality and quantity at closure, and potential to avoid long-term water treatment).
4.1—Waste and Materials Management	Mine waste management has potential implications for water management. As a result, Chapter 4.2, similar to 4.1, addresses characterization of wastes, water balance, chemical modeling and Conceptual Site Models (see 4.2.2), prevention of water contamination through management of mine wastes (see 4.2.3), and mitigation and monitoring of waters that may be contaminated by mine wastes (see 4.2.3 and 4.2.4, respectively).
4.3—Air Quality	The conceptual site model may provide information that will be useful to air quality assessment, as air is one pathway for contaminants to travel.

Cross References to Other Chapters	
4.6—Biodiversity, Ecosystem Services and Protected Areas	Mining-related impacts on water and mine water management practices may affect biodiversity (e.g., affect habitat or water supply for threatened and endangered species), ecosystem services (e.g., reduce flood regulation, availability of drinking water), or mining may affect waters located in protected areas. Potential impacts related to biodiversity, ecosystem services or protected areas should have been scoped either during the Biodiversity, Ecosystem Services and Protected Areas screening process (see criteria 4.6.2) or as per Site Characterization and Prediction of Potential Impacts in Chapter 4.2 (see 4.2.2). If potential impacts are identified in either case, the significance of the potential impacts should be further assessed (as per 4.6.3), and mitigation developed accordingly to 4.6.4.
4.7—Cyanide Management	If cyanide is transported to, stored or used on site, monitoring of cyanide in surface water and groundwaters is required in Chapter 4.7 (see 4.7.4). Monitoring of cyanide in water may be incorporated into the water management program in Chapter 4.2 (see criteria 4.2.4).
4.8—Mercury Management	Monitoring of mercury released to water may be required as part of the mercury monitoring plan (See 4.8.3). Mercury monitoring in water may be incorporated into the water management program in Chapter 4.2 (see criteria 4.2.4).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Acid Rock Drainage (ARD)

The drainage produced when rocks with sulfide or other acid-producing minerals are under oxidizing conditions (exposed to water and oxygen) and generate an acidic water stream. Acid rock drainage generally contains elevated concentrations of metals, sulfate, and other constituents and has a pH < 6. The terms acid mine drainage and acid and metalliferous drainage (both AMD) are sometimes used as synonyms for ARD.

Adaptive Management

A structured, iterative process of robust decision-making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. It includes the development of management practices based on clearly identified outcomes, and monitoring to determine if management actions are meeting desired outcomes. If outcomes are not being met, the process requires development and implementation of management changes to ensure that outcomes are met or re-evaluated.

Affected Community

A community that is subject to risks or impacts from a project.

Background Water Quality

Established after mining has commenced, it is the water quality in a similarly mineralized area outside of the mine's influence (e.g., surface water quality upstream of the mine site or upgradient for groundwater).

Baseline Water Quality

The water quality at the site or in the area surrounding a proposed mining project, before mining-related activity has occurred.

Basin/Catchment/Watershed

An area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or the mouth of a stream or river. The word basin, or "drainage basin" is sometimes used interchangeably with catchment or watershed.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Collaboration

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Conceptual Flow Model (CFM)

A description of sources and flow paths for groundwater flow through an aquifer from points of recharge to points of discharge. It may be a qualitative description with as much quantification as possible based on the descriptions.

Conceptual Site Model (CSM)

A qualitative description, based on site measurements and observations, of what is known about the release, transport and fate of contaminants at a site. A CSM includes a schematic or diagram and an accompanying narrative description.

Control

An act, object (engineered) or system (combination of act and object) intended to prevent or mitigate an unwanted event.

Dewatering (of mines)

The extraction of water to lower the water table to a level lower than the deepest point of the mine, thereby keeping the mine dry.

Ecosystem Services

The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Metals Leaching

The release of metals by contact with solvents. Leaching may be natural or induced (e.g., related to mining operations). Mining commonly accelerates metal leaching. Metals leaching can also be referred to as “contaminant” leaching.

Mine Closure

A period of time when ore-extracting and processing activities of a mine have ceased, and final decommissioning and mine reclamation are occurring. It typically includes pre-closure (detailed closure design and planning), closure (actual activities of closure of mine workings and construction/decommissioning) and post-closure (mainly long-term reclamation, monitoring, and treatment) periods, each with its own specific activities.

Mining Impacted Waters (MIW)

Any water whose chemical composition has been affected by mining or mineral processing. Also referred to as mining influenced waters or mine impacted waters. Includes acid rock drainage (ARD), acid mine drainage or acid and metalliferous drainage (AMD), neutral mine drainage, saline drainage, and metallurgical process waters of potential concern. A key characteristic of most mining impacted waters (also known as mining influenced waters) is that they contain elevated metals that have leached from surrounding solids (e.g., waste rock, tailings, mine surfaces, or mineral surfaces in their pathways). This fact is commonly acknowledged by the phrase "metals leaching" (ML), frequently resulting in acronyms such as ARD/ML.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Physical activities (e.g., land disturbance and clearing, road building, sampling, airborne surveys, facility construction, ore removal, ore processing, waste management, reclamation, etc.) carried out during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure, post-closure).

Mitigation

Actions taken to reduce the likelihood of a certain adverse impact occurring

Mitigation Hierarchy

The mitigation hierarchy is a set of prioritized steps to alleviate environmental (or social) harm as far as possible through avoidance, minimization (or reduction) and restoration of adverse impacts. Compensation/offsetting are only considered to address residual impacts after appropriate avoidance, minimization and restoration measures have been applied. (See Glossary for full definition)

Mixing Zone

A volume of surface water or groundwater containing the point or area of discharge and within which an opportunity for the mixture of wastes with receiving surface waters or groundwaters has been afforded, and where water quality is allowed to exceed otherwise specified standards.

Natural Seep/Spring

A natural seep is a moist or wet place where water reaches the earth's surface from an underground aquifer. Seeps are usually not of sufficient volume to be flowing much beyond their above-ground location. A natural spring is a discharge of water formed when the side of a hill, a valley bottom or other excavation intersects a flowing body of groundwater at or below the local water table, below which the subsurface material is saturated with water. A natural spring is differentiated from a seep in that water flows at a greater rate from an aquifer to the earth's surface.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Pit Lake

Lake formed in a mine pit when mine dewatering pumpage ceases.

Point of Compliance

For IRMA purposes is the physical location where water quality must meet IRMA used-based standards (See IRMA Water Quality By End-Use Tables 4.2.a – 4.2.h). The location will vary based on the following scenarios:

Surface water compliance points: are located where point source discharges enter surface waters. Points of compliance for non-point-source discharges are located downstream of but as close as practicable to known mine-related nonpoint sources.

Groundwater compliance points: are located outside the groundwater capture zone (which extends from the land surface to the depth at which groundwater is not affected by mining activities) or area of hydrologic control for mine facilities or sources but as close as practicable to those sources.

Stormwater compliance locations: are in industrial stormwater collection impoundments when water is present.

If a mixing zone is used: The point of compliance is at the downstream or downgradient edge of the mixing zone. The edge of the mixing zone is where the diluted plume meets background water quality. In no case shall mine-related contaminants extend beyond the mine boundary, unless a mixing zone authorized by a regulatory agency extends beyond the boundary.

If a mine is providing water to another entity for a designated use: the water must meet IRMA use-based standards, or legal documentation must be received from the entity verifying that they will be responsible for treating water to meet use-based standards.

Post-Closure

The period after the reclamation surety holder declares the activities required by the reclamation and closure plan are complete; any significant objections raised during the public comment period on the final release of the financial surety have been resolved; and the reclamation surety has been returned to the operator, or it has been converted to a post-closure trust fund or equivalent (i.e. if there is a need to fund long-term management and monitoring of the site). This phase continues until final sign-off and relinquishment can be obtained from the regulator and stakeholders.

Practicable

Practicable means giving equal weight to environmental, social, and economic benefits and costs. This is not a technical definition. It is the discussion between the affected parties on the balance between these interrelated costs and benefits that is important.

Rights Holder

Rights holders are individuals or social groups that have particular entitlements in relation to specific duty bearers (e.g., State or non-state actors that have a particular obligation or responsibility to respect, promote and realize human rights and abstain from human rights violations). In general terms, all human beings are rights-holders under the Universal Declaration of Human Rights. In particular contexts, there are often specific social groups whose human rights are not fully realized, respected or protected.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Stormwater

Industrial stormwater (also known as contact water) is runoff of rainfall, snow or snowmelt that has contacted mined materials (e.g., waste rock, tailings, mine openings, mine processing facilities and associated mining roads). Non-industrial stormwater (also known as non-contact water) is runoff of rainfall, snow or snowmelt from land and impervious surface areas such as non-mining related roads that do not contain mined materials.

Tailings

The waste stream resulting from milling and mineral concentration processes that are applied to ground ore (i.e., washing, concentration, and/or treatment). Tailings are typically sand to clay-sized materials that are considered too low in mineral values to be treated further. They are usually discharged in slurry form to a final storage area commonly referred to as a tailings storage facility (TSF) or tailings management facility (TMF).

Trigger Level

A concentration between baseline or background values and IRMA water quality criteria or other applicable compliance limits that can warn of mine-related effects to water quality and trigger adaptive management or corrective actions to improve water quality

Waste Rock

Barren or mineralized rock that has been mined but is of insufficient value to warrant treatment and, therefore, is removed ahead of the metallurgical processes and disposed of on site. The term is usually used for wastes that are larger than sand-sized material and can be up to large boulders in size; also referred to as waste rock dump or rock pile.

Water Balance

An accounting of the inflow to, outflow from, transfers and storage changes of water over a fixed period.

Water Quality Criteria

Numerical concentrations or a narrative statement recommended to support and maintain a designated water use. Criteria are based on scientific information about the effects of water pollutants on a specific water use

Water Quantity

For IRMA purposes, water quantity refers generally to the amount of water present or passing a certain location in water bodies that exist on the earth's surface, such as lakes, ponds, rivers, streams, etc., (i.e., referred to as surface waters) and water bodies that exist underground (i.e., groundwaters). It also includes the amount of water that originates underground but expresses itself at the surface (e.g., natural springs or seeps). Water quantity measurements may be expressed as volumes, however, for IRMA's purposes measurements for rivers, streams and natural springs/seeps maybe expressed as a flow (in ft^3/sec or m^3/sec), while measurements for lakes and groundwater may be expressed as a level or elevation (e.g., feet or meters above a reference point such as sea level).

Whole Effluent Toxicity

Refers to the aggregate toxic effect to aquatic organisms from all pollutants contained in a mine's effluent.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

[flag] **Issue in brief:** IRMA is seeking input on the proposed criteria for cyanide in IRMA Water Quality Criteria Table 4.2.a. – Aquatic Organisms - Fresh Water Quality Criteria.

The International Cyanide Management Code ("the Cyanide Code") was developed through a multi-stakeholder process as an effort to improve the management of cyanide at gold, and in 2017 also silver mines. The Cyanide Code's Implementation Guidance states that: "Discharges to surface waters should not exceed 0.5 mg/l WAD cyanide nor result in a concentration of free cyanide in excess of 0.022 mg/l within the receiving surface water body, and downstream of any mixing zone approved by the applicable jurisdiction. The 0.022 mg/l guideline is from the United States Environmental Protection Agency's National Water Quality Criteria for Cyanide, and represents a concentration to which a freshwater aquatic community can be briefly exposed without resulting in an unacceptable effect." (Guidance for Standard of Practice 4.5. https://www.cyanidecode.org/become-signatory/implementation-guidance)

There is concern among some stakeholder groups, however, that a lower value may be necessary, as some aquatic species are more sensitive to cyanide's effects, and several regulatory jurisdictions have a set a cyanide limit between 0.004 and 0.007 mg/L for the protection of aquatic life. As per IRMA Chapter 1.1, if there are lower limits set by a host country, mines in those jurisdictions are expected to meet those limits.

Although it is not as stringent a standard as found in some countries, it is hoped that the 0.022 mg/l limit in the Launch Phase version of the IRMA Standard will begin to spur improvements in cyanide management at mining operations located in countries that do not have strong regulatory programs.

During IRMA's Launch Phase, we will be gathering data to better understand what levels of cyanide are achievable in surface waters at existing mines, and whether aquatic impacts related to cyanide are being experienced at sites that are meeting the 0.022 mg/l guidelines set by the Cyanide Code. Depending on the outcomes, IRMA may revise its cyanide criteria to provide greater protections for aquatic organisms.

IRMA Water Quality Criteria by End-Use Tables

4.2.a—Aquatic Organisms - Fresh Water Quality Criteria

4.2.b—Aquatic Organisms - Salt Water Quality Criteria

4.2.c—Drinking Water and Human Health Quality Criteria

4.2.d—Agriculture - Irrigation Water Quality Criteria

4.2.e—Agriculture - Irrigation Water Quality Criteria

4.2.f—Aquaculture Water Quality Criteria

4.2.g—Recreational Water Quality Criteria

4.2.h—Industrial Water Quality Criteria

Abbreviations

Bq/L = Becquerel per Liter	s.u. = standard units
$CaCO_3$ = calcium carbonate	**Tot. = Total**
degC = degrees centigrade	µg/L = micrograms per Liter
mg/L = milligrams per Liter	WAD = weak acid dissociable

Note: Data and rationale for IRMA and end-use criteria values are available upon request.

TABLE 4.2.a. – Aquatic Organisms - Fresh Water Quality Criteria

Metals / Metalloids[1]	Units		Criteria	Source		Non-Metals / Anions[1]	Units		Criteria	Source
Aluminum	µg/L		55	AUS-NZ		Alkalinity (as CaCO3)	mg/L		measure	
Antimony	µg/L		-			Ammonia (Tot)	mg/L		X**	USA
Arsenic	µg/L		24	AUS-NZ		Chlorine	µg/L		3	AUS-NZ
Barium	µg/L		-	PER, CHI		Chloride	mg/L		230	USA
Boron	µg/L		750	PHI						
Beryllium	µg/L		-			f Cyanide (Free/*WAD*)	µg/L		22	Cyanide Code
Cadmium	µg/L		X*	USA						
Calcium	mg/L		measure			Dissolved Organic Carbon	mg/L		measure	
Chromium (Tot)	µg/L		-			Dissolved Oxygen	mg/L		measure	
Chromium (III)	µg/L		X*	USA		Fluoride	mg/L		1	PHI
Chromium (VI)	µg/L		11	USA, PE		Hardness	mg/L		measure	
Cobalt	µg/L		-			Hydrogen Sulfide	mg/L		****	
Copper	µg/L		X*	USA, CAN		Nitrate & Nitrite	mg/L		-	
Iron	µg/L		1000	USA		Nitrate (as NO_3^-)	mg/L		13	CAN, PER
Lead	µg/L		X*	USA, CAN		Nitrite (as NO_2^-)	mg/L		-	
Magnesium	mg/L		measure			Nitrogen, tot. as N	mg/L		measure	
Manganese	µg/L		370	SAF		pH	s.u.		6.5 - 9.0	US, CAN
Mercury	µg/L		0.1	PER, EU, SAF		Sulfate	mg/L		-	
Molybdenum	µg/L		73	CAN		Temperature	degC		<3 diff	IFC
Nickel	µg/L		X*	USA		Total Dissolved Solids	mg/L		-	
Potassium	mg/L		measure			Total Suspended Solids	mg/L		40	Between CAN and IFC ***
Radium 226/228	Bq/L		-							
Selenium	µg/L		5	USA, SAF, AUS-NZ						
Silver	µg/L		0.25	CAN						
Sodium	mg/L		measure							
Thallium	µg/L		0.8	CAN, PER						
Uranium	µg/L		-							
Vanadium			-							
Zinc	µg/L		X*	USA						

Notes:

* Use USEPA Hardness-based or Biotic Ligand Model (BLM) calculations for metals;

** and Temperature and pH-based calculations for Ammonia.

*** Baseline /background likely to be higher at many sites. See 4.2.3.3.a.

**** A limit for Hydrogen Sulfide is not included because the methods available for analyses are presently well below the Method Reporting Limit (The lowest amount of an analyte in a sample that can be quantitatively determined with stated, acceptable precision and accuracy under stated analytical conditions, i.e. the lower limit of quantitation). However, if there is some reason to believe that sulfide is present, then it should be measured.

Abbreviations for Sources/ Standards: AUS-NZ = Australia and New Zealand; CAN = Canada; CHI = China; EU = European Union; IFC = International Finance Corporation; PER =Peru, PHI =Philippines; SAF = South Africa; USA = United States. (References listed at end of tables).

TABLE 4.2.b. – Aquatic Organisms - Salt Water Quality Criteria

Metals / Metalloids[1]	Units	Criteria	Source		Non-Metals / Anions	Units	Criteria	Source
Aluminum	µg/L	-			Alkalinity (as CaCO3)	mg/L	-	
Antimony	µg/L	-			Ammonia (Total)	mg/L	X *	AUS-NZ
Arsenic	µg/L	12.5	CAN		Chlorine	µg/L	0.5	CAN
Barium	µg/L	-			Chloride	mg/L	-	
Beryllium	µg/L	-			Cyanide (Chronic - Free / *WAD*)	µg/L	4	AUS-NZ, PER
Cadmium	µg/L	4	SAF		Fluoride	mg/L	-	
Calcium	mg/L	-			Hardness	mg/L	-	
Chromium (Total)	µg/L	-			Hydrogen Sulfide	mg/L	***	US, PER
Chromium (III)	µg/L	27.4	AUS-NZ		Nitrate & Nitrite	mg/L	-	
Chromium (VI)	µg/L	4.4	AUS-NZ		Nitrate (NO_3^-)	mg/L	13 **	AUS
Cobalt	µg/L	-			Nitrite (NO_2^-)	mg/L	-	
Copper	µg/L	3.1	US		Nitrogen, total (as N)	mg/L	-	
Iron	µg/L	-			pH (standard units)	s.u.	6.5- 8.7	US, CAN
Lead	µg/L	8.1	US, PER		Sulfate	mg/L	-	
Magnesium	mg/L	-			Temperature	degC	-	
Manganese	µg/L	-			Total Dissolved Solids	mg/L	-	
Mercury	µg/L	0.4	AUS-NZ		Total Suspended Solids	mg/L	-	
Molybdenum	µg/L	-						
Nickel	µg/L	70	PHI					
Potassium	mg/L	-						
Radium 226/228	Bq/L	-						
Selenium	µg/L	71	US, PER					
Silver	µg/L	1.4	US, AUS-NZ					
Sodium	mg/L	-						
Thallium	µg/L	-						
Uranium	µg/L	-						
Vanadium	µg/L	100	AUS-NZ					
Zinc	µg/L	15	AUS-NZ					

Notes: * Calculated value based on temperature and pH. ** From Vol. 2, Chapter 8 of AUS-NZ (2000). Guidelines for Fresh and Marine Water Quality, p. 8-3-169. (See references at end of tables). *** A limit for Hydrogen Sulfide is not included because the methods available for analyses are presently well below the Method Reporting Limit (The lowest amount of an analyte in a sample that can be quantitatively determined with stated, acceptable precision and accuracy under stated analytical conditions, i.e. the lower limit of quantitation). However, if there is some reason to believe that sulfide is present, then it should be measured.
Abbreviations for Sources/ Standards: AUS-NZ = Australia and New Zealand; CAN = Canada; PER =Peru, PHI =Philippines; SAF = South Africa; USA = United States. (References listed at end of tables).

TABLE 4.2.c. –Drinking Water and Human Health Quality Criteria				
Metals / Metalloids	**Units**	**Criteria**	**Source**	
Aluminum	µg/L	100	CAN, WHO	**Notes:**
Antimony	µg/L	6	USA, CAN	
Arsenic	µg/L	10	USA, CAN, AUS, EU, SAF, WHO	* A limit for Hydrogen Sulfide is not included because the methods available for analyses are presently well below the Method Reporting Limit (The lowest amount of an analyte in a sample that can be quantitatively determined with stated, acceptable precision and accuracy under stated analytical conditions, i.e. the lower limit of quantitation). However, if there is some reason to believe that sulfide is present, then it should be measured.
Barium	µg/L	1000	CAN, PER	
Beryllium	µg/L	60	AUS	
Cadmium	µg/L	5	USA, CAN, EU, SAF, CHI, PER	
Chromium (Total)	µg/L	50	CAN, AUS, EU, WHO, SAF, CHI, PER	
Copper	µg/L	1000	USA, CAN, AUS	
Iron	µg/L	300	USA, CAN, AUS, SAF, CHI	
Lead	µg/L	10	CAN, AUS, EU, SA, WHO, CHI, PER	
Manganese	µg/L	50	USA, CAN, EU, SAF	
Mercury	µg/L	1	CAN, AUS, EU, SAF, PER, PHI	
Molybdenum	µg/L	50	AUS	**Abbreviations for Sources/ Standards**:
Nickel	µg/L	20	AUS, EU, CHI, PHI	AUS = Australia; CAN = Canada; CHI = China; EU = European Union; IFC = International Finance Corporation; PER =Peru, PHI =Philippines; SAF = South Africa; USA = United States; WHO = World Health Organization of the United Nations;. (References listed at end of tables).
Radium 226/228	Bq/L	13.5	CAN, AUS	
Selenium	µg/L	40	WHO, PER	
Silver	µg/L	100	USA, AUS	
Thallium	µg/L	2	USA	
Uranium	µg/L	30	USA, WHO	
Zinc	µg/L	3000	AUS, SAF, PER	
Non-Metals / Ions	**Units**	**Criteria**	**Source**	
Alkalinity (as CaCO3)	mg/L	-		
Ammonia	mg/L	0.5	AUS, EU, PER	
Chlorine	mg/L	5	AUS, WHO	
Chloride	mg/L	250	AUS, USA, CAN	
Cyanide (Free or WAD)	µg/L	80	AUS	
Fluoride	mg/L	1.5	CAN, AUS, EU, WHO, PER	
Hydrogen Sulfide (as S^{2-})	mg/L	*		
Nitrate (as NO_3^-)	mg/L	45	CAN, USA, CHI	
Nitrite (as NO_2^-)	mg/L	3.3	CAN, USA, CHI	
pH (standard units)	s.u.	6.5 - 8.5	USA, CAN, AUS, CHI, PHI	
Sulfate	mg/L	400	Value between CAN, PER and USA, WHO, CHI	
Total Dissolved Solids	mg/L	500	USA, CAN	

TABLE 4.2.d. – Agriculture - Irrigation Water Quality Criteria				
Metals / Metalloids	**Units**	**Criteria**		**Source**
Aluminum	µg/L	5000		CAN, USA, AUS-NZ, SAF, FAO, PER
Antimony	µg/L	-		
Arsenic	µg/L	100		USA, AUS-NZ, SAF, FAO, PER
Barium	µg/L	-		
Beryllium	µg/L	100		USA, CAN, AUS-NZ, SAF, FAO, PER
Boron	µg/L	750		PHI
Cadmium	µg/L	10		USA, AUS-NZ, SAF, FAO, PER
Chromium (Total)	µg/L	100		USA, AUS-NZ, FAO, SAF, PER
Cobalt	µg/L	50		USA, AUS-NZ, CCME, FAO, SAF, PER
Copper	µg/L	200		USA, AUS-NZ, CCME, FAO, SAF
Iron	µg/L	5000		USA, CAN, FAO, SAF, PER
Lead	µg/L	200		CAN, SAF
Manganese	µg/L	200		CAN, AUS-NZ, FAO, PER, PHI
Mercury	µg/L	2		AUS-NZ , PHI
Molybdenum	µg/L	10		USA, CAN, AUS-NZ, SAF, FAO
Nickel	µg/L	200		USA, CAN, AUS-NZ, SAF, FAO, PER, PHI
Radium 228	Bq/L	-		
Selenium	µg/L	20		USA, CAN, AUS-NZ, SAF, PER, PHI
Silver	µg/L	-		
Thallium	µg/L	-		
Uranium	µg/L	100		AUS-NZ
Vanadium	µg/L	100		USA, CAN, AUS-NZ, FAO
Zinc	µg/L	2000		USA, FAO, PER, PHI
Non-Metals / Anions	**Units**	**Criteria**		**Source**
Alkalinity (as CaCO3)	mg/L	-		
Chlorine	mg/L	175		CAN
Chloride	mg/L	100		CAN, SAF
Cyanide (Free or WAD)	µg/L	-		
Fluoride	mg/L	1		USA, CAN, FAO, PER
Nitrate & Nitrite	mg/L	-		
Nitrate	mg/L	-		
Nitrite	mg/L	-		
pH (standard units)	s.u.	6.5 - 8.4		USA, SAF, FAO
Sulfate	mg/L	1000		AUS-NZ, PER
Total Dissolved Solids	mg/L	500 – 3500*		CAN
Total Suspended Solids	mg/L	-		

Notes: *** 500 mg/L for berries, stone fruit, and some vegetables; 3500 mg/L for asparagus, some grains and other vegetables (see Canadian Council of Ministers of the Environment for more information. http://st-ts.ccme.ca/en/index.html?lang=en&factsheet=215)**

Abbreviations for Sources/ Standards: **AUS-NZ = Australia and New Zealand; CAN = Canada; FAO = Food and Agriculture Organization of the United Nations; PER =Peru, PHI =Philippines; SAF = South Africa; USA = United States. (References listed at end of tables).**

TABLE 4.2.e. – Agriculture - Livestock Water Quality Criteria				
Metals / Metalloids	**Units**	**Criteria**	**Source**	
Aluminum	µg/L	5000	USA, CAN, AUS-NZ, SAF, FAO, PER	
Antimony	µg/L	-		
Arsenic	µg/L	200	USA, PER	
Barium	µg/L	-		
Beryllium	µg/L	100	CAN, PER	
Boron	µg/L	5000	CAN, AUS-NZ, PER	
Cadmium	µg/L	50	USA, PER	
Chromium (Total)	µg/L	1000	USA, AUS-NZ, SAF, PER	
Cobalt	µg/L	1000	USA, CAN, AUS-NZ, SAF, PER	
Copper	µg/L	500	USA, CAN, AUS-NZ, SAF, PER	
Iron	µg/L	10000	SAF	
Lead	µg/L	100	USA, CAN, AUS-NZ, SAF	
Manganese	µg/L	200	AUS-NZ, PER, PHI	
Mercury	µg/L	3	CAN	
Molybdenum	µg/L	300	USA	
Nickel	µg/L	1000	CAN, AUS-NZ, SAF, PER, PHI	
Radium 228	Bq/L	-		
Selenium	µg/L	50	USA, CAN, SAF, PER	
Silver	µg/L	-		
Thallium	µg/L	-		
Uranium	µg/L	200	CAN, AUS-NZ	
Vanadium	µg/L	100	USA, CAN	
Zinc	µg/L	24000	USA, PER	
Non-Metals / Anions	**Units**	**Criteria**	**Source**	
Alkalinity (as CaCO3)	mg/L	-		
Chlorine	mg/L	-		
Chloride	mg/L	-	CAN, SAF	
Cyanide (Free or WAD)	µg/L	-		
Fluoride	mg/L	2	USA, CAN, AUS-NZ, PER	
Nitrate & Nitrite (NO_3-N + NO_2-N)	mg/L	100	CAN, AUS-NZ	
Nitrate (as NO_3-N)	mg/L	-		
Nitrite (as NO_2-N)	mg/L	10	USA, CAN, PER	
pH (standard units)	s.u.	6.5 - 8.4	PER	
Sulfate	mg/L	1000	AUS-NZ, PER	
Total Dissolved Solids	mg/L	3000	CAN	
Total Suspended Solids	mg/L	-		
Abbreviations for Sources/ Standards: AUS-NZ = Australia and New Zealand; CAN = Canada; FAO = Food and Agriculture Organization of the United Nations; PER =Peru, PHI =Philippines; SAF = South Africa; USA = United States. (References listed at end of tables).				

TABLE 4.2.f. – Aquaculture Water Quality Criteria				
Metals / Metalloids	**Units**	**Fresh Criteria**	**Marine Criteria**	**Source**
Aluminum	µg/L	30	10	AUS, SAF
Antimony	µg/L	-	-	
Arsenic	µg/L	50	30	AUS, PER, SAF
Barium	µg/L	-	-	
Beryllium	µg/L	-	-	
Cadmium	µg/L	X *	X *	AUS, SAF
Chromium (VI)	µg/L	100	50	PER, PHI
Cobalt	µg/L	-	-	
Copper	µg/L	X *	X *	AUS
Iron	µg/L	10	10	AUS, SAF
Lead	µg/L	X *	X *	AUS
Manganese	µg/L	10	10	AUS
Mercury	µg/L	1	1	AUS, SAF
Molybdenum	µg/L	-	-	
Nickel	µg/L	100	100	AUS
Radium 226/228	Bq/L	-	-	
Selenium	µg/L	10	10	AUS, PHI
Thallium	µg/L	-	-	
Uranium	µg/L	-	-	
Zinc	µg/L	5	5	AUS
Non-Metals / Anions	**Units**	**Fresh Criteria**	**Marine Criteria**	**Source**
Alkalinity (as CaCO3)	mg/L	-	-	
Ammonia (Total)	µg/L	20	100	AUS
Chlorine	µg/L	-	-	
Chloride	mg/L	-	-	
Cyanide (Free or WAD)	µg/L	5	5	AUS, PER
Fluoride	mg/L	20	5	AUS, SAF
Hydrogen Sulfide	mg/L	**	**	
Nitrate & Nitrite	mg/L	-	-	
Nitrate (as NO_3^-)	mg/L	50	100	AUS
Nitrite (as NO_2^-)	mg/L	0.1	0.1	AUS
pH (standard units)	s.u.	6.5 - 9.0	6.0 - 9.0	AUS, WHO
Sulfate	mg/L	-	-	
Temperature	degC	<2 diff	<2 diff	AUS
Total Dissolved Solids	mg/L	-	-	
Total Suspended Solids	mg/L	40	40	AUS, PER

Notes:

* Hardness dependent.

** A limit for Hydrogen Sulfide is not included because the methods available for analyses are presently well below the Method Reporting Limit (The lowest amount of an analyte in a sample that can be quantitatively determined with stated, acceptable precision and accuracy under stated analytical conditions, i.e. the lower limit of quantitation). However, if there is some reason to believe that sulfide is present, then it should be measured.

Abbreviations for Sources/ Standards:
AUS = Australia; PER = Peru; PHI =Philippines; SAF = South Africa; WHO = World Health Organization. (References listed at end of tables).

TABLE 4.2.g. – Recreational Water Quality Criteria			
Metals / Metalloids	**Units**	**Criteria**	**Source**
Aluminum	µg/L	200	AUS-NZ, PER
Antimony	µg/L	-	
Arsenic	µg/L	10	PER, PHI
Barium	µg/L	700	PER, PHI
Beryllium	µg/L	-	
Boron	µg/L	500	PER, PHI
Cadmium	µg/L	5	AUS-NZ
Chromium (Total)	µg/L	50	AUS-NZ, PER
Cobalt	µg/L	-	
Copper	µg/L	1000	AUS-NZ
Iron	µg/L	300	AUS-NZ, PER
Lead	µg/L	10	AUS-NZ
Manganese	µg/L	100	AUS-NZ, PER
Mercury	µg/L	1	AUS-NZ, PER
Molybdenum	µg/L	-	
Nickel	µg/L	40	PHI
Radium 226/228	Bq/L	-	
Selenium	µg/L	10	AUS-NZ, PER
Silver	µg/L	50	AUS-NZ
Thallium	µg/L	-	
Uranium	µg/L	-	
Vanadium	µg/L	-	
Zinc	µg/L	3000	PER
Non-Metals / Anions	**Units**	**Criteria**	**Source**
Alkalinity (as CaCO3)	mg/L	-	
Ammonia (Total)	mg/L	-	
Chlorine	mg/L	-	
Chloride	mg/L	400	AUS-NZ
Cyanide (Free or WAD)	µg/L	100	AUS-NZ
Fluoride	mg/L	-	
Hardness	mg/L	-	
Hydrogen Sulfide	mg/L	*	
Nitrate & Nitrite	mg/L	-	
Nitrate (as NO_3-N)	mg/L	10	AUS-NZ, PER
Nitrite (as NO_2-N)	mg/L	1	AUS-NZ, PER

pH (standard units)	s.u.	6.5 - 8.5	AUS-NZ, SAF, PHI
Sulfate	mg/L	400	AUS-NZ
Total Dissolved Solids	mg/L	-	
Total Suspended Solids	mg/L	30	USA, PHI

Notes: * Hydrogen Sulfide is not included because the methods available for analyses are presently well below the Method Reporting Limit (The lowest amount of an analyte in a sample that can be quantitatively determined with stated, acceptable precision and accuracy under stated analytical conditions, i.e. the lower limit of quantitation). However, if there is some reason to believe that sulfide is present, then it should be measured.

Abbreviations for Sources/ Standards: AUS-NZ = Australia and New Zealand; PER = Peru; PHI =Philippines; SAF = South Africa; USA = United States. (References listed at end of tables).

TABLE 4.2.h. – Industrial Water Quality Criteria

Metals / Metalloids	Units	Criteria	Source
Aluminum	µg/L	-	
Antimony	µg/L	-	
Arsenic	µg/L	-	
Barium	µg/L	-	
Beryllium	µg/L	-	
Cadmium	µg/L	-	
Chromium (Total)	µg/L	-	
Cobalt	µg/L	-	
Copper	µg/L	-	
Iron	µg/L	-	
Lead	µg/L	-	
Manganese	µg/L	-	
Mercury	µg/L	-	
Molybdenum	µg/L	-	
Nickel	µg/L	-	
Radium 226/228	Bq/L	-	
Selenium	µg/L	-	
Silver	µg/L	-	
Thallium	µg/L	-	
Uranium	µg/L	-	
Vanadium	µg/L	-	
Zinc	µg/L	-	
Non-Metals / Anions	**Units**	**Criteria**	**Source**
Alkalinity (as CaCO3)	mg/L	-	
Chlorine	mg/L	1	USA
Chloride	mg/L	-	

Cyanide (Free or WAD)	µg/L	-	
Fluoride	mg/L	-	
Nitrate & Nitrite	mg/L	-	
Nitrates	mg/L	-	
Nitrites	mg/L	-	
pH (standard units)	s.u.	6.0 -9.0	USA
Sulfate	mg/L	-	
Total Suspended Solids	mg/L	30	USA
Total Dissolved Solids	mg/L	-	
Abbreviations for Sources/ Standards: USA = United States. (References listed at end of tables).			

REFERENCES FOR SOURCE MATERIALS USED IN TABLES

References for Table 4.2.a.

AUS-NZ: Australian and New Zealand Environment and Conservation Council. 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Volume 1. http://www.agriculture.gov.au/SiteCollectionDocuments/water/nwqms-guidelines-4-vol1.pdf

CAN: Canadian Council of Ministers of the Environment. Canadian Water Quality Guidelines for the Protection of Aquatic Life. Available at: http://ceqg-rcqe.ccme.ca/en/index.html

CHI: People's Republic of China. 2002. Environmental quality standard for surface water (GB 3838-

2002). English version not found. Available in: Zhao et al. 2016. "Amendment of water quality standards in China: viewpoint on strategic considerations," Environmental Quality Benchmarks for Aquatic Ecosystem Protection: Derivation and Application. https://www.usask.ca/toxicology/jgiesy/pdf/publications/JA-931-temp.pdf

EU: European Union. 2013. Directive 2013/39/EU of the European Parliament and of the Council of 12 August 2013 amending Directives 2000/60/EC and 2008/105/EC as regards priority substances in the field of water policy. https://publications.europa.eu/en/publication-detail/-/publication/296e91b8-4610-11e3-ae03-01aa75ed71a1/language-en

IFC: International Finance Corporation. 2007. Environmental, Health and Safety Guidelines for Mining. https://www.ifc.org/wps/wcm/connect/1f4dc28048855af4879cd76a6515bb18/Final+-+Mining.pdf?MOD=AJPERES

PER: Peru Ministry of Environment (MINAM). 2015. National Environmental Quality Standards for Water (2015). http://www.ana.gob.pe/sites/default/files/normatividad/files/ds-ndeg-015-2015-minam.pdf

PHI: Republic of the Philippines. 2016. Water Quality Guidelines and General Effluent Standards of 2016. http://wepa-db.net/3rd/en/topic/waterstandard/Philippines_Water%20Quality%20Guideline_2016.pdf

SAF: South Africa. 1996. South African Water Quality Guidelines. Volume 7: Aquatic Ecosystems, 2nd Ed. http://www.dwa.gov.za/iwqs/wq_guide/Pol_saWQguideFRESHAquaticecosystemsvol7.pdf

USA: US Environmental Protection Agency. National Recommended Water Quality Criteria - Aquatic Life Criteria Table. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

References for Table 4.2.b. (listed only if different sources than 4.2.a)

SAF: South Africa. 1995. Water Quality Guidelines for Coastal Marine Waters, Volume 1. Available at: http://www.iwa-network.org/filemanager-uploads/WQ_Compendium/Database/Future_analysis/085.pdf

References for Table 4.2.c.

AUS: Australia National Health and Medical Research Council. 2017. Australian Drinking Water Quality Guidelines 6 (2011). https://www.nhmrc.gov.au/_files_nhmrc/file/publications/nhmrc_adwg_6_version_3.4_final.pdf

CAN: Health Canada. 2017. Guidelines for Canadian Drinking Water Quality: Summary Table. Available at: https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html

CHI: People's Republic of China. 2006. Standards for Drinking Water Quality. GB 5749-2006. (English version available at: http://www.iwa-network.org/filemanager-uploads/WQ_Compendium/Database/Selected_guidelines/016.pdf)

EU: European Union. 1998. EU Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:01998L0083-20151027

PER: Peru Ministry of Environment (MINAM). 2015. National Environmental Quality Standards for Water (2015). http://www.ana.gob.pe/sites/default/files/normatividad/files/ds-ndeg-015-2015-minam.pdf

PHI: Republic of the Philippines. 2016. Water Quality Guidelines and General Effluent Standards of 2016. http://wepa-db.net/3rd/en/topic/waterstandard/Philippines_Water%20Quality%20Guideline_2016.pdf

SAF: South Africa. 1996. South African Water Quality Guidelines. Volume 1: Domestic Use. 2nd Ed. http://www.dwa.gov.za/iwqs/wq_guide/Pol_saWQguideFRESH_vol1_Domesticuse.PDF

USA: US Environmental Protection Agency. 2018. Drinking Water Standards and Health Advisory Tables. https://www.epa.gov/sites/production/files/2018-03/documents/dwtable2018.pdf

WHO: World Health Organization. 2011. Guidelines for Drinking Water Quality. http://www.who.int/water_sanitation_health/water-quality/guidelines/en/

References for Table 4.2.d.

AUS-NZ: Australian and New Zealand Environment and Conservation Council. 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Volume 1. http://www.agriculture.gov.au/SiteCollectionDocuments/water/nwqms-guidelines-4-vol1.pdf

CAN: Canadian Council of Ministers of the Environment. Various years. Canadian Water Quality Guidelines for the Protection of Agriculture. Searched by individual factsheet. http://ceqg-rcqe.ccme.ca/en/index.html

FAO: Ayers, R and Westcot, D. 1985. Water Quality for Agriculture. FAO Irrigation and Drainage Paper 29 (last updated 1994). http://www.fao.org/docrep/003/t0234e/t0234e00.HTM

PER: Peru Ministry of Environment (MINAM). 2015. National Environmental Quality Standards for Water (2015). http://www.ana.gob.pe/sites/default/files/normatividad/files/ds-ndeg-015-2015-minam.pdf

PHI: Republic of the Philippines. 2016. Water Quality Guidelines and General Effluent Standards of 2016. http://wepa-db.net/3rd/en/topic/waterstandard/Philippines_Water%20Quality%20Guideline_2016.pdf

SAF: South Africa. 1996. South African Water Quality Guidelines. Volume 4: Agricultural Use: Irrigation. 2nd Ed. http://www.dwaf.gov.za/iwqs/wq_guide/Pol_saWQguideFRESH_vol4_Irrigation.pdf

USA: US Environmental Protection Agency. 2012. Guidelines for Water Reuse. EPA/600/R-12/618. https://www3.epa.gov/region1/npdes/merrimackstation/pdfs/ar/AR-1530.pdf

References for Table 4.2.e. (If different from Table 4.2.d)

SAF: South Africa. 1996. South African Water Quality Guidelines. Volume 5: Agricultural Use: Livestock Watering. 2nd Ed. http://www.dwaf.gov.za/iwqs/wq_guide/Pol_saWQguideFRESH_vol5_Livestockwatering.pdf

References for Table 4.2.f. (If different from Table 4.2.d)

SAF: South Africa. 1996. South African Water Quality Guidelines. Vol. 6: Agricultural Use: Aquaculture. 2nd Ed. http://www.iwa-network.org/filemanager-uploads/WQ_Compendium/Database/Future_analysis/077.pdf

SAF: South Africa. 1995. Water Quality Guidelines for Coastal Marine Waters, Vol. 4: Mariculture. Available at: http://www.iwa-network.org/filemanager-uploads/WQ_Compendium/Database/Future_analysis/084.pdf

References for Table 4.2.g. (If different from Table 4.2.d)

SAF: South Africa. 1996. Water Quality Guidelines. Vol. 2: Recreational Use. Available at: http://www.iwa-network.org/filemanager-uploads/WQ_Compendium/Database/Future_analysis/084.pdf

References for Table 4.2.h. (If different from Table 4.2.d)

None.

Chapter 4.3—Air Quality

BACKGROUND

Mining sites can release significant quantities of air contaminants. By volume, the great majority of air contaminants are particulate matter, such as dust from blasting, large truck and equipment traffic, conveyors, and ore crushing. Other air contaminants may represent only a small proportion of a mine's air emissions, but are important because like particulate matter they can significantly affect human health and the environment.

Mines may emit contaminants diffused activities, such as fugitive dust emitted by blasting or truck traffic, or wind-blown from exposed surfaces such as roads, pits, and waste piles, or from dried surfaces of tailings impoundments.

These releases can generally be controlled with reasonably inexpensive measures. However, a mine's typically large geographic footprint makes control especially important and sometimes difficult. The most common method of dust control is spraying water - such as by truck on roads and near blasting activities. Chemical additives, such as magnesium chloride may be added to increase the effectiveness and durability of sprayed water.

Sources of localized air emissions from mining projects include processing facilities for mineral processing, smelting and refining operations, and usually the control mechanisms for emissions releases are expensive and complex. The common methods for controlling these emissions include technologies such as bag houses, electrostatic precipitators, wet and dry scrubbers.

TERMS USED IN THIS CHAPTER

Affected Community ■ Air Quality Modeling ■ Ambient Air Quality ■ Associated Facility ■ Baseline Air Quality ■ Best Available Practices ■ Biodiversity ■ Conservation Values ■ Critical Habitat ■ Ecosystem Services ■ Existing Mine ■ Mine Waste Facilities ■ Mining Project ■ Mining-Related Activities ■ New Mine ■ Operating Company ■ Priority Ecosystem Services ■ Protected Areas ■ Stakeholders ■ Threatened Species ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter (before the air quality tables)

OBJECTIVES/INTENT OF THIS CHAPTER

To protect human health and the environment from airborne contaminants.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant to all mining operations that release to air any of the contaminants in Table 4.3.a, below, or others that may present a risk to human or ecosystem health. Air emissions may be from stationary or mobile equipment, mine waste facilities, and other mining-related activities undertaken on the mine site or along transportation routes.

This chapter does not address air contaminants in the workplace. Those issues are addressed in IRMA Chapter 3.2, Occupational Health and Safety. Also, the management of emissions of greenhouse gases and mercury are addressed in Chapters 4.5 and 4.8, respectively.

CRITICAL REQUIREMENTS IN THIS CHAPTER

When significant potential impacts on air quality are identified, the mine develops measures to avoid and minimize adverse impacts on air quality, and documents them in an air quality management plan (4.3.2.1).

Air Quality Requirements

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4.3.1. Air Quality Screening and Impact Assessment 4.3.1.1. The operating company shall carry out air quality screening to determine if there may be significant air quality impacts associated with its operations.	**For 4.3.1.1:** Confirm, through review of documentation, that the operating company has carried out a screening exercise to determine if there are potentially significant air quality issues, such as emissions from ore processing or dust from roadways and mining-related activities (such as transfer points and waste rock dumping) that may impact communities and ecosystems. Review rationale for why emissions of inorganic and organic pollutants are deemed significant or not significant.	**For 4.3.1.1:** • Air quality screening document(s). • ESIA Report: Air quality sections. • Air pollutant emissions inventory. • Dispersion model (i.e., potential % contribution of dust and emissions in relation to mining activity). • Comparison of potential or actual emissions to air quality standards, including EU and WHO air quality guidelines (such as those developed particulate matter, ozone, nitrogen dioxide and sulfur dioxide) • Comparison of potential or actual annual emissions of PM_{10}, NO_x and SO_2 and heat input of any combustion sources to IFC guidance (see Explanatory Notes). • Names and credentials of service-providers that carried out or verified emission tests or modeling, including reports produced by the service-providers.	Explanatory Note for 4.3.1.1: A screening exercise should be undertaken to determine if there are potentially significant air quality issues, such as emissions from ore processing or dust from roadways and mining-related activities that may have significant impacts on communities and ecosystems. Screening may have been done as part of the Environmental and Social Impact Assessment (ESIA) as per IRMA Chapter 2.1, or it may be carried out as a standalone screening exercise. Information feeding into the assessment may include a site-specific emissions inventory that estimates sources and quantities of releases. For estimation of air pollutant emissions various techniques can be used: mass balance, equipment manufacturer specifications, and emission factors. Emission factors used should be from widely accepted methods such as US Environmental Protect Agency's AP-42 Emission Factors or the European Environment Agency's EMEP/EEA Air Pollutant Emission Inventory Guidebook and Emission Factor Database.[568] One method that may be used to screen whether or not there may be significant air quality impacts associated with mining is to use guidance from IFC's Environmental, Health and Safety Guidelines: "Significant sources of point and fugitive emissions are considered to be general sources which, for example, can contribute a net emissions increase of one or more of the following pollutants within a given airshed: PM_{10}: 50 tons per year (tpy); NO_x: 500 tpy; SO_2: 500 tpy; or as established through national legislation; and combustion sources with an

[568] US Environmental Protection Agency. AP-42 Emission Factors. https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors; European Environment Agency. 2016. EMEP/EEA Air Pollutant Emission Inventory Guidebook https://www.eea.europa.eu/themes/air/emep-eea-air-pollutant-emission-inventory-guidebook; and Emission Factor Database: https://www.eea.europa.eu/publications/emep-eea-guidebook-2016/emission-factors-database

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			equivalent heat input of 50 MWth or greater. The significance of emissions of inorganic and organic pollutants should be established on a project-specific basis taking into account toxic and other properties of the pollutant."[569] To screen for possible impacts to communities, estimated or actual emissions can be compared to air quality standards, such as the EU Air Standard, or air quality guidelines such as those developed by the World Health Organization. Some countries have established national legislation that defines "de-minimis" emission levels, or thresholds below which presumably impacts are not likely to be significant. The United States has established de minimis thresholds that apply to criteria air pollutants in areas that do not meet the national ambient air quality standards. USEPA's de minimis levels can be used as a guideline for screening of the air pollutants for mines located in those areas of the United States.[570]
4.3.1.2. During screening, or as part of a separate data gathering effort, the operating company shall establish the baseline air quality in the mining project area.	**For 4.3.1.2:** Review sampling/monitoring/modeling data to confirm that baseline air quality has been established. Previous studies carried out by regulators may also have been used to establish baseline. Baseline air quality monitoring should have been done prior to mine construction (it may have been done as part of the ESIA, see IRMA Chapter 2.1); and monitoring should be continued as	**For 4.3.1.2:** • Baseline air quality monitoring data. • Previous local or regional baseline air quality studies undertaken by third parties. • Air quality modeling results to estimate baseline. • Background data from nearby airsheds or areas upwind of the mine.	Explanatory Note for 4.3.1.2: Baseline air quality monitoring should have been done prior to mine construction, and may have been done as part of the ESIA, see IRMA Chapter 2.1. Previous studies carried out by regulators may also have been used to establish baseline. If existing mines did not establish baseline air quality themselves, it may be possible to use previous studies of air quality in the region (e.g., carried out by regulators or others prior to mine development) may be used estimate baseline air quality. If no regional baseline data exist, the company could

[569] IFC. 2007. Environmental, Health and Safety Guidelines. Section 1.1. Air Emissions and Ambient Air Quality. p. 4. https://www.ifc.org/wps/wcm/connect/532ff4804886583ab4d6f66a6515bb18/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES

[570] US Environmental Protection Agency (USEPA) website: "De Minimis Emission Levels." https://www.epa.gov/general-conformity/de-minimis-emission-levels; and USEPA. 2016. Final Fine Particle Pollution De Minimis Emission Levels for General Conformity Applicability https://www.epa.gov/sites/production/files/2016-03/documents/factsheet_20060703.pdf

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	part of the site's operational control of its daily air quality impacts via the Environmental Management System (EMS) (See criteria 2.1.7 and 2.1.8).		use air quality modeling to estimate what the air quality would have been prior to mine development. Alternatively, the company could measure concentrations of air pollutants in a nearby region or airshed that has similar topography, vegetation and climate but is not impacted by mining, or measure air pollutants upwind of the mining operation to create a rough estimate of background air quality. As necessary, monitoring for air emissions should be continued as part of the site's operational control of its daily air quality impacts via the Environmental Management System (EMS) or a standalone air monitoring program (See criteria 2.1.7 and 2.1.8).
4.3.1.3. If screening or other credible information indicates that air emissions from mining-related activities may adversely impact human health, quality of life or the environment, the operating company shall undertake an assessment to predict and evaluate the significance of the potential impacts.	For 4.3.1.3: Review screening and other materials (e.g., ESIA, complaints from stakeholders) and interview company and stakeholders to determine if there is a reasonable likelihood that air emissions from mining-related activities may have adverse impacts, and if so, confirm that an assessment was undertaken.	For 4.3.1.3: • Air quality assessment document(s). • Documented stakeholder grievances related to air quality, and company response.	Explanatory Note for 4.3.1.3: Other credible information refers to information that may be brought forward outside of (e.g., after) the screening process. If potentially significant impacts have been predicted during or after the screening process, assessment should occur to further identify potential air contaminants and sources, estimate quantities of emissions, and potential receptors that may be affected by emissions. This information should then be used to evaluate the likelihood and extent of air quality impacts on communities and the environment from the mining project. Re: impacts on the environment, note that if screening indicates that air emissions may significantly affect important biodiversity, priority ecosystem services, critical habitat (including threatened and endangered species) or the conservation values of protected areas, Chapter 4.6 also applies.

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4.3.1.4. The assessment shall include the use of air quality modeling and monitoring consistent with widely accepted and documented methodologies to estimate the concentrations, transport and dispersion of mining-related air contaminants.	**For 4.3.1.4:** If relevant, review the air quality assessment and confirm that air quality modeling and monitoring were used to estimate the potential concentrations of air contaminants, and an evaluation undertaken to determine which air impacts were significant enough to warrant mitigation. Interview operating company and review documentation to confirm that air quality modeling and monitoring methodologies followed were consistent with widely accepted methodologies. If a company has not carried out modeling, review documentation to confirm that a scientific analysis supports the claim that the risk to humans, wildlife or important plant species from air emissions is insignificant. At minimum, the analysis should consider the pollutants in Table 4.3.a, as well as any other relevant air emissions (e.g., dust at all mines, mercury air emissions at gold mines) and all specific host country regulated emissions applicable to the mine site.	**For 4.3.1.4:** • Air quality assessment document(s). • Air quality modeling report (including documentation on modeling methodology and modeling results). • Air quality monitoring reports (including documentation on monitoring methodology and monitoring results). • Meteorology data/reports.	Explanatory Note for 4.3.1.4: For modeling, methods that follow United States EPA or EU modeling guidelines[571] would be considered credible, as would methods that align with USEPA or EU methods. Methods or variations on acceptable methods must be designed to estimate air contamination, employ proven and/or widely accepted and widely demonstrated/documented methods, and be appropriate for the local airshed and impacts. For example, air quality modes should be 'fit-for-purpose' as per the EU guidelines, which recommend that the model: • Has the appropriate spatial and temporal resolution for the intended application; • Is adequately validated for the particular application, and is well documented; • Contains the relevant physical and chemical processes suitable for the type of application, the scale and the pollutant(s) for which it is applied; • The relevant emission sources for the application are adequately represented; • Includes suitable meteorological data Companies can look to USEPA for guidance on what is suitable meteorological data to collect as part of on-site meteorological monitoring.[572]
4.3.2. Air Quality Management Plan 4.3.2.1. (Critical Requirement) If significant potential impacts on air	**For 4.3.2.1 and 4.3.2.2:** Review air quality management plan and any updates to the plan. Review the	**For 4.3.2.1:** • Air quality management plan or equivalent.	Explanatory Note for 4.3.2.1: The air quality management plan does not need to be a stand-alone plan, i.e., it could be

[571] See US EPA's Air Quality Guidelines. Appendix W To Part 51—Guideline On Air Quality Models. Pt. 51, App. W, 40 CFR Ch. I (7–1–03 Edition). Available at: www3.epa.gov/scram001/guidance/guide/appw_03.pdf and European Environment Agency. 2011 The Application of Models under the EU Air Quality Directive. www.eionet.europa.eu/events/EIONET/Technical report_3

[572] USEPA. Air Quality Guidelines. Appendix W to Part 51—Guideline On Air Quality Models. Pt. 51, App. W, 40 CFR Ch. I: https://www.epa.gov/scram/air-modeling-meteorological-guidance

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quality are identified, the operating company shall develop, maintain and implement an air quality management plan that documents measures to avoid, and where that is not possible, minimize adverse impacts on air quality.	mitigation strategies, and where avoidance was not deemed possible confirm that there was a reasonable justification for not avoiding those air quality impacts, and confirm that steps were taken to minimize the impacts. Confirm that strategies outlined in the management plan are being implemented.		incorporated into the Environmental and Social Management Plan mentioned in IRMA Chapter 2.1 (requirement 2.1.7.2).
4.3.2.2. Air quality management strategies and plans shall be implemented and updated, as necessary, over the mine life.	For 4.3.2.1 and 4.3.2.2: Review air quality management plan and any updates to the plan. Review the mitigation strategies, and where avoidance was not deemed possible confirm that there was a reasonable justification for not avoiding those air quality impacts, and confirm that steps were taken to minimize the impacts. Confirm that strategies outlined in the management plan are being implemented.	For 4.3.2.2: • Air quality management plan and any updates to the plan.	Explanatory Note for 4.3.2.2: It will be necessary to update the plan if there are any major changes to mining operations that may lead to new or reduced sources of air emissions.
4.3.3. Air Quality Monitoring 4.3.3.1. The operating company shall monitor and document ambient air quality and dust associated with the mining project by using personnel trained in air quality monitoring.	Auditing Note for 4.3.3.2: Each mine site is unique and it is therefore up to the IRMA auditor to assess the adequacy/efficacy of air quality monitoring activities and locations. For 4.3.3.1: Review documents and data to confirm that air quality monitoring is occurring, e.g., and as part of the site's operational control of its daily air quality impacts via the Environmental Management System (EMS) or a standalone air monitoring program. Also,	For 4.3.3.1: • Air quality monitoring program description (methodologies, monitoring locations, map of locations, monitoring schedule, etc.). • Air quality monitoring data. • Air quality reports (to agencies). • Records of employee training related to air quality monitoring. • Names and credentials of contractors/service-providers that carried out air quality monitoring, including reports produced by the service-providers.	Explanatory Note for 4.3.3.1: Air quality monitoring may be included as part of the site's Environmental Management System (EMS), or as a standalone air monitoring program. As part of the program, the operating company may develop a standalone air quality monitoring plan, or air quality monitoring may be incorporated into a larger environmental monitoring plan. If there are mercury emissions related to the mining project, see IRMA Chapter 4.8, criteria 4.8.3, for mercury air emissions monitoring requirements. Personnel trained in air quality monitoring will have been sufficiently instructed/educated to ensure their ability to

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	review documents related to qualifications and/or training records of all staff who are responsible for and undertake air quality monitoring to demonstrate that those staff have been trained to the appropriate standards and skills.	• Equipment calibration and QA/QC documentation, where applicable.	understand and perform monitoring tasks at a level commensurate with air quality monitoring best practices. They will also make sure that equipment being used in monitoring is regularly and adequately calibrated and there is a QA/QC plan in place ensuring accurate and precise collection of data. Indicators of sufficient training include, but are not limited to: qualification to perform their tasks (e.g., an appropriate academic degree, certification, or evidence of training on particular methods and equipment); and ability to explain outcomes, troubleshoot problems, defend results, and otherwise perform in the air quality monitoring area with independent comprehension and skill. If continuous emissions monitoring systems are used, they should be maintained to yield a minimum of 80% valid hourly average values during the reporting period.
4.3.3.2. Ambient air quality and dust monitoring locations shall be situated around the mine site, related operations and transportation routes and the surrounding environment such that they provide a representative sampling of air quality sufficient to demonstrate compliance or non-compliance with the air quality and dust criteria in 4.3.4.3, and detect air quality and dust impacts on affected communities and the environment. Where modeling is required (see 4.3.1.4) air monitoring locations shall be informed by the air quality modeling results.	For 4.3.3.2: Review documentation and interview operating company to determine how sites were selected. Confirm that monitoring was in compliance with any host-country-specific monitoring requirements. if modeling was required, confirm monitoring locations were informed by modeling results (e.g., were situated in areas where concentrations of pollutants were predicted to exceed air quality standards).	For 4.3.3.2: • Air quality monitoring plan. • Maps showing locations of air quality monitoring sites. • Air quality monitoring data. • Air quality modeling plan and results showing likely dispersion of pollutants. • Documented stakeholder grievances related to air quality, and company response.	Explanatory Note for 4.3.3.2: The monitoring locations inside the mine boundary do not include areas that are considered workplace contaminants. Those fall under Chapter 3.2, Occupational Health and Safety. Air quality modeling can provide important information related to air quality monitoring. For example, models that predict the movement and dispersion of air pollutants can inform the best locations for measuring the maximum air quality impacts from mine-related air emissions. For localized dust contamination affecting specific receptors, monitoring should be carried out to determine the concentration of dust that the mine is emitting onto neighboring properties or other potentially affected receptors. The appropriate monitoring location may be the mine boundary. Real-time dust monitoring equipment can provide an early-warning system by sending an alarm to the company when a

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			predefined dust concentration is reached at the mine boundary or receptor.[573] It is recommended that multi-directional units be used to measure dust fall, especially where there could be potentially sensitive receptors close to the mining operation.
4.3.4. Protection of Air Quality 4.3.4.1. New mines and existing mines shall comply with the European Union's Air Quality Standards (EU Standards) as amended to its latest form (See Table 4.3, below) at the boundaries of the mine site, associated facilities and transportation routes, and/or mitigate exceedances as follows: a. If a mine is located in an airshed where baseline air quality conditions meet EU Standards, but emissions from mining-related activities and associated facilities cause an exceedance of one or more parameters, the operating company shall demonstrate that it is making incremental reductions in those emissions, and within five years demonstrate compliance with the EU Standards; or b. If a mine is located in an airshed where baseline air quality is already degraded below EU Standards, the operating company shall demonstrate that emissions	**For 4.3.4.1:** Review documentation and records such as air quality monitoring data or air quality reports submitted to competent authorities to confirm that air quality contaminant concentrations meet EU Air Quality Standards. Review baseline air quality monitoring data, and current monitoring data. If baseline air quality conditions met EU Standard, but air sampling shows that mine emissions have since led to an exceedance, confirm that the operating company has in place a plan to bring its emissions into compliance with the EU Standards within five years from when monitoring first showed the mine's non-compliance with the EU air quality values for one or more of the constituents in the EU table (See Table 4.3, below). Confirm that over time incremental progress is being made.	**For 4.3.4.1:** • Baseline air quality data (with identification of natural events resulting in elevated air quality levels). • Operational air quality monitoring data (with identification of natural events resulting in elevated air quality levels). • Comparison of operational air quality monitoring data with EU Air Quality Standards. • Air quality monitoring data prior to and post any mitigation strategies that have been employed to reduce mining project air emissions. • Documented stakeholder grievances related to air quality, and company response.	[flag] **4.3.4 Issues in brief:** There is not consensus among IRMA sectors on adopting as best practice either a prescriptive approach that includes defined air emissions criteria or a risk-based approach to managing air emissions. During Launch Phase, this requirement will not be scored. Instead, IRMA will be asking mine sites to share information on what air emissions standards, if any, they are being required to meet, and/or whether or not they are using utilizing a risk-based approach (e.g., 4.3.4.2) to managing their air emissions (either in addition to having to meet air quality criteria, or lieu of having to meet them). The information gathered about what those approaches entail, and the effectiveness at those approaches will help IRMA to design a requirement or requirements that align with best practices for managing air emissions to protect human health and the environment. Also, while there is agreement among IRMA sectors that measuring dust emissions from mine sites is important, there is not consensus on what is the appropriate dust emission standard for protecting human health and the environment. The current metric IRMA is using is found in 4.3.4.3. During Launch Phase, this requirement will not be scored. Instead, IRMA will be asking mine sites to share

[573] Australian Centre for Sustainable Mining Practices. 2011. A Guide to Leading Practice Sustainable Development in Mining. p. 66. https://industry.gov.au/resource/Documents/LPSDP/guideLPSD.pdf

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from mining-related activities and associated facilities do not exceed EU Standards, and make incremental improvements to the air quality in the airshed that are at least equivalent to the mining project's emissions.			information on what dust emissions standards, if any, mine sites are following. Explanatory Note for 4.3.4.1: Air quality standards and requirements were reviewed for various countries, focusing on the most expansive, developed standards. The greatest focus was on the standards of the European Union, Canada, Australia, and United States. With the goal in mind of adopting a standard that would evolve over time the decision was made to adopt the European Union's (EU) numeric air quality standards. There are many developed standards but the EU's stands out for its breadth of contaminants, including some known to be released during mining, and its inclusion of specific metalloid contaminants.[574] Further, like many developed national standards, the EU's air quality standards were developed to be comprehensive, transparent (development, review and modification, application, and interpretation in the courts), and enduring. Finally, the EU's air quality standards are evolving and therefore predicating IRMA's air quality standard on them will ensure that IRMA's air quality standards also evolve. Compliance with EU Standards is generally required for new and existing mines. However, if a mine can demonstrate that there was a natural event that led to elevated air pollutant levels (e.g., wild fire, volcanic eruption, seismic activities, geothermal activities, high-wind events) the values measured at the mine site during those time periods are not expected to meet the EU Standard. The intent of 4.3.4.1 is that a new mine may operate in a degraded airshed that is not meeting EU standards (Table 4.3) but requires offsets or other actions such that the mine is not

[574] The US EPA's Air Quality Standards are similar in many ways, however the EU includes contaminants not found in the US standards that may be released by mining and mining-related activities, such as arsenic, cadmium, and nickel.

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			making already unhealthy (i.e., non-compliant) air quality worse. Examples of how a mine may make incremental improvements in the airshed may include, but are not limited to, offset purchases and buy-downs of emissions within the airshed, comprehensive emissions control methods, changing fuels or technologies, implementing reduction projects in other facilities/polluters in the airshed, etc. In areas where the baseline air quality is already degraded and mines can demonstrate that the degradation is solely and consistently the result of natural sources (e.g., in remote areas where wind-blown dust or high concentrations of sea salt aerosols are the only other contributors to particulate matter exceedances[575]), mines will not be expected to find ways to make incremental improvements to the air quality in the airshed as per 4.3.4.1.b. Mines will only be required to demonstrate that their own air emissions do not exceed EU Standards. Note that mercury is not included in the list of air pollutants in Table 4.3. Mercury air emissions are addressed in IRMA Chapter 4.8. Similarly, there are no emissions limits for the following greenhouse gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6), or nitrogen trifluoride (NF_3). Greenhouse gas air emissions are addressed in IRMA Chapter 4.5.
4.3.4.2. As an alternative to 4.3.4.1, the operating company may undertake a	**For 4.3.4.2:** Review baseline air quality monitoring data, and current monitoring data. If the data show that the airshed	**For 4.3.4.2:** • Air quality risk assessment or equivalent.	Explanatory Note for 4.3.4.2: Re: 4.3.4.2.a, examples of credible international best practice standards are the European Union's Air Quality Standards (Table 4.3 in this

[575] See, e.g., Institute for Environment and Sustainability. 2007. Contribution of natural sources to air pollution levels in the EU - a technical basis for the development of guidance for the Member States. https://www.lu.lv/materiali/biblioteka/es/pilnieteksti/vide/Contribution%20of%20natural%20sources%20to%20air%20pollution%20levels%20in%20the%20EU.pdf

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risk-based approach to protecting air quality as follows: a. New and existing mines shall comply with host country air quality standards at a minimum, and where no host country standard exists mines shall demonstrate compliance with a credible international best practice standard;[576] b. Where compliance is met for host country standards but the mine experiences a residual risk related to its air emissions,[577] then more stringent international best practice standards shall apply; c. Where compliance is met for international best practice standards and a mine still experiences a residual risk from its air emissions, then the mine shall set more stringent self-designed limits, and implement additional mitigation measures to meet those limits; and d. For all air-emissions-related risks, the mine shall demonstrate that it is making incremental reductions in emissions, through a multi-year	already exceeded values for certain EU air quality constituents at the time the mine became operational, confirm that the operating company has calculated its own emissions and demonstrated that their own emissions of the constituents of concern do not exceed EU Standards (for example, a source-pathway-receptor ambient study that quantifies (and thereby excludes) baseline air contaminant contributions of the EU Standard's constituents of concern to the airshed; or through air quality modeling); and confirm that the operating company has developed and is implementing a plan to make improvements in air quality.	• Baseline air quality data. • Operational air quality monitoring data. • Comparison of operational air quality monitoring data with host country air quality standards or international best practice standard (e.g., EU Air Quality Standards). • Air quality management plan. • Air quality monitoring data pre- and post any mitigation strategies employed to reduce mining project emissions. • Documented stakeholder grievances related to air quality, and company response.	chapter), the United States National Ambient Air Quality Standards, the International Finance Corporation's Air Emissions and Ambient Air Quality Guidelines, or others that are widely used by industries and other countries that have not developed their own air quality standards.[578] Re: 4.3.4.2.b, "residual risk" may include, for example, a saturated airshed with elevated background levels of a particular air pollutant(s), stakeholder grievances regarding air quality/degradation, impending regulatory changes, media attention and reputational damage, or potential health impacts or harm to sensitive receptors associated with emissions impacts. Re: 4.3.4.2.c, "self-designated limits" may themselves be incremental but should have clearly defined short- and long-term goals. Similarly, mitigation measures may be incremental but should have clearly defined goals that are reasonably able to achieve the self-designated limits.

[576] For example, the European Union's Air Quality Standards (See Table 4.3, below) or International Finance Corporation. 2007. Environmental, Health and Safety Guidelines, Chapter 1.1 Environmental, 1.1 Air Emissions and Ambient Air Quality. https://www.ifc.org/wps/wcm/connect/532ff4804886583ab4d6f66a6515bb18/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES

[577] Residual risk may include, for example, a saturated airshed with elevated background levels of pollution, stakeholder grievances, community unrest, impending regulatory changes, media attention and reputational damage, or potential health impacts or harm to sensitive receptors associated with emissions impacts.

[578] For example, the European Union's Air Quality Standards (See Table 4.3, below) or International Finance Corporation. 2007. Environmental, Health and Safety Guidelines, Chapter 1.1 Environmental, 1.1 Air Emissions and Ambient Air Quality. https://www.ifc.org/wps/wcm/connect/532ff4804886583ab4d6f66a6515bb18/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES

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phased plan with defined timelines.			
4.3.4.3. Dust deposition from mining-related activities shall not exceed 350 mg/m^2/day, measured as an annual average.[579] An exception to 4.3.4.3 may be made if demonstrating compliance is not reasonably possible through ordinary monitoring methods. In such cases the operating company shall utilize best available practices to minimize dust contamination.	**For 4.3.4.3:** Review records from dust sampling to confirm that deposition does not exceed 350 mg/m^2/day, measured as an annual average. If dust deposition exceeds 350 mg/m^2/day, confirm that best available practices are being implemented to minimize dust deposition.	**For 4.3.4.3:** • Host country regulatory requirements (e.g., rules, permits) related to dust. • Any voluntary commitments made by the company related to dust emissions. • Documentation of practices employed to reduce dust emissions from the mine, or as offsets. • Documented stakeholder grievances related to dust and company response.	Explanatory Note for 4.3.4.3: IRMA has added a specific dust criterion because, while dust is not listed on the EU list of contaminants based on it being considered a "nuisance" rather than strictly harmful to health, it can still be problematic to communities and ecosystems located near mine sites. This requirement is based on the German TA Luft Regulation,[580] which is a commonly cited standard in jurisdictions that do not have dust standards. The German dust guidelines have been incorporated here as the minimum requirement, but may require further consideration, notably regarding the potential inclusion of both an annual and a monthly mean. A monthly mean may be especially important in regions where there are distinct wet and dry seasons, because if an annual mean is used high dustfall observed during dry seasons may be offset by lack of dust during wet seasons, yet the impacts experienced by communities could be very high during the dry season. 4.3.4.3 allows for exceptions to the 350 mg/m2/day (annual average) requirement. An example of where exceptions might be appropriate are where roads are shared or are so close to each other so as to make it impossible to distinguish their contributions. In these situations, the operating company must document that demonstrating compliance is not reasonably possible and that the company is utilizing best available practices to reduce dust. In circumstances where the mine cannot achieve compliance to its dust emission limits, they are encouraged to develop an offset program. For

[579] IRMA has added a specific dust criteria because dust is not listed on EU list of contaminants as it is not strictly harmful to health rather it is a “nuisance”, and can be problematic communities and ecosystems located near mine sites. This requirement is based on the German TA Luft (Technical Instructions on Air Quality Control) Regulation, available at: https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Luft/taluft_engl.pdf. The German dust guidelines have been incorporated here as the minimum requirement, but may require further citation and consideration, notably the potential inclusion of both an annual and a monthly mean. More information will be provided in IRMA Guidance.

[580] Germany Ministry for Environment (MOE). 2002. Technical Instructions on Air Quality Control Regulation (TA Luft). https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Luft/taluft_engl.pdf

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			example, they could consider working with stakeholders in the area to plant more trees or pave a mine road that is close to informal settlements. Best available practices for dust control will vary depending on whether dust generation is underground or at the surface, and depending on the proximity of different receptors.[581]
4.3.5. Reporting 4.3.5.1. The operating company shall ensure that its air quality management plan and compliance information is up-to-date and publicly available, or made available to stakeholders upon request.[582]	**For 4.3.5.1:** Review documentation, which may include air quality information published by the operating company (e.g., in annual reports, sustainability reports and/or on a website accessible to the public). Other evidence of making information publicly available to stakeholders may include documented requests from stakeholders and the company's responses.	**For 4.3.5.1:** • The most recent version of the air quality management plan. • The most recent air quality monitoring data. • The most recent air quality reports to regulatory agencies. • The most recent air quality inspection reports from regulatory agencies. • Links to website(s) and/or list of physical locations (e.g. nearby community facility) where the air quality management plan and compliance information (e.g., data showing that emissions limits have been met) can be accessed. • Photographs of physical locations showing that information is available as advertised at physical locations. • Correspondence with or records of requests for air quality information from stakeholders (and company responses). • Records of presentations and meetings with stakeholders related to air quality management strategies and performance (e.g., meeting minutes or notes, attendee lists).	Explanatory Note for 4.3.5.1: Compliance information may include air quality monitoring data, air quality reports (to agencies), records related to non-compliance as per IRMA Chapter 1.1, and letters/correspondence or other documentation demonstrating that the operating company has responded to requests from stakeholders.

[581] Kissell, F. 2003. Handbook for Dust Control in Mining. Information Circular 9465, U.S. Department of Health and Human Services. https://www.cdc.gov/niosh/mining/UserFiles/works/pdfs/2003-147.pdf

[582] Compliance information may include air quality monitoring data, air quality reports (to agencies), records related to non-compliance (as per Chapter 1.1) etc.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
		• Documented stakeholder grievances related to air quality management and company response.	

NOTES

Air quality standards and requirements were reviewed for various countries, focusing on the most expansive, developed standards. The greatest focus was on the standards of the European Union, Canada, Australia, and United States. With the goal in mind of adopting a standard that would evolve over time the decision was made to adopt the European Union's (EU) numeric air quality standards. There are many developed standards but the EU's stands out for its breadth of contaminants, including some known to be released during mining, and its inclusion of specific metalloid contaminants.[583] Further, like many developed national standards, the EU's air quality standards were developed to be comprehensive, transparent (development, review and modification, application, and interpretation in the courts), and enduring. Finally, the EU's air quality standards are evolving and therefore predicating IRMA's air quality standard on them will ensure that IRMA's air quality standards also evolve.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if there are host country laws governing air quality related to mine sites, the company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to violate the host country law.
2.1—ESIA and Management	Potential air quality impacts may be identified in the Environmental and Social Impact Assessment (ESIA). The ESIA may also contain information and data that can inform the location of air monitoring sites. Air quality issues may be addressed as part of the Environmental Management System, such as a site monitoring plan.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Air quality impacts not anticipated in the ESIA or not adequately mitigated may result in complaints by stakeholders. As per Chapter 1.4, the operating company is required to have an operational-level grievance mechanism available to stakeholders, including procedures for filing complaints, and having complaints recorded, investigated and resolved in a timely manner.
3.2—Occupational Health and Safety	Chapter 3.2 addresses air contaminants in the workplace.
4.5—GHG Emissions	Greenhouse gas air emissions are addressed in Chapter 4.5. As per 4.5.2, companies are required to quantify greenhouse gas emissions, and 4.5.4 requires public reporting on those emissions.
4.6—Biodiversity, Ecosystem Services and Protected Areas	If screening in 4.3.1 indicates that air emissions may result in significant impacts to important biodiversity, priority ecosystem services, critical habitat (including threatened and endangered species) or the conservation values of protected areas, then the significance of impacts should be further assessed and mitigation measures developed as per Chapter 4.6.

[583] The US EPA's Air Quality Standards are similar in many ways, however the EU includes contaminants not found in the US standards that may be released by mining and mining-related activities, such as arsenic, cadmium, and nickel.

Cross References to Other Chapters	
4.8—Mercury Management	Mercury air emissions are addressed in Chapter 4.8. As per 4.8.1, companies are required to estimate the amount of mercury released to air from mercury emissions control systems. Although there are no mercury air criteria in either Chapter 4.3 or 4.8, Chapter 4.8 does provide emissions limits for mercury that, if met, means that no further mitigative actions need to be taken (see 4.8.2.1). Criteria 4.8.3 includes requirements related to mercury air emission monitoring, including the development of a mercury air monitoring plan. Mercury air emissions could be incorporated into an air quality monitoring plan that covers all a broader suite of air emissions as per 4.3.3.1. Criteria 4.8.4 requires public reporting on mercury emissions.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to risks or impacts from a project.

Air Quality Models

Mathematical and numerical techniques used to simulate the physical and chemical processes that affect air pollutants as they disperse and react in the atmosphere. These include, for example: Air dispersion models, which are used to predict concentrations of pollutants at selected downwind receptor locations; and Receptor models, which use observational techniques and chemical and physical characteristics of gases and particles measured at source and receptor and to identify the presence of and to quantify source contributions to receptor concentrations.

Ambient Air Quality

The concentrations of pollutants (e.g., chemicals, particulate matter) in air (for IRMA's purposes, outdoor air).

Associated Facility

Any facility controlled by the operating company that is near to the mine lease/property, and essential to the mining operation (including ore processing facilities, stationary physical property such as power plants, port sites, roads, railroads, borrow areas, fuel production or preparation facilities, parking areas, shops, offices, housing facilities, storage facilities and others).

Baseline Air Quality

Ambient air pollutant concentrations prior to mining project commencement due to emissions from both natural and human-caused sources.

Best Available/Applicable Practice (BAP)

Encompasses management systems, operational procedures, techniques and methodologies that, through experience and demonstrated application, have proven to reliably manage risk and achieve performance objectives in a technically sound and economically efficient manner. BAP is an operating philosophy that embraces continual improvement and operational excellence, and which is applied consistently throughout the life of a facility, including the post-closure period.

Biodiversity

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems.

Conservation Values

The ecological, biological, geomorphological, geological, cultural, spiritual, scenic or amenity values, features, processes or attributes that are being conserved.

Critical Habitat

Areas with high biodiversity value, including but not necessarily limited to: (i) habitat of significant importance to critically endangered, endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes. Other recognized high biodiversity values might also support a critical habitat designation, based on case-by-case evaluation.

Ecosystem Services

The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Mine Waste Facility

Facilities that contain, store, are constructed of, or come in contact with wastes that are generated or created during mining (e.g., waste rock, pit walls, pit floors or underground workings, runoff or discharge from exposed mined areas) and mineral processing (e.g., tailings, spent ore, effluent). These facilities include, but are not limited to open pits, underground mine workings and subsidence areas, waste rock facilities, tailings storage facilities, heap leach facilities, process water facilities, stormwater facilities, borrow areas for construction and/or reclamation, water treatment facilities, and water supply dams/impoundments.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Physical activities (e.g., land disturbance and clearing, road building, sampling, airborne surveys, facility construction, ore removal, ore processing, waste management, reclamation, etc.) carried out during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure, post-closure).

Mitigation

Actions taken to reduce the likelihood of a certain adverse impact occurring.

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Priority Ecosystem Services

Ecosystem services are considered priority under the following circumstances: (i) Project operations are likely to result in a significant impact on the ecosystem service; the impact will result in a direct adverse impact on affected communities' livelihood, health, safety and/or cultural heritage; and the project has direct management control or significant influence over the service; or (ii) The project directly depends on the service for its primary operations; and the project has direct management control or significant influence over the service.

Protected Area

A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Threatened and Endangered Species

Species that meet the IUCN (2001) criteria for Vulnerable (VU), Endangered (EN) or Critically Endangered (CR), and are facing a high, very high or extremely high risk of extinction in the wild. These categories may be re-interpreted for IRMA purposes according to official national classifications (which have legal significance) and to local conditions and population densities (which should affect decisions about appropriate conservation measures).

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

TABLE 4.3. – European Union (EU) Numeric Air Quality Standards.[1]

Pollutant	Concentration	Averaging period	Permitted exceedances / year
Sulphur dioxide (SO2)	350 µg/m³	1 hour	24
	125 µg/m³	24 hours	3
Nitrogen dioxide (NO2)	200 µg/m³	1 hour	18
	40 µg/m³	1 year	not applicable
Fine particles (PM-2.5)	25 µg/m³	1 year	not applicable
PM-10	50 µg/m³	24 hours	35
	40 µg/m³	1 year	not applicable
Lead (Pb)	0.5 µg/m³	1 year	not applicable
Carbon monoxide (CO)	10 mg/m³	Maximum daily 8-hour mean	not applicable
Benzene	5 µg/m³	1 year	not applicable
Ozone	120 µg/m³	Maximum daily 8-hour mean	25 days averaged over 3 years
Arsenic (As)	6 ng/m³	1 year	not applicable
Cadmium (Cd)	5 ng/m³	1 year	not applicable
Nickel (Ni)	20 ng/ m³	1 year	not applicable
Polycyclic Aromatic Hydrocarbons	1 ng/m³ (as concentration of Benzo(a)pyrene)	1 year	not applicable

Notes: EU. Air Quality Standards (as of July 3, 2013). http://ec.europa.eu/environment/air/quality/standards.htm

Chapter 4.4—Noise and Vibration

BACKGROUND

Mining can create significant noise and/or vibration through blasting in both open pit and underground mines; large ore and waste rock truck traffic on the mine site; ore stockpiling, screening, and crushing; truck or rail traffic bring consumables to the mine site, and shipping product from the mine for final processing.

Studies have shown that there are direct links between noise and health. Problems related to noise include stress-related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity.[584] (This chapter does not seek to cover worker/employee vibration issues, which are covered under Chapter 3.2—Occupational Health and Safety.[585])

Many noises can be moderated or partially managed by employing mitigation measures, including berms, mufflers, sequenced blasting, planning, timing, and communications. However, effective control may be challenging due to a mine's typically large geographic footprint, especially when a mine is located near communities.

Studies have also demonstrated that vibrations, such as those created by blasting, can sometimes be felt in nearby communities, and even cause damage to buildings or the contents of buildings, such as items on walls or shelves.[586] However, vibration impacts from blasting can be mitigated, for example, by controlling charge weight diameter and charge coupling within boreholes, or controlling the direction of blast initiation.[587]

TERMS USED IN THIS CHAPTER

Affected Community ■ Baseline Ambient Noise Levels ■ Competent Professionals ■ Grievance ■ Grievance Mechanism ■ Ground Vibration ■ Host Country Law ■ Lin Peak/Linear Peak ■ Mining Project ■ Mining-Related Activities ■ Mitigation ■ New Mine ■ Noise Receptor ■ Operating Company ■ Peak Particle Velocity ■ Stakeholder ■ Threatened Species ■ Worker ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To preserve the health and well-being of nearby noise receptors and the amenity of properties and community values, and to protect offsite structures from vibration impacts.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant for all mines applying for IRMA certification. Worker-related noise impacts are addressed in Chapter 3.2, Occupational Health and Safety.

[584] For example, see various documents on US EPA Noise Pollution Clearinghouse website: www.nonoise.org/epa.htm; Also, see various publications on World Health Organization website: www.euro.who.int/en/health-topics/environment-and-health/noise/publications

[585] The structural vibration issues in this chapter (4.4) relate to buildings and structures. Chapter 3.2 includes job related vibration such as caused by sitting on a vibrating seat (such as operating heavy machinery) or hand vibration while working on a vibrating machine with one's hands. See e.g. http://www.ohsrep.org.au/hazards/vibration/effects-of-vibration; and https://www.ccohs.ca/oshanswers/phys_agents/vibration/vibration_effects.html

[586] Victoria (Australia) State Government. Ground Vibration and Airblast Limits for Blasting in Mines and Quarries. http://earthresources.vic.gov.au/earth-resources-regulation/licensing-and-approvals/minerals/guidelines-and-codes-of-practice/ground-vibration-and-airblast-limits-for-blasting-in-mines-and-quarries. See, for example, Office of Surface Mining Reclamation and Enforcement: "Blasting Vibration." https://www.osmre.gov/resources/blasting/docs/Citizens/KentuckyBlasting.pdf and "Blasting Vibrations and Their Effects on Structures." https://www.osmre.gov/resources/blasting/docs/USBM/Bul656BlastVibrationsStructures.pdf. The Office of Surface Mining information comes from coal-mining sources, which are not included in IRMA, but it provides an exemplary discussion of blasting vibration and its impacts.

[587] See e.g. Controlling the Adverse Effects of Blasting. OSMRE Presentation, available at: https://www.osmre.gov/resources/blasting/docs/WYBlasterCertModules/8AdverseEffectsBlasting.pdf

Noise and Vibration Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
4.4.1. Noise and Vibration Screening 4.4.1.1. The operating company shall carry out screening to determine if there may be significant impacts on offsite human noise receptors from the mining project's noise and/or vibration. Screening is required at all new mines, and also at existing mines if there is a proposed change to the mine plan that is likely to result in a new source of noise or vibration or an increase in existing noise or vibration levels.	Auditing Note for 4.4.1.1: Note that noise-related impacts on wildlife should be screened in the Environmental and Social Impact Assessment process in IRMA Chapter 2.1, and if there are any potential impacts on threatened or endangered species they should be further evaluated in the Biodiversity, Ecosystem Services and Protected Areas Screening – see IRMA Chapter 4.6). **For 4.4.1.1:** Review documentation related to screening (may be a standalone screening or done as part of ESIA- see Chapter 2.1)	**For 4.4.1.1:** • Screening for potential human noise receptors. • Screening documents and data for noise and vibration.	Explanatory Note for 4.4.1.1: This may have been done as part of the Environmental and Social Impact Assessment process in IRMA Chapter 2.1. Screening should include identification of potential human noise/vibration receptors; identification of potential sources of noise/vibration from the mining project; and determination of whether the noise sources have the potential to create noise or vibrations that may significantly impact human noise receptors.
4.4.1.2. If screening identifies potential human receptors of noise from mining-related activities, then the operating company shall document baseline ambient noise levels at both the nearest and relevant offsite noise receptors.	**For 4.4.1.2:** Confirm that if screening identified potential human receptors for mining noise that baseline ambient noise levels were measured at appropriate locations.	**For 4.4.1.2:** • Records of baseline ambient noise measurements. • Noise modelling reports.	Explanatory Note for 4.4.1.2: Relevant offsite human noise receptors should include the closest receptors to the mine, but also any others that have the potential to be affected by noise or vibrations. Topography and meteorology (e.g., prevailing wind directions, temperature inversions[588]) should be considered, when evaluating which receptors might be relevant. Baseline measurements should have sufficient coverage for different times of day, and different times of the week to establish baseline level for varying ambient conditions. If baseline data were not gathered prior to mine development, widely accepted noise models based on ISO standards (such as

[588] Australian Department of Industry, Innovation and Science. Leading Practice Sustainable Development Program: 3.0 Noise. https://industry.gov.au/resource/Programs/LPSD/Airborne-contaminants-noise-and-vibration/Noise/Pages/Meteorological-effects-on-the-propagation-of-noise.aspx

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
			CadnaA, SoundPLAN, etc.) may be used to demonstrate ambient noise levels due to mine operation.[589]
4.4.2. Management and Mitigation of Impacts on Human Receptors 4.4.2.1. If screening or other credible information indicates that there are residential, institutional or educational noise receptors that could be affected by noise from mining-related activities, then the operating company shall demonstrate that mining-related noise does not exceed a maximum one-hour LAeq (dBA) of 55 dBA during the hours of 07:00 to 22:00 (i.e., day) and 45 dBA at other times (i.e., night) at the nearest offsite noise receptor. These hours may be adjusted if the operating company can justify that alternative hours are necessary and/or appropriate because of local, cultural or social norms.	**For 4.4.2.1:** Review documentation showing all environmental analyses, such as screening or ESIA or other (including regulatory agency, contractor, mining project, public, etc.) that identified noise impacts to human populations. **For 4.4.2.1, 4.4.2.2 and 4.4.2.3:** Review company monitoring data to confirm that IRMA requirements (and host country laws pertaining to noise, if they exist) are being met.	**For 4.4.2.1:** • Noise screening report Identification of human noise receptors. • Records of noise measurements taken at relevant receptor locations. • Documentation of decibel limit compliance with standards.	Explanatory Note for 4.4.2.1: The dBA noise limits in 4.2.2.1 and 4.4.2.2, are from IFC Environmental, Health and Safety General Guidelines (2007). As per IFC guidelines, the dBA decibel levels for receptors should be measured out of doors.[590] Sound is measured in decibels (dB). When measuring environmental noise, a weighting network is used which filters the frequency of the sound so that it better corresponds to the response of the human ear. Noise measurements made using this weighting network are expressed as dBA.[591] "dbA" refers to A-weighted decibel. It is an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies are reduced (as compared with unweighted decibel systems, in which no correction is made for audio frequency).[592] "Other credible information" may include, but is not limited to, concerns or complaints raised by stakeholders, or other information that comes to light after the screening process.
4.4.2.2. The following exceptions to 3.5.2.1 apply:	**For 4.4.2.1, 4.4.2.2 and 4.4.2.3:** Review company monitoring data to confirm that IRMA	**For 4.4.2.2:** • Baseline ambient noise measurements.	If baseline data were not gathered prior to mine development, widely accepted noise models based on ISO standards (such as

[589] CadnaA website. "CadnaA – state-of-art noise prediction software." https://www.datakustik.com/products/cadnaa/cadnaa/ and SoundPLAN website. "SoundPLAN & ISO/TR 17534-3:2015." https://www.soundplan.eu/deutsch/aktuelles/newsmeldungen-einzelansicht/article/soundplan-isotr-17534-32015/

[590] IFC. 2007.. General Environmental, Health and Safety Guidelines. Noise Management. p. 53 (footnote 54) https://www.ifc.org/wps/wcm/connect/06e3b50048865838b4c6f66a6515bb18/1-7%2BNoise.pdf?MOD=AJPERES

[591] Australian Department of Industry, Innovation and Science (ADIIS). Leading Practice Sustainable Development Program: 3.0 Noise. "Noise characteristics and Measures." https://archive.industry.gov.au/resource/Programs/LPSD/Airborne-contaminants-noise-and-vibration/Noise/Pages/Noise-characteristics-and-measures.aspx

[592] Glossaries of noise measurement and related terms may be found at the following sources, among others: http://www.hearforever.org/tools-to-educate/glossary-noise-measurements-administrative-engineering-controls and http://www.acoustic-glossary.co.uk/definitions-l.htm.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
a. If baseline ambient noise levels exceed 55 dBA (day) and/or 45 dBA (night), then noise levels shall not exceed 3 dB above baseline as measured at relevant offsite noise receptors; and/or b. During periods of blasting, the dBA levels may be exceeded, as long as the other requirements in 4.4.2.4 are met.	requirements (and host country laws pertaining to noise, if they exist) are being met.	• Noise measurements taken during blasting. • Noise modelling reports.	CadnaA, SoundPLAN, etc.) may be used to demonstrate ambient noise levels due to mine operation.[593]
4.4.2.3. If screening or other credible information indicates that there are only industrial or commercial receptors that may be affected by noise from mining-related activities, then noise measured at the mine boundary or nearest industrial or commercial receptor shall not exceed 70 dBA.	For 4.4.2.1, 4.4.2.2 and 4.4.2.3: Review company monitoring data to confirm that IRMA requirements (and host country laws pertaining to noise, if they exist) are being met.	For 4.4.2.3: • Noise screening report. • Documentation showing identification of receptors. • Documentation of noise decibel (dBA) measurements at the mine site boundary.	
4.4.2.4. If screening or other credible information indicates that noise or vibration from blasting activities may impact human noise receptors, then blasting operations at mines shall be undertaken as follows:[594] a. A maximum level for air blast overpressure of 115 dB (Lin Peak)	For 4.4.2.4: Review documentation showing all environmental analyses, such as screening or ESIA, vibration modelling results or other (including regulatory agency, contractor, mining project, public, etc.) that identified blasting impacts to human receptors. Review company documents (e.g., blasting logs, data on pressure and vibration measurements) to confirm that IRMA numerical requirements	For 4.4.2.4: • Noise screening report. • Documentation related to blasting (dates, times that blasting occurred). • Documentation of air blast overpressure measurements related to blasting. • Documentation of peak particle velocity measurements.	Explanatory Note for 4.4.2.4: These requirements are based on the Australia and New Zealand Environment Council's Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration.[595] "traditionally normal working days" will be Monday to Saturday for some cultures, and different days for others. Where there are affected communities that contain groups with diverse cultural norms, the company should demonstrate

[593] CadnaA website. "CadnaA – state-of-art noise prediction software." https://www.datakustik.com/products/cadnaa/cadnaa/ and SoundPLAN website. "SoundPLAN & ISO/TR 17534-3:2015." https://www.soundplan.eu/deutsch/aktuelles/newsmeldungen-einzelansicht/article/soundplan-isotr-17534-32015/

[594] These requirements are based on the Australia and New Zealand Environment Council's "Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration." ANZEC, 1990. Available at: www.environment.nsw.gov.au/resources/noise/anzecblasting.pdf

[595] Australia and New Zealand Environment Council (ANZEC). 1990. Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration. http://www.environment.nsw.gov.au/resources/noise/anzecblasting.pdf

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
shall be exceeded on no more than 5 % of blasts over a 12-month period; b. Blasting shall only occur during the hours of 09:00 to 17:00, on traditionally normal working days; and c. Ground vibration (peak particle velocity) shall neither exceed 5 mm/second on 9 out of 10 consecutive blasts, nor exceed 10 mm/second at any time.	(and host country laws pertaining to blasting, if they exist) are being met.		sensitivity to those who will be most directly affected by blasting noise. Once established, the working days should not be further adjusted without documented explanation. The necessity of alternative hours must be demonstrated based on: (1) the alternative hours do not cause hardship or imposition on local culture, groups, or norms and (2) that stakeholder comments and concerns for and/or against alternative hours have been reasonably resolved and responsibly responded-to. The following definitions (adapted from Victoria (Australia) State Government) are used:[596] • Lin Peak is short for Linear Peak, which is the maximum level of air pressure fluctuation measured in decibels without frequency weighting. • Ground vibration is the level of vibration (peak particle velocity) measured in mm/second in the ground. The measurement point should be at least the longest dimension of the foundations of a building or structure away from the building or structure, if possible. If this is not possible, the measurement point should be as far from the building or structure as is practical. • Peak particle velocity is the instantaneous sum of the velocity vectors (measured in millimetres per second) of the ground movement caused by the passage of vibration from blasting.
4.4.2.5. Mines may undertake blasting outside of the time restraints in 4.4.2.4.b when the operating	**For 4.4.2.5:** If operating company has blasted outside the timeframes identified in 4.4.2.4, review company documentation supporting the exception. Verify accuracy and completeness of the company's explanation	**For 4.4.2.5:** • Documentation related to blasting (dates, times that blasting occurred). • Screening or other evidence that there are no human noise receptors that will be affected by	Explanatory Note for 4.4.2.5: Re: 4.4.2.5.b, to meet this sub-requirement the operating company should be able to demonstrate the necessity of the alternative hours, and show that: • The alternative hours do not cause hardship or imposition

[596] Victoria (Australia) State Government. Ground Vibration and Airblast Limits for Blasting in Mines and Quarries. http://earthresources.vic.gov.au/earth-resources-regulation/licensing-and-approvals/minerals/guidelines-and-codes-of-practice/ground-vibration-and-airblast-limits-for-blasting-in-mines-and-quarries

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
company can demonstrate one or more of the following: a. There are no nearby human noise receptors that will be impacted by blasting noise or vibration; b. Alternative hours are necessary and/or appropriate because of local, cultural or social norms; and/or c. Potentially affected human receptors have given voluntary approval for the expanded blasting hours.	with stakeholders from communities potentially affected by blasting noise or vibration.	blasting noise or vibration. • Documentation of local, cultural or social norms that are the basis for alternative blasting hours. • Correspondence with potentially affected human receptors.	on local culture, groups, or norms; and • Stakeholder comments and concerns for and/or against alternative hours have been received appropriate company response and been reasonably resolved.
4.4.2.6. If a credible, supported complaint is made to the operating company that noise or vibration is adversely impacting human noise receptors, then the operating company shall consult with affected stakeholders to develop mitigation strategies or other proposed actions to resolve the complaint. Where complaints are not resolved then other options, including noise monitoring and the implementation of additional mitigation measures, shall be considered.	For 4.4.2.6: Interview operating company and review complaint documentation (e.g., grievance mechanism records, see IRMA Chapter 1.4) to determine if any noise- or vibration or blasting related concerns or complaints have been raised by affected community members or others. If there have been complaints, review company documentation (as required in 4.4.2.7) to confirm that the company consulted with complainants to determine an acceptable way to resolve the complaint as per 4.4.2.6 (including noise monitoring and alternative mitigation if first attempts at mitigation do not resolve the complaints). If there are cases where no investigation occurred in response to a noise compliant, review the outcome and justification for not investigating the complaint (e.g., why the	For 4.4.2.6: • Records of noise complaints and any follow-up to them. • Documentation of correspondence between the operating company on meetings held, and actions taken to resolve noise complaints.	Explanatory Note for 4.4.2.6: Re: "credible complaints," IRMA recognizes that repeated or redundant complaints that have been resolved may suggest misuse of the company's complaints or grievance process. Where such complaints are reasonably unlikely to yield new or different results from similar previous complaints that have been thoroughly investigated and mitigated as per 4.4.2.6 (including noise monitoring and alternative mitigation if first attempts at mitigation do not resolve the complaints), then the operating company will not be expected to fully investigate those complaints. However, this does not give the operating company the freedom to forever disregard or not respond to credible complaints, including from complainants that have previously repeatedly complained to the company. The operating company should maintain documentation of every complaint and its responses - including any determination not to further respond.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXPLANATORY NOTES
	company considered a complaint to not be credible).	Noise-related complaints should be handled according to the procedures developed for the mining project's operational-level grievance mechanism (See IRMA Chapter 1.4). Mitigation for noise could include: • Selection of low-noise equipment; • Applying additional silencing measures to fixed and mobile equipment and ventilation fans; • Installing acoustic enclosures around noise sources, using "smart alarms" to minimize complaints related to vehicle reversing alarms; • Optimizing mine layout to shield receptors from noise-generating facilities and haul roads; • Minimizing tonal components or impulsive or intermittent noise characteristics; • Using sound walls or other acoustical screening; • Incorporating buffer zones and landscaped setbacks between noise sources and receptors; or • Applying acoustical treatment to receptors (E.g., dwellings).[597] Measures commonly adopted to mitigate the impacts of blasting include:[598] • Reducing the charge mass • Increasing/optimizing the stemming height and ensuring the type of stemming is adequate • Eliminating the exposed detonating cord and secondary blasting • Orientating faces away from potentially sensitive receivers

[597] Australian Department of Industry, Innovation and Science. Leading Practice Sustainable Development Program: 3.0 Noise, 3.10 Exploration, Development and Design Phase, 3.10.3 Hierarchy of Controls. https://industry.gov.au/resource/Programs/LPSD/Airborne-contaminants-noise-and-vibration/Noise/Pages/Exploration,-development-and-detailed-design-phase.aspx

[598] Ibid.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION		EXPLANATORY NOTES
			• Using a hole spacing and burden which will ensure the explosive force is just sufficient to break the ore to the required size • Applying best practice design of the blast initiation sequence and timing delay • Providing optimum buffer zones and set-back distances for sensitive structures • Acoustically treating dwellings
4.4.2.7. All noise- and vibration-related complaints and their outcomes shall be documented.	For 4.4.2.7: Review documentation on noise/vibration-related complaints, and confirm that the outcomes of the complaints have been documented.	For 4.4.2.7: • Records of noise complaints and any follow-up to them.	Explanatory Note for 4.4.2.7: Documentation should include operating company rationale for deeming a complaint to be "not credible." See Note for 4.4.2.6 for more information.
4.4.3. Reporting 4.4.3.1. When stakeholders make a noise-related complaint, the operating company shall provide relevant noise data and information to them. Otherwise, noise data and information shall be made available to stakeholders upon request.	For 4.4.3.1: Interview company and stakeholders who have complained about noise, if any, to confirm that information is provided to complainants. Evidence of making information available to other stakeholders could include documented requests from stakeholders and company responses.	For 4.4.3.1: • Records of noise complaints and any follow-up to them. • Records of stakeholder requests for information.	Explanatory Note for 4.4.3.1: Relevant noise data would include any noise monitoring carried out by the operating company in response to a particular complaint; and also information on mitigation measures undertaken in the company's effort to resolve that complaint. Other data, such as the aggregate number of noise complaints, or general information on noise mitigation measures employed at the mine, etc. should be made available to any stakeholder upon request.

NOTES

This chapter focuses on the impacts of noise and vibrations on human noise receptors. Noise-related impacts on wildlife receptors should be screened in the Environmental and Social Impact Assessment process in IRMA Chapter 2.1, and If there are significant impacts are identified, then those impacts should be mitigated as per the ESIA process (including consultations with relevant stakeholders, such as government biologists, wildlife conservation organizations, academic experts and community members whose livelihoods or sustenance may be affected by impacts on wildlife). Any related monitoring should occur as per the Environmental and Social Monitoring program.

If noise of vibration may potentially impact threatened species, those impacts should be further evaluated during the Biodiversity, Ecosystem Services and Protected Areas screening process (IRMA Chapter 4.6).

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per IRMA Chapter 1.1, if there are host country laws governing noise from mining operations, the company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to violate host country law.
1.2—Community and Stakeholder Engagement	Consultations with stakeholders related to the development of noise mitigation plans shall conform to the stakeholder engagement requirements in Chapter 1.2. Reporting shall conform with the Communications and Access to Information requirements in 1.2.4 , which require that communications and information be in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Noise impacts not anticipated in the screening process/ESIA or not adequately mitigated may result in complaints by stakeholders. As per Chapter 1.4, the operating company is required to have an operational-level grievance mechanism available to stakeholders, including procedures for filing mining-related complaints, and having those complaints recorded, investigated and resolved in a timely manner.
2.1—Environmental and Social Impact Assessment and Management	Potential noise impacts, such as impacts on sensitive wildlife species and populations, should be evaluated as part of the ESIA scoping process (see requirement 2.1.3.3). Where potentially significant impacts on wildlife populations are identified, the operating company should develop mitigation strategies to reduce the impacts on wildlife, and monitoring program to determine if mitigation measures are being effective (as per the requirements in 2.1.7 and 2.1.8).
3.2—Occupational Health and Safety	Chapter 4.4 pertains to the impacts of mine-related noise on local communities. The impacts of harmful noise on workers are covered in Chapter 3.2.
4.6—Biodiversity, Ecosystem Services and Protected Areas	If noise of vibration may potentially impact threatened or endangered species, those impacts should be further evaluated during the Biodiversity, Ecosystem Services and Protected Areas screening process (see criteria 4.6.2).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to potential risks or impacts from a project.

Baseline Ambient Noise Levels

Ambient noise level is the total noise from all sources at a given location and time. For the purposes of this chapter, baseline ambient noise is the background sound pressure level at a given location without the presence of noise sources of interest (in this case, sources of interest would be noise related to the mining project).

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Grievance

A perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities. For the purposes of the IRMA Standard, the words grievances and complaints will be used interchangeably.

Grievance Mechanism

Any routinized, State-based or non-State-based, judicial or non-judicial process through which mining-project-related complaints or grievances, including business-related human rights abuses stakeholder complaints, and/or labor grievances, can be raised and remedy can be sought.

Ground Vibration

The level of vibration (peak particle velocity) measured in mm/second in the ground. The measurement point should be at least the longest dimension of the foundations of a building or structure away from the building or structure, if possible. If this is not possible, the measurement point should be as far from the building or structure as is practical.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Lin Peak/Linear Peak

The maximum level of air pressure fluctuation measured in decibels without frequency weighting.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Mitigation

Actions taken to reduce the likelihood of a certain adverse impact occurring.

Noise Receptor

A point of reception or (human) receptor may be defined as any point on the premises occupied by persons where extraneous noise and/or vibration are received. Examples of receptor locations may include: permanent or seasonal residences; hotels/motels; schools and daycares; hospitals and nursing homes; places of worship; and parks and campgrounds, and similar public spaces and commons. For wildlife, receptor locations may include wildlife habitat for sensitive animal species.

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Peak Particle Velocity

The instantaneous sum of the velocity vectors (typically measured in millimetres per second) of the ground movement caused by the passage of vibration from blasting.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Threatened Species

Species that meet the IUCN (2001) criteria for Vulnerable (VU), Endangered (EN) or Critically Endangered (CR), and are facing a high, very high or extremely high risk of extinction in the wild. These categories may be re-interpreted for IRMA purposes according to official national classifications (which have legal significance) and to local conditions and population densities (which should affect decisions about appropriate conservation measures).

Worker

All non-management personnel.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 4.5—Greenhouse Gas Emissions

Background

Humans are increasingly influencing the climate and the earth's temperature by burning fossil fuels, cutting down rainforests and raising livestock.[599] These activities release gases such as carbon dioxide, methane, nitrous oxide, ozone and a few others that have the ability to trap heat in the Earth's atmosphere. Many of these gases occur naturally, but human activity is increasing the concentrations of some of them in the atmosphere.[600] As a result, the United Nations Framework Convention on Climate Change has spurred the establishment of targets for the reduction of greenhouse gas emissions that are applicable in over 190 countries.[601]

Mining is a major energy consumer and emitter of greenhouse gas emissions. The mining industry therefore has an opportunity and responsibility to manage its energy use and carbon emissions, but it also shows the potential for mines to consume less energy, emit less carbon, and improve the company's bottom line.

According to the International Council on Mining and Metals, the mining industry's greenhouse gas emissions come from two major categories. The first is direct emissions as a result from fossil fuel use in mining and processing operations; transportation of ore and electricity generation at remote sites; and fugitive emissions. The second is indirect emissions from electricity use, primarily in refining and smelting operations. Mining companies can reduce consumption in both of these groupings and thereby cut costs and improve competitiveness by adopting best practices regarding energy efficiency and emissions reduction.

TERMS USED IN THIS CHAPTER

Affected Community ■ Associated Facilities ■ Corporate Owner ■ Existing Mine ■ Host Country Law ■ Mining Project ■ Mining-Related Activities ■ Operating Company ■ Significant Changes to Mining-Related Activities ■ Stakeholder ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To minimize climate change impacts through increased energy efficiency, reduced energy consumption and reduced emissions of greenhouse gases.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is relevant for all mines applying for IRMA certification.

CRITICAL REQUIREMENTS IN THIS CHAPTER

There is a policy being implemented that includes targets for reducing greenhouse gas emissions (4.5.1.1).

[599] European Commission website: "Causes of Climate Change." https://ec.europa.eu/clima/change/causes_en

[600] IbidIbid.

[601] For example, see: "Nationally appropriate mitigation commitments or actions by developed country Parties," United Nations Climate Change website. https://unfccc.int/topics/mitigation/workstreams/nationally-appropriate-mitigation-actions

Greenhouse Gas Emissions Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.5.1. Greenhouse Gas Policy 4.5.1.1. (Critical Requirement) The operating company or its corporate owner shall develop and maintain a greenhouse gas or equivalent policy that commits the company to: a. Identifying and measuring greenhouse gas emissions from the mining project and associated facilities; b. Identifying energy efficiency and greenhouse gas reduction opportunities across the mining operation; c. Setting meaningful and achievable targets for reductions in absolute greenhouse gas emissions[602] at the mine site level or on a corporate-wide basis; and d. Reviewing the policy at least every five years and revising as needed, such as if there are significant changes to mining-related activities, new technologies become available, or there are newly identified opportunities for reductions.	**For 4.5.1.1:** Review greenhouse gas policy to ensure commitment to measuring/reporting; identifying reduction/efficiency opportunities; established and reduction targets; and reviewing/revising the policy. Confirm that there is a process in place to review the policy (or policy elements) at least every five years, and if there have been significant changes in mining-related activities (i.e., at existing mines) confirm that the policy has been reviewed and any opportunities for additional reductions identified. If additional reductions are identified, confirm that the policy and any associated plans or procedures have been updated accordingly.	**For 4.5.1.1:** • Greenhouse gas policy (or its equivalent).	Explanatory Note for 4.5.1.1: The policy does not have to be stand-alone and does not have to be special/exclusive to IRMA purposes. Nor does it have to be named "greenhouse gas policy." f [flag] **4.5.1.1.c. Issue in Brief:** While there is agreement among IRMA sectors that setting GHG reduction targets are something that every responsible company should be doing, there is not yet cross-sectoral agreement within IRMA regarding how ambitious those targets should be. There are a number of initiatives underway encouraging companies to set "science-based" targets that are consistent with the Paris Agreement's goal of limiting global average temperature increase to well below 2 degrees above pre-industrial levels (e.g., Climate Action 100+, Science Based Targets, Transition Pathway Initiative, etc.). Numerous companies globally have made commitments to setting science-based targets, but there is not a lot of information on or evidence of mining companies setting such targets. IRMA will use the Launch Phase as a time to ask mines whether or not they are setting "science-based targets" for greenhouse gas emissions reductions, and if they are not, what are the barriers are to making such a commitment? The outcome of the queries will

[602] A target for reductions in absolute greenhouse gas emissions is defined by a reduction in absolute (or total) emissions over time (e.g., reduce total greenhouse gas emissions by 20% below 2007 levels by 2015). For the purposes of this requirement, only targets for Scope 1 and Scope 2 emissions are required to be included in the target, although Scope 3 emissions may also be included. Scope 1 emissions are the direct emissions from the mining project (or company, if setting targets on a corporate-wide basis); Scope 2 are the indirect emissions from consumption of purchased electricity, heat, and steam. Scope 3 are other indirect emissions. See GHG Protocol Standard for more details. https://ghgprotocol.org/corporate-standard

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			help inform the version of the Standard that will be used when IRMA starts certifying mines in 2019. Explanatory Note for 4.5.1.1.c: A target for reductions in absolute greenhouse gas emissions is defined by a reduction in absolute (or total) emissions over time (e.g., reduce total greenhouse gas emissions by 20% below 2007 levels by 2015). For the purposes of this requirement, only targets for Scope 1 and Scope 2 emissions are required to be included in the target. Scope 3 emissions may also be included. According to the GHG Protocol Initiative's *Greenhouse Gas Protocol Corporate Accounting and Reporting Standard*:[603] • Scope 1 emissions are the direct emissions from the mining project (or company, if setting targets on a corporate-wide basis); • Scope 2 are the indirect emissions from the consumption of purchased or acquired electricity, heat, and steam and cooling; • Scope 3 are other indirect emissions not covered in Scope 2. For more details see GHG Protocol Corporate Accounting and Reporting Standard.[604] Re: 4.5.1.1.d, new technologies or opportunities are be those that could reasonably be implemented at the mine site. They may come to the attention of the operating company or corporate owner through internal channels or through public, stakeholder, regulator/government, or other suggestion.

[603] GHG Protocol Initiative. 2015. Greenhouse Gas Protocol Corporate Accounting and Reporting Standard. https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf

[604] Ibid.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.5.2. Emissions Quantification 4.5.2.1. The operating company shall comply with emissions quantification methods described in a widely accepted reporting standard, such as the *Greenhouse Gas Protocol Corporate Standard*[605] or the Global Reporting Initiative's *GRI 305* emissions reporting standard.[606]	**For 4.5.2.1:** Review documentation on details and explanations of calculations made, including assumptions, data sources, and discussion of errors, inconsistencies, and other information that could reasonably be necessary to ensure that the methods conform to the GHG Protocol Corporate Standard or the GRI reporting standard. If other methods are used, interview operating company to determine their justification for using an alternative set of methods, and information to confirm that the methods used are internationally recognized and comparable to the GHG Protocol Corporate Standard.	**For 4.5.2.1:** • Greenhouse gas emissions data and reports. • Equipment calibration and QA/QC documentation, where applicable.	Explanatory Note for 4.5.2.1: Emissions quantification must include the following greenhouse gases: • carbon dioxide (CO_2), • methane (CH_4), • nitrous oxide (N_2O), • hydrofluorocarbons (HFCs), • perfluorocarbons (PFCs), a • sulfur hexafluoride (SF_6), and • nitrogen trifluoride (NF_3). Quantification is required for Scope 1 and Scope 2 emissions. (See Note for 4.5.1.1)
4.5.3. Emissions Reduction Strategies 4.5.3.1. The greenhouse gas policy shall be underpinned by a plan that details the actions that will be taken to achieve the targets set out in the policy.	**For 4.5.3.1:** Review the plan to ensure that there are actions laid out to achieve the reduction targets outlined in the policy.	**For 4.5.3.1:** • Greenhouse gas action plan (or its equivalent).	Explanatory Note for 4.5.3.1: The plan should: • Be specific to the mine; • Include sufficient detail to understand and measure the mine's goals and success over a defined period of time; and • Be updated throughout the course of the mine's life.
4.5.3.2. The operating company shall demonstrate progress toward its greenhouse gas reduction targets.	**For 4.5.3.2:** Review documentation of actions taken by the company to confirm that actions are being implemented and progress made toward its targets.	**For 4.5.3.2:** • Annual greenhouse gas emissions reports. • Greenhouse gas policy or other document(s) that contain greenhouse gas reduction target information.	Explanatory Note for 4.5.3.2: By estimating mining project greenhouse gas emissions using a widely accepted methodology, and doing so on an annual basis, the operating company should be able to show that over time progress is being made toward meeting its greenhouse gas reduction targets. Also, progress can be

[605] Ibid.

[606] Global Reporting Initiative (GRI). 2016. *GRI 305* emissions reporting standard. https://www.globalreporting.org/standards/gri-standards-download-center/gri-305-emissions/

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			shown by demonstrating that strategies to reduce emissions are in the process of being implemented.
4.5.3.3. The operating company shall demonstrate that it has investigated greenhouse gas reduction strategies, and shall document the results of its investigations.	**For 4.5.3.3:** Review documentation to confirm that the company has investigated various greenhouse gas reduction strategies.	**For 4.5.3.3:** • Reports, studies or other documentation related to technical and/or economic feasibility of strategies to reduce greenhouse gas emissions.	Explanatory Note for 4.5.3.3: Investigations might include literature reviews, cost benefit analyses, feasibility studies, etc., of different strategies or technologies to reduce greenhouse gas emissions (e.g., use of electricity generated from solar or wind to replace electricity generated by fossil-fuels, use of electrical vehicles to replace those that run on diesel, etc.).
4.5.4. Reporting 4.5.4.1. The greenhouse gas policy shall be publicly available.	**For 4.5.4.1:** Confirm that the policy is available (e.g., on company website, or in hard copies in publicly accessible locations and formats appropriate for stakeholders and affected communities).	**For 4.5.4.1:** • Greenhouse gas policy (or its equivalent). • Evidence that policy is publicly available (e.g., link to website, list of publicly accessible locations where document can be found, etc.).	Explanatory Note for 4.5.4.1: "Publicly available" means that the policy should be on the company's website, or in hard copies in publicly accessible locations. As per Chapter 1.2, public communications should be in formats and languages that are appropriate for stakeholders and affected communities. Ideally, as part of the company's outreach, advertising, and other "media" the policy should be disclosed to the public and described so that people are aware of its existence, content, and availability. This is similar, for example, to how companies make evident and/or promote their corporate accountability, social, and sustainability policies.
4.5.4.2. On an annual basis, the operating company or its corporate owner shall: a. Disclose to IRMA auditors an accounting of its greenhouse gas emissions from the mining project and associated facilities; achievement of and/or progress towards mine-site-level greenhouse	**For 4.5.4.2.a:** Review company data on greenhouse gas emissions from the mining project and associated facilities; progress toward mine site greenhouse gas reduction targets; and efforts undertaken to reduce emissions at the mine site level. **For 4.5.4.2.b:** Review publicly available data to confirm that the company is publicly reporting emissions, progress	**For 4.5.4.2:** • Greenhouse gas (GHG) emissions data. • A GHG policy or other document that contains information on greenhouse gas reduction targets. • Reports that include information on efforts/strategies implemented to reduce greenhouse gas emissions. • Documentation of meetings or communications with stakeholders (e.g., meeting minutes, correspondence,	[flag] **4.5.4.2.b. Issue in Brief:** While there is agreement among IRMA sectors that mines should be measuring their emissions and should have greenhouse gas reduction policies, targets and strategies in place, there is not full agreement on whether reporting of greenhouse gas emissions

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
gas reduction targets; and efforts taken to reduce emissions from the mining project and mining-related activities; and b. f Publicly report on mine-site-level or corporate-level greenhouse gas emissions, progress towards greenhouse gas reduction targets and efforts taken to reduce emissions.	toward targets and efforts taken to reduce emissions on either mine-site or corporate level.	etc.) where information on the mining project's greenhouse gas emissions and reduction strategies have been shared.	should occur at the mine site level, the corporate/company-wide level, or both. Many mining companies do report emissions and greenhouse gas reduction targets, but this often occurs on a corporate-wide basis. Since IRMA is certifying mine sites, not companies, the preference expressed by some stakeholders is that every mine should annually report its greenhouse gas emissions and targets. IRMA will use its Launch Phase to gather information on whether mines engaged with IRMA and other leading companies are reporting emissions and targets for individual mine sites, or whether most companies are still only doing this on a company-wide basis. This information will inform how we proceed with this requirement in further revisions to the Standard.

Explanatory Note for 4.5.4.2: To clarify, this requirement means that mines must disclose to auditors their mine site emissions data, which should be broken out by year. It does not mean that mines need to send to auditors their emissions data on an annual basis (we will provide wording that is more clear in the next version of the Standard).

Public reporting means that the information should be conveyed to general stakeholders either through verbal presentations, through documents published on the company's website, or in hard copies in publicly accessible locations.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			As per Chapter 1.2, public communications should be in formats and languages that are appropriate for stakeholders and affected communities.

NOTES

In the future, the IRMA Steering Committee may consider the development of numeric criteria to further guide mining GHG emissions as appropriate.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if there are host country laws governing the reporting or reduction of greenhouse gas emissions, the company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to violate the host country law.
1.2—Community and Stakeholder Engagement	Reporting to stakeholders shall conform with the Communications and Access to Information requirements in 1.2.4, which require that communications and information be in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner.
1.4—Complaints and Grievance Mechanism and Access to Remedy	As per Chapter 1.4, the operating company is required to have an operational-level grievance mechanism available to stakeholders, including procedures for filing mining-related complaints, and having those complaints recorded, investigated and resolved in a timely manner. Any complaints from stakeholders related to greenhouse gas emissions and reporting should be addressed through the company's grievance mechanism (if not resolved through informal dialogue or other means).
2.1—Environmental and Social Impact Assessment and Management	Potential impacts from greenhouse gas emissions (e.g., environmental and social impacts related to climate change) may be identified in the ESIA. The assessment may result in the development of mitigation and/or greenhouse gas reduction strategies.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

A community that is subject to risks or impacts from a project.

Associated Facility

Any facility managed by the operating company that would not have been constructed, expanded or acquired but for the exploration or development of the mine (including ore processing facilities, stationary physical property such as power plants, port sites, roads, railroads, borrow areas, fuel production or preparation facilities, parking areas, shops, offices, housing facilities, storage facilities, etc.).

Corporate Owner(s)

The corporation(s) or other business institution(s) including any private or state-run enterprises that have complete or partial financial interest in or ownership of a mining project.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Significant Changes to Mining-Related Activities

Changes in scale or scope (e.g., production increases, new or expanded activities or facilities, alterations in waste management activities, closure, etc.) that may create significant environmental, social and/or human rights impacts, or significantly change the nature or degree of an existing impact.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 4.6—Biodiversity, Ecosystem Services and Protected Areas

BACKGROUND

Biological diversity, or biodiversity, describes the variety of life on Earth. It refers to the wide variety of ecosystems and living organisms: animals, plants, their habitats and their genes. Biodiversity underpins ecosystem functioning and the provision of ecosystem services essential for human well-being. It is a central component of many belief systems, world views and identities. It provides for food security, human health, clean air and water, and contributes to local livelihoods and economic development. Despite its fundamental importance, however, biodiversity continues to be lost.[607]

Mining may take place in landscapes that are already heavily modified or degraded, and therefore, pose little or no threat to global biodiversity loss. When located in areas of high biodiversity value, however, there is the potential that mining may lead to a temporary or permanent loss in biodiversity and ecosystem services.

Globally, a network of protected areas have been put in place, offering various levels of protection for biodiversity, land and seascapes. Developments such as exploration and mining are expected to respect those protections and operate in a manner that safeguards biodiversity and other values that led to a protected area designation (e.g., cultural values – see IRMA Chapter 3.7). In many areas of the world, however, an adequate system of protected areas has yet to be established, and even where protections exist there are opportunities to further conserve biodiversity and other important values.

Through adherence to the mitigation hierarchy during the most appropriate stages in project development, in appropriate locations mining can proceed in a manner that supports global biodiversity, maintains the ecosystem services that communities need to survive and thrive, and leaves behind structurally safe and functioning ecosystems upon closure. This chapter puts forward a framework for mines to proactively assess and manage impacts on biodiversity and ecosystem services according to the mitigation hierarchy of avoiding and minimizing impacts early in the project lifecycle, and if impacts cannot be avoided, restoring and, if necessary, offsetting or compensating for residual impacts throughout the remainder of the mine's life.

TERMS USED IN THIS CHAPTER

Additional Conservation Actions ■ Area of Influence ■ Avoidance ■ Baseline ■ Biodiversity ■ Biosphere Reserves ■ Competent Professionals ■ Conservation Outcomes ■ Conservation Values ■ Collaborate ■ Consultation ■ Critical Habitat ■ Critically Endangered Species ■ Cumulative Impacts ■ Direct/Indirect Impacts ■ Ecological Processes ■ Ecosystem ■ Ecosystem Services ■ Enhancement ■ Existing Mine ■ Habitat ■ Host Country Law ■ Important Biodiversity Values ■ Key Biodiversity Areas ■ Mine Closure ■ Mining Project ■ Mining-Related Activities ■ Minimize ■ Mitigation ■ Mitigation Hierarchy ■ Modified Habitat ■ Natural Habitat ■ New Mine ■ No Net Loss and Net Gain ■ Offset ■ Operating Company ■ Priority Ecosystem Services ■ Protected Area ■ Protected Area Management Categories ■ Residual Impacts ■ Restoration ■ Stakeholder ■ Tentative List for World Heritage Site Inscription ■ Threatened or Endangered Species ■ World Heritage Site ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To protect biodiversity, maintain the benefits of ecosystem services and respect the values being safeguarded in protected areas.

SCOPE OF APPLICATION

Chapter Relevance: This chapter will not be applicable if no risks to biodiversity, ecosystem services or protected areas, including risks related to potential knowledge gaps, are identified through the screening process.

[607] Adopted from the Convention on Biological Diversity (CBD) Strategic Plan for Biodiversity 2011-2020. Available at: www.cbd.int/sp/

New vs. Existing Mines: This chapter applies to new mines and existing mines. The requirements are drafted with the intent that the overall impact of the mine on biodiversity, ecosystem services and protected areas will be considered across the entire period of the mine's life. Mitigation measures for new mines are expected to be designed to achieve no net loss and preferably a net gain in important biodiversity values and priority ecosystem services.

While ideally existing mines would seek to achieve no net loss in biodiversity and ecosystem services, IRMA recognizes that it may be difficult or impossible to accurately identify the biodiversity values that were present in an area prior to the mine development, which makes it difficult to establish a baseline for calculating a no net loss or net gain in biodiversity. Instead of requiring no net loss/net gain at existing mines, IRMA expects existing mines to document, to the best of their abilities, the impacts that their past activities have had on biodiversity and ecosystem services. Where significant impacts have occurred, existing mines will be expected to undertake conservation actions to enhance biodiversity and ecosystem services. Existing mines are also expected to avoid any additional losses of important biodiversity values or priority ecosystem services (see 4.6.4.2). This approach enables an existing mine to apply for IRMA certification later in its project life, but ensures that doing so does not allow them to avoid responsibilities that would have been applicable had they applied for IRMA certification at an earlier stage.

CRITICAL REQUIREMENTS IN THIS CHAPTER

The mine has carried out screening to evaluate its potential impacts on biodiversity, ecosystem services and protected areas (4.6.2.1), and these impacts are being mitigated and minimized (4.6.4.1).

New mines are not located in or adversely affect World Heritage Sites (WHS), areas on a State Party's official Tentative List for WHS Inscription, IUCN protected area management categories I-III, or core areas of UNESCO biosphere reserves (4.6.5.2), and existing mines located in those areas ensure that activities during the remaining mine life cycle will not permanently and materially damage the integrity of the special values for which the area was designated or recognized (4.6.5.4).

Biodiversity, Ecosystem Services and Protected Areas Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.6.1. General Stipulations 4.6.1.1. Biodiversity, ecosystem services and protected areas screening, assessment, management planning, implementation of mitigation measures, and monitoring shall be carried out and documented by competent professionals using appropriate methodologies.	**For 4.6.1.1:** Confirm, through review of credentials that professionals carrying out the screening, assessment, management planning, implementation of mitigation measures, and monitoring have relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Confirm through review of documentation and interviews with the company and stakeholders (e.g., those who have knowledge of methodologies) that methodologies used are scientifically robust.	**For 4.6.1.1:** • Documentation of credentials and curriculum vitae/resumes/biographies of professionals hired to carry out the work. • Documentation of biodiversity, ecosystem services and protected areas screening, assessment, management planning, mitigation measures, and monitoring programs. • Documentation of methods used in biodiversity, ecosystem services and protected areas screening, assessment, mitigation and monitoring.	Explanatory Note for 4.6.1.1: IRMA's definition of competent professionals is: "In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional." The use of competent professionals in collecting baseline data, identifying biodiversity values, assessing biodiversity risk and impacts, calculating biodiversity losses and gains, and designing mitigation options and offsets has been

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			stressed by the International Finance Corporation (IFC). For example, according to IFC: "The range of specialists is large, and the necessary skillsets will vary. . . ecologists with regionally-specific experience, biologists with expertise in a specific taxon, and evolutionary or landscape biologists might be suitable for the identification of certain biodiversity values. Biodiversity management specialists who are familiar with the relevant industry (e.g., extractive industries versus forestry) will bring a different skillset in terms of identifying mitigation options in line with current good international practices in the sector. . . Ecosystem services assessment may require several specialists, depending on the service in question (e.g., soil and erosion control specialists, geologists and hydrologists, agronomists, rangeland ecologists, specialists in the economic valuation of natural resources, resettlement and social specialists with expertise in natural resource-based livelihood, etc.)."[608] "Appropriate methodologies" should be based on clearly defined and defensible assumptions and be scientifically robust such that they would withstand scrutiny by other professionals.
4.6.1.2. Biodiversity, ecosystem services and protected areas screening, assessment, management planning, and the development of mitigation and monitoring plans shall include consultations with stakeholders, including, where relevant, affected communities and external experts.	For 4.6.1.2: Confirm, through review of documents (e.g., consultation outreach materials/ads, meeting minutes, sign-in sheets, written comments) and/or interviews with stakeholders that stakeholders have been consulted during biodiversity, ecosystem services and protected areas screening, assessment and development of mitigation measures and monitoring plans. In particular, confirm that	For 4.6.1.2: • Records of outreach or correspondence with stakeholders (e.g., advertisements, meeting minutes, letters, flyers, posters, public announcements, etc.) inviting potentially affected stakeholders to participate in biodiversity, ecosystem services and protected areas screening, assessment, management planning, and the development of mitigation or monitoring plans.	Explanatory Note for 4.6.1.2: According to International Finance Corporation (IFC): "Stakeholder engagement and consultation is one of the key means to understanding impacts on biodiversity and identifying appropriate responses to such impacts. The ESIA or any follow-up biodiversity/ecosystem services-related assessment will be expected to take into account the differing values attached to biodiversity and ecosystem services by Affected Communities. This is especially relevant

[608] International Finance Corporation (IFC). 2012. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes. GN21. https://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
	affected communities were consulted regarding potential impacts on and management of ecosystem services; regulatory authorities were consulted with respect to protected areas, if relevant; and external experts consulted on development or mitigation measures, and development and monitoring of offsets (if offsets are being used). In this case, consultation means that there has been information sharing and dialogue between the company and relevant stakeholders, and that the company has taken into consideration stakeholder opinions. Ideally, stakeholder agreement will also be sought.	• Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to screening.	when projects may affect ecosystem services of relevance to Indigenous Peoples. . .Regarding biodiversity, the client should consider the differing values attached to particular biodiversity attributes by relevant local, national and international stakeholders. . . Stakeholders with whom to consult include Affected Communities, governmental officials, academic and research institutions, recognized external experts for the biodiversity attributes of concern, and national and international conservation NGOs, as appropriate."[609] Consultations with affected communities would be relevant if impacts on biodiversity or ecosystem services could affect the health, safety, well-being, cultural resources or livelihoods of communities. Consultations with external experts would be relevant if the mining project may affect critical habitat, including areas with high biodiversity value such as key biodiversity areas, legally protected areas or other areas of high priority to stakeholders, if the project will lead to a significant conversion or degradation of natural habitat, or if offsets are being proposed.[610]
4.6.1.3. Biodiversity, ecosystem services and protected areas impact assessments, management plans and monitoring data shall be publicly available, or made available to stakeholders upon request.	For 4.6.1.3: Determine whether or not materials are publicly available (e.g., on the company's website), and if not, interview company and stakeholders to determine whether stakeholders have access to the materials through other means (e.g., in a central location such as a library, or upon request).	For 4.6.1.3: • Evidence that information is publicly available (e.g., links to website, locations of public facilities where copies are available, etc.). • Correspondence with or records of requests from stakeholders for assessments, management plans or monitoring data (and company responses).	Explanatory Note for 4.6.1.3: For the purposes of this requirement "published" means making information available on the company's website or an external site (e.g., data may already be available on a government website) or in paper or electronic versions in a public locations (e.g., library, government office, community center, etc.).

[609] International Finance Corporation (IFC). 2012. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes. GN12. https://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES

[610] International Finance Corporation (IFC). 2012. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes. GN12, Para 10 and GN45. https://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.6.2. Biodiversity, Ecosystem Services and Protected Areas Screening 4.6.2.1. (Critical Requirement) New and existing mines shall carry out screening or an equivalent process to establish a preliminary understanding of the impacts on or risks to biodiversity, ecosystem services and protected areas from past and proposed mining-related activities.	**For 4.6.2.1:** Confirm, through review of documentation and interviews with the company, that a screening process or an equivalent process has occurred. Confirm that screening was undertaken by competent professionals, and that stakeholders were consulted in the identification of potential impacts on biodiversity, ecosystem services and protected areas. In particular, confirm that consultation with stakeholders from an affected community occurred as part of the identification of ecosystem services that may be affected by mining activities.	**For 4.6.2.1 and 4.6.2.2:** • Documents such as screening report or equivalent and other relevant documentation (e.g., other studies, reports, analyses that contain pertinent information to inform screening process). • Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to screening.	Explanatory Note for 4.6.2.1: For IRMA's purposes, the screening of mining-related activities on biodiversity shall be done in relation to the mine site/mining project being considered for certification, not at all of a company's sites. Screening may have occurred as part of the ESIA in IRMA Chapter 2.1). Ideally, screening is carried out prior to mine development, as it enables operators to be proactive in their avoidance and minimization of important biodiversity values and priority ecosystem services early in the project life cycle, and may inform a decision to not proceed with a project, for example, if there are important protected areas or key biodiversity areas that cannot be avoided or mitigated to deliver no net loss in important biodiversity. However, if screening did not occur prior to mine development, or was not done in a thorough manner, companies will be expected to demonstrate that they have undertaken screening or filled necessary knowledge gaps as a requirement to obtaining IRMA certification. Screening should include the potential impacts that various mining-related activities may have on biodiversity components such as wildlife (from micro-organisms to mega-fauna), vegetation, ecosystems, soil and water resources, as impacts on these elements may lead to losses/reductions in biodiversity, ecosystem services, or affect conservation values in protected areas. Such considerations should include: • Land clearing (removal of soil, vegetation and/or wetlands) to access ore bodies and for facility siting purposes may cause habitat loss and/or fragmentation; and erosion and runoff affecting water resources; and temporary noise, dust, and wildlife hazards related to heavy machinery. • Road construction may cause habitat loss and

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			fragmentation; cause erosion and runoff and affect water resources that are necessary for maintenance of biodiversity; temporary noise, dust, wildlife hazards related to heavy machinery. • Diversion of waterways may destroy wetlands or aquatic habitat. • During mining operations discharges to water courses may affect the quality and quantity of water, which may, in turn affect aquatic habitat and the water resources needed to maintain riparian vegetation and riparian and non-riparian wildlife. • During mining operations traffic may create wildlife hazards and introduce invasive plant and animal species, mining may result in noise, dust, airborne contaminants, and waste impoundments, etc. that affect habitat and health of existing populations, or result in movement of wildlife to other locations. • Reclamation of mined lands during operations and post-closure may sometimes result in the restoration of biodiversity, but could also reduce it by favoring certain species, etc. • Post-closure features such as pit lakes, which may contain toxic concentrations of metals or acid; and long-term water treatment facilities, which may be needed to maintain acceptable surface water or groundwater water quality, could pose long-term risks to biodiversity and ecosystem services.
4.6.2.2. Screening shall include identification and documentation of: a. Boundaries of legally protected areas in the mine's actual or proposed area of influence, and the conservation values being protected in those areas;	For 4.6.2.2: Confirm that the operating company has documented: • The legally protected areas and conservation values; • Key Biodiversity Areas, the biodiversity elements/value for which the KBA was designated (i.e., important biodiversity	For 4.6.2.1 and 4.6.2.2: • Documents such as screening report or equivalent and other relevant documentation (e.g., other studies, reports, analyses that contain pertinent information to inform screening process such as map of KBAs, Protected Areas etc.). • Records of stakeholder participation in consultations	Explanatory Note for 4.6.2.2: In areas where natural habitat is present, but no efforts have been made to identify the presence of Key Biodiversity Areas, the company may want to participate in efforts to do so (unless the landscape is very well documented and understood with a high level of confidence that no critical habitat, Red List or protected species, etc., are present). Companies could support an independent study, conducted by appropriate specialists,

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b. Boundaries of Key Biodiversity Areas (KBA)[611] in the mine's actual or proposed area of influence, the important biodiversity values within those areas and the ecological processes and habitats supporting those values; c. Areas of modified habitat, natural habitat and critical habitat[612] within the mine's proposed or actual area of influence, and the important biodiversity values present in the critical habitat areas; and d. Natural ecosystems or processes within the mine's proposed or actual area of influence that may or do provide provisioning, regulating, cultural and supporting ecosystem services.	values) and associated values and ecological processes; • Areas within the mine's actual or proposed area of influence that are considered modified habitat versus natural habitat; and within modified and natural habitat, areas considered critical habitat. Confirm, as well, that if critical habitat has been identified, that the important biodiversity values that support the critical habitat designation (e.g., presence of protected, threatened or endangered species, uniqueness of the ecosystem, etc.) are also documented; and • The ecosystem services located within the mine's proposed or actual area of influence are identified.	(e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to screening.	that follows the Global Standard for the Identification of Key Biodiversity Areas and associated guidelines.[613] See the "For More Information" section below for links to useful resources. Re: 4.6.2.2.a, if a protected area is identified that includes the protection of cultural heritage, companies should also refer to IRMA Chapter 3.7, Cultural Heritage. Re: 4.6.2.2.b, Key Biodiversity Areas often include Alliance for Zero Extinction sites (AZE), Important Bird and Biodiversity Areas (IBA), Important Plant Areas (IPA). Ecological processes refer to biophysical processes (e.g., hydrologic regimes, local climatic regimes, soil chemistry/nutrient cycling, fires, floods and other natural disturbance regimes, herbivory, predation, ecological corridors, migration routes) necessary for the biodiversity to persist in the landscape or seascape over the long term. Re: 4.5.2.2.c, modified habitat, natural habitat and critical habitat refers to the biodiversity value of the area as determined by species, ecosystems and ecological processes. Critical habitats are a subset of modified or natural habitats.[614] Re: 4.5.2.2.d, the World Resources Institute provides detailed guidance on how to identify relevant ecosystem services, and Birdlife International has created at Toolkit for

[611] Including Alliance for Zero Extinction sites (AZE), Important Bird and Biodiversity Areas (IBA), Important Plant Areas (IPA).

[612] Modified, natural and critical habitat refers to the biodiversity value of the area as determined by species, ecosystems and ecological processes. (IFC PS6, GN26) Critical habitats are a subset of modified or natural habitats. (IFC PS6, Para.9)

[613] IUCN. 2016. A Global Standard for the Identification of Key Biodiversity Areas (Version 1.0). https://portals.iucn.org/union/sites/union/files/doc/a_global_standard_for_the_identification_of_key_biodiversity_areas_final_web.pdf and IUCN. 2019. Guidelines for using A global standard for the identification of Key Biodiversity Areas (Version 1.0). https://portals.iucn.org/library/node/47982

[614] International Finance Corporation (IFC). 2012. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes. GN26 and Para 9. https://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES

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			Ecosystem Service Site-based Assessment (TESSA), a low-cost, site-based evaluation of ecosystem services.[615] FOR MORE INFORMATION: • The IUCN and UNEP maintain a World Database on Protected Areas. https://protectedplanet.net/ • The World Database of Key Biodiversity Areas can be used to identify KBAs. It includes an interactive online map of KBAs with links to documentation for each site. http://www.keybiodiversityareas.org/home • IBAT is a comprehensive tool that includes information on areas recognized as critical habitat, protected areas, and key biodiversity areas. https://www.ibatforbusiness.org/ • The IUCN Red List of Threatened Species is the most widely used list of plants and animals facing a high risk of global extinction. http://www.iucnredlist.org/ • The IUCN Red List of Threatened Ecosystems is the most widely used list of ecosystems facing a high risk of global extinction. https://www.iucn.org/theme/ecosystem-management/our-work/red-list-ecosystems National governments and NGOs (e.g., those with land ownership for conservation as part of their mandate) may also have relevant databases of protected areas.
4.6.3. Impact Assessment 4.6.3.1. When screening identifies protected areas or areas of potentially important global, national or local biodiversity or ecosystems services that have been or may be affected by mining-related activities (e.g., KBAs, critical habitat, threatened or	For 4.6.3.1: Review the screening documentation and other relevant information to determine if the area of influence of the proposed or actual mining project is coincident with any legally protected areas, Key Biodiversity Areas, confirmed or potential critical habitat, protected, threatened or endangered	For 4.6.3.1: • Biodiversity, ecosystem services and protected areas impact assessment and other relevant documentation (e.g., other impact assessments, studies, reports, analyses that contain pertinent information on biodiversity, ecosystem services and protected areas from all key sources (e.g. IUCN Red Lists for species and ecosystems, World Database of	Explanatory Note for 4.6.3.1: If screening identified the presence of protected areas, KBAs, confirmed or potential critical habitat, protected, threatened or endangered species, critically endangered species, or ecosystem services in the mining project's proposed or actual area of influence, then the operating company is required to carry out further impact assessment as per 4.6.3.1.

[615] Landsberg et al. 2014. Weaving Ecosystem Services Into Impact Assessment. Technical Appendix. Version 1.0. World Resources Institute. http://www.wri.org/sites/default/files/weaving_ecosystem_services_into_impact_assessment_technical_appendix.pdf and Birdlife International website. "How TESSA is different from other tools" http://www.birdlife.org/worldwide/science/Toolkit_for_Ecosystem_Service_Site-Based_Assessment/How_TESSA_is_different_from_other_tools

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endangered species), the operating company shall carry out an impact assessment that includes: a. Establishment of baseline conditions of biodiversity, ecosystem services and, if relevant, conservation values (i.e., in protected areas) within the mine's proposed or actual area of influence; b. Identification of potentially significant direct, indirect and cumulative impacts of past and proposed mining-related activities on biodiversity, ecosystem services and, if relevant, on the conservation values of protected areas throughout the mine's lifecycle; c. Evaluation of options to avoid potentially significant adverse impacts on biodiversity, ecosystem services and conservation values of protected areas, prioritizing avoidance of impacts on important biodiversity values and priority ecosystem services; evaluation of options to minimize potential impacts; evaluation of options to provide restoration for potential and actual impacts; and evaluation of options to offset significant	species, or areas providing ecosystem services to communities. If none of the above were identified by the company or stakeholders, then 4.6.3 does not apply. Note that the company will still be expected, however, to ensure that impacts on natural habitats that do not contain important biodiversity values/ecosystem services are mitigated as part of the mine's reclamation and mine closure processes (see Chapter 2.6). **For 4.6.3.1.a:** Confirm that the company carried out research (e.g., reviewed peer-reviewed studies, government data, etc.) and/or undertook its own studies necessary to establish baseline values for biodiversity, ecosystem services and, if any protected areas are present, for the conservation values being protected. Where important biodiversity values have been identified (e.g., related to KBAs or critical habitat, etc.), baseline conditions for the ecological processes and habitats supporting those values should also have been documented. **For 4.6.3.1.b:** Confirm that the company has carried out a scoping or equivalent exercise to predict potential direct, indirect and cumulative impacts of mining activities on biodiversity, ecosystem services and conservation values of protected areas. Confirm that the potential impacts were further assessed to determine the	Key Biodiversity Areas, IUCN World Database on Protected Areas, country or continental protection designations etc.). • Data on baseline status of biodiversity, ecosystem services and conservation values in protected areas. • Documentation of methods for identifying potentially significant impacts on and risks to biodiversity, ecosystem services and values in protected areas, as relevant. • Documentation of the mitigation strategies reviewed during the assessment (including avoidance), and rationale for selecting particular options. • Documentation of opportunities for partnerships and additional conservation actions reviewed during the assessment, and rationale for selecting particular options. • Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to assessment.	Documentation of the assessment may be contained in a standalone Biodiversity, Ecosystem Services and Protected Areas impact assessment report, be integrated into the Environmental and Social Impact Assessment report as per IRMA Chapter 2.1, or be integrated in other reports as long as all of the required information is covered. Re: 4.6.3.1.a, baseline conditions are typically established prior to a project's development to create a reference point against which losses or gains in biodiversity/ecosystem services due to the project can be identified, evaluated, quantified and addressed. At existing mines, establishment of baseline conditions will likely require using information derived from similar, preferably nearby locations. For example, according to the Business and Biodiversity Offset Programme (2012), it may be possible to use historical biodiversity data for the larger region and show its similarity with the precise area affected by the project. It may also be possible to supplement historical information with additional data collected now from ecologically equivalent proxy sites nearby.[616] Re: 4.6.3.1.b, see glossary definitions of direct/indirect impacts and cumulative impacts on biodiversity. Indirect impacts to biodiversity may be the result of changing economic or social patterns catalyzed by the mining project's presence, such as human settlement near the project site resulting in the destruction of natural habitat or increased pressure on biological resources (e.g., increased access to sensitive areas as a result of new roads, rights-of way, etc.).[617] There is no definitive method for determining significance, however, when assessing the significance of impacts on

[616] Business and Biodiversity Offset Programme (BBOP). 2012. Guidance Notes to the Standard on Biodiversity Offsets. pp. 29-32.

[617] Gullison et al., pp. 15, 16.

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residual impacts (see mitigation hierarchy, 4.6.4.1, and offsets 4.6.4.2, below); and d. Identification and evaluation of opportunities for partnerships and additional conservation actions that could enhance the long-term sustainable management of protected areas and/or biodiversity and ecosystem services.	significance of the impacts. Review methods used, and confirm that relevant stakeholders generally concur with the company's findings. For 4.6.3.1.c: Confirm, through review of impact assessment documents or interviews with the company and relevant stakeholders, that the company has undertaken an evaluation of options to mitigate the significant impacts according to the mitigation hierarchy. In particular, where significant impacts to important biodiversity values or priority ecosystem services are predicted, confirm that the company carried out an analysis of options to avoid those impacts, and if such options were not adopted, that reasonable justification was provided for why avoidance was not possible. Avoidance decisions may have been made early in the project planning and design process, so review of other documentation may also be relevant. For 4.6.3.1.d: Confirm that the operating company has investigated opportunities for partnerships, and opportunities for additional conservation actions that may be able to enhance the management or biodiversity values in an area (e.g., removal of invasive species, funding education projects related to local or regional biodiversity conservation, collaboration with others on integrated land use planning, etc.).		biodiversity, ecosystem services and conservation values two factors that are important are the feature's irreplaceability (i.e., if irreplaceable or unique, the potential impact would be significant) and vulnerability (i.e., if there is high probability that a species may be lost in a defined time period it is vulnerable, and impacts on these species would be significant). There may be other measures of whether or not impacts are likely to be significant, including the opinions of relevant stakeholders. Explanatory Note for 4.6.3.1.c: "priority ecosystem services" are those services on which project operations are most likely to have an impact and, therefore, which result in adverse impacts to affected communities, or those services on which the project is directly dependent for its operations. "important biodiversity values" are the particular biodiversity elements or features, such as individual species that may be threatened, assemblages of species, particular ecological processes, etc., that trigger an area's designation as having significant biodiversity value (e.g., critically endangered species, designation as critical habitat, a Key Biodiversity Area or a protected area), as well as the ecological context needed to support the maintenance of the trigger elements.
4.6.4. Biodiversity and Ecosystem Services Impact Mitigation and	For 4.6.4.1.a: Confirm through review of impact assessment, management plans and	For 4.6.4.1: • Documentation of the mitigation strategies reviewed	Explanatory Note for 4.6.4.1: This section is meant to align with many other standards and guidelines that address

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Management 4.6.4.1. (Critical Requirement) Mitigation measures for new mines shall: a. Follow the mitigation hierarchy of: i. Prioritizing the avoidance of impacts on important biodiversity values and priority ecosystem services and the ecological processes and habitats necessary to support them; ii. Where impacts are not avoidable, minimizing impacts to the extent possible; iii. Restoring biodiversity, ecosystem services and the ecological processes and habitats that support them; and iv. As a last resort, offsetting the residual impacts. b. Prioritize avoidance of impacts on important biodiversity values and priority ecosystem services early in the project development process; c. Be designed and implemented to deliver at least no net loss, and preferably a net gain in important biodiversity values, and the	interviews with the company that its approach to biodiversity impact mitigation follows the mitigation hierarchy. Reasonable technical and economic justification should be provided for why avoidance of important biodiversity values/priority ecosystems services was not feasible (e.g., specific areas had to be cleared to access the ore; there was only one safe route for the haul road; alternative locations for facilities would have affected areas of cultural important to indigenous peoples; there were overwhelming financial reasons why avoidance was not a viable option, etc.). When avoidance was not deemed feasible, confirm that steps were taken to minimize the impact (e.g., size of mine or facility footprint were reduced; timing of activities were changed to reduce impact; noise barriers erected; crossing structures created for roads; etc.). Confirm, as well that restoration activities have been planned and/or are under way to assist the recovery of impacted ecosystems, with the aim of returning impacted ecosystems to as close to their original state as possible. If offsets are being used, see 4.6.4.4. **For 4.6.4.1.b:** Confirm that consideration of options to avoid impacts on important biodiversity values and priority ecosystem services took place early in the mining project development process (i.e., ideally	during the assessment, and rationale for selecting particular options. • Biodiversity management plan or equivalent that describes mitigation actions to be taken, and objectives of the mitigation. • Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to development of mitigation options.	impacts on biodiversity, such as IFC's Performance Standard 6 (see Paragraphs 10 and 14), the Business and Biodiversity Offset Programme's (BBOP) Standard on Biodiversity Offsets, and the KBA Partners Guidelines on Business and KBAs: Managing Risk to Biodiversity.[618] Re: 4.6.4.1.c, as with the rest of 4.6.4.1, this applies to new mines only. While ideally existing mines would seek to achieve no net loss in biodiversity and ecosystem services, IRMA recognizes that it may be difficult or impossible to accurately identify the biodiversity values that were present in an area prior to the mine development, which makes it difficult to establish a baseline for calculating a no net loss or net gain in biodiversity. As a result, instead of requiring no net loss/net gain at existing mines, IRMA expects existing mines to: • Document, to the best of their abilities, the impacts that their past activities have had on biodiversity and ecosystem services (see 4.6.4.2). • Where significant impacts have occurred, existing mines will be expected to undertake additional conservation actions to enhance biodiversity and ecosystem services. • Existing mines are also expected to avoid any additional losses of important biodiversity values or priority ecosystem services (see 4.6.4.2). This approach enables an existing mine to apply for IRMA certification later in its project life, but ensures that doing so does not allow them to avoid responsibilities that would have been applicable had they applied for IRMA certification at an earlier stage. The "appropriate geographic scale" may be site-level, local, landscape-level, national or regional, as long as the company

[618] IFC. 2012. Performance Standard 6. Biodiversity Conservation and Sustainable Management of Living Natural Resources. https://www.ifc.org/wps/wcm/connect/bff0a28049a790d6b835faa8c6a8312a/PS6_English_2012.pdf?MOD=AJPERES; the Business and Biodiversity Offset Programme (BBOP). 2012. Standard on Biodiversity Offsets (http://bbop.forest-trends.org/pages/guidelines); and KBA Partners. 2018. Guidelines on Business and KBAs: Managing Risk to Biodiversity. https://portals.iucn.org/library/sites/library/files/documents/2018-005-En.pdf

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ecological processes that support those values, on an appropriate geographic scale and in a manner that will be self-sustaining after mine closure.	during project planning and design, but definitely prior to construction). This may involve reviewing planning documents, studies, memos, etc., indicating that plans were changed (or alternatives proposed) to avoid impacts.		and relevant stakeholders agree that the mitigation is occurring on a scale that is ecologically relevant with respect to the biodiversity values in question. "Relevant stakeholders" may include government representatives, conservation NGOs, representatives from affected communities that have an interest in or dependence on biodiversity or ecosystem services, external experts, or others.
4.6.4.2. At existing mines: a. Where past adverse impacts on important biodiversity values and priority ecosystem services have been identified, the operating company shall design and implement onsite restoration strategies, and also, through consultation with stakeholders, design and implement additional conservation actions to support the enhancement of important biodiversity values and/or priority ecosystem services on an appropriate geographic scale; and b. If there is the potential for new impacts on important biodiversity values or priority ecosystem services (e.g., as a result of mine expansions, etc.), the operating company shall follow the mitigation hierarchy, prioritizing the avoidance of impacts on important biodiversity values or priority ecosystem services, but where residual impacts remain, shall apply offsets commensurate	For 4.6.4.1.c: Confirm, through review of policy documents, biodiversity management plan, or other documents that the mine site is committed to delivering at least no net loss, or ideally, a net gain in important biodiversity values; and confirm, also, that management plans include actions and metrics to enable the measurement of progress toward no net loss/net gain outcomes; and that mitigation actions are being implemented as per the plan. For 4.6.4.2.a: Determine if past impacts on important biodiversity values or priority ecosystem services have been identified. Confirm that management plans include restoration activities related to past impacts, and also additional conservation actions aimed at enhancing the values. Confirm (through document review, interviews) that stakeholders have been consulted in the development of additional conservation actions. For 4.6.4.2.b: At existing mines, the potential exists for new impacts on important biodiversity values or priority ecosystem services if there are mine	For 4.6.4.2: • Documentation of the restoration strategies reviewed, and rationale for selecting particular options. • Documentation of additional conservation actions reviewed, and rationale for selecting particular options. • Documentation of the mitigation strategies reviewed during the assessment, and rationale for selecting particular options. • Biodiversity management plan or equivalent that describes restoration, conservation actions and/or mitigation actions to be taken for past and potential impacts, and objectives of the mitigation. • Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to development of restoration, conservation actions and mitigation options.	Explanatory Note for 4.6.4.2: Re: 4.6.4.2.a, at existing mines there may be adverse impacts on important biodiversity values and/or priority ecosystem services that occurred prior to the existence of the IRMA Standard (or similar Standards requiring use of the mitigation hierarchy). If such impacts have been identified during or subsequent to the impact assessment, the companies will be expected to have strategies in place to restore affected biodiversity and ecosystem services. At existing sites, in recognition that true offsetting of impacts will likely be impossible (due to lack of a pre-project baseline for biodiversity), and also that it may not be possible to fully restore what was lost, 4.6.4.2.a also requires companies to undertake additional conservation actions aimed at enhancing the important biodiversity values (or priority ecosystem services) that have been impacted. The enhancements should take place on an appropriate geographic scale (e.g., site-level, local, landscape-level, national, regional). This does not mean that impacts on the project site require enhancements on the project site, but rather, enhancements should take place on a scale that is ecologically relevant with respect to the biodiversity values in question. If opportunities do not exist at the most appropriate geographic scale, other additional conservation actions should be investigated with stakeholders.

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to the scale of the additional (new) impacts.	expansions or other changes in mine plans that may damage, destroy or degrade additional areas. If such a situation exists, use the Means of Verification for 4.6.4.1.a.		
4.6.4.3. Offsetting, if required, shall be done in a manner that aligns with international best practice.	For 4.6.4.3: Review biodiversity management plan and/or interview company to determine if offsets are being used to achieve no net loss/net gain in biodiversity. If offsets are being used, review the biodiversity management plan or biodiversity offsets management plan (if separate from the biodiversity management plan) to confirm that projects have been designed according to international best practices.	For 4.6.4.3: • Biodiversity management plan or equivalent that includes plan for how offsets projects will be carried out and managed. • Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to development of offset projects.	Explanatory Note for 4.6.4.3: According to the mitigation hierarchy, offsets should only be applied if residual impacts remain after applying the earlier steps of the mitigation hierarchy (i.e., avoidance, minimization of impacts, and restoration of impacts). International best practices for biodiversity offsets should align with the practices outlined by the Business and Biodiversity Offset Programme's (BBOP) Standard on Biodiversity Offsets[619] and/or best practices and principles accepted by or other scientifically credible organizations. Best practices related to offsets include factors such as ensuring any biodiversity offset used as part of the mitigation hierarchy secures additional conservation outcomes that would not have happened otherwise and must achieve no net loss and where possible net gain; specific guaranteed financing for offset projects; rigorous monitoring and evaluation with independent verification of effectiveness. Additionally: "The design of a biodiversity offset must adhere to the "like-for-like or better" principle and must be carried out in alignment with best available information and current practices. When a client is considering the development of an offset as part of the mitigation strategy, external experts

[619] Business and Biodiversity Offset Programme's (BBOP) Standard on Biodiversity Offsets. http://bbop.forest-trends.org/pages/guidelines

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			with knowledge in offset design and implementation must be involved."[620]
4.6.4.4. The operating company shall develop and implement a biodiversity management plan or equivalent that: a. Outlines specific objectives (e.g., no net loss/net gain, no additional loss) with measurable conservation outcomes, timelines, locations and activities that will be implemented to avoid, minimize, restore, enhance and, if necessary, offset adverse impacts on biodiversity and ecosystem services; b. Identifies key indicators, and ensures that there is an adequate baseline for the indicators to enable measurement of the effectiveness of mitigation activities over time; c. Provides a budget and financing plan to ensure that funding is available for effective mitigation.	**For 4.6.4.4:** Review the biodiversity management plan (or its equivalent). Note that the plan may be integrated into a larger environmental management plan for the mine, or it may be a standalone plan. It does not need to be called a "biodiversity management plan" as long as it includes the information laid out in 4.6.4.4. **For 4.6.4.4.a:** Confirm that the plan includes mitigation measures/actions for all significant adverse impacts on biodiversity or ecosystems services, and, if relevant, on conservation values of protected areas (the list of significant impacts should be included in the impact assessment). The mitigation measures should include details such as objectives, measurable conservation outcomes and timelines for achieving the outcomes. Ideally, the plan will also include Includes targets and milestones to allow demonstration of progress toward objectives and outcomes over time. **For 4.6.4.4.b:** Confirm that key indicators have been identified, as well as the baseline for those indicators.	**For 4.6.4.4:** • Biodiversity management plan or equivalent that includes objectives, indicators, budget and financing and addresses all phases of the project life-cycle, including decommissioning and closure. • Baseline data. • Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to development of biodiversity management plan or its equivalent.	Explanatory Note for 4.6.4.4: The management plan may be called a biodiversity action plan, biodiversity and ecosystem services management plan, etc., and may be a stand-alone plan or incorporated into the operating company's broader environmental management plan. For more on biodiversity plans see, for example, resources produced by IFC, ICMM and IPIECA.[621]

[620] International Finance Corporation (IFC). 2012. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes. Annex A. https://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES.
See also International Council on Mining and Metals (ICMM). 2006. Good Practice Guidance for Mining Biodiversity. https://www.icmm.com/website/publications/pdfs/biodiversity/good-practice-mining-and-biodiversity
See also International Petroleum Industry Environmental Conservation Association (IPIECA) and the International Association of Oil and Gas Producers (OGP). 2005. A guide to developing biodiversity action plans for the oil and gas sector. https://earthmind.org/sites/default/files/2005-10-IPIECA-GuideToDevelopingBiodiversityActionPlans_0.pdf

[621] Ibid. IFC, 2012, Annex A contains guidance on developing a Biodiversity Action Plan/Biodiversity Management Plan. See also ICMM, 2006.

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	For 4.6.4.4.c: Confirm that the management plan (or a separate document) includes a budget and financing plan that outlines how the cost of the identified mitigation measures will be covered over time. Review the reclamation and closure plan and financial surety to verify that relevant long-term mitigation activities are included.		
4.6.4.5. Biodiversity management shall include a process for updating or adapting the management plan if new information relating to biodiversity or ecosystem services becomes available during the mine lifecycle, including through implementation and monitoring of mitigation measures.	**For 4.6.4.5:** Confirm with operating company that there is a process in place to analyze monitoring or other relevant data and adapt biodiversity management plan (or its equivalent), accordingly.	**For 4.6.4.5:** • Biodiversity management plan or equivalent. • Documentation of any updates to the plan.	Explanatory Note for 4.6.4.5: For example, new information may be obtained through the implementation and monitoring of mitigation measures, and new information should be obtained (e.g., a new screening and/or assessment should occur) when any aspect of the mining project is amended resulting in potential new significant impacts or risks on biodiversity, ecosystem services or the designated values in protected areas.
4.6.5. Protected Areas Mitigation and Management 4.6.5.1. An operating company shall not carry out new exploration or develop new mines in any legally protected area unless the applicable criteria in the remainder of this chapter are met, and additionally the company: a. Demonstrates that the proposed development in such areas is legally permitted; b. Consults with protected area sponsors, managers and relevant	**For 4.6.5.1.a:** Review mining project maps against country lists and maps of protected areas, or review company research carried out to establish the locations of legally protected areas in the mining project's proposed or actual area of influence as per 4.6.2.1.a. (i.e., as part of the screening process in that chapter companies are required to document the boundaries of legally protected areas in the mine's actual or proposed area of influence, and document the conservation values being protected in those areas). Review company research and/or mine permits to confirm	**For 4.6.5.1:** • Documentation of legal permit to mine. • Records of meetings and correspondence with stakeholders (e.g., meeting minutes or notes, attendee lists, correspondence with stakeholders, input submitted by stakeholders and company responses). • Protected area management plan. • Records of additional conservation actions implemented by the company in the area.	Explanatory Note for 4.6.5.1: "Applicable criteria in the remainder of the chapter" include 4.6.1, 4.6.2, 4.6.3, 4.6.4 and 4.6.6. In other words, the operating company is expected to carry out appropriate screening, assessment, mitigation and monitoring, and also interview stakeholders and use competent professionals if a new mine is being proposed/developed in a legally protected area. These requirements 4.6.5.1.a through d are drawn largely from IFC Performance Standard 6, paragraph 20 (see also IFC, 2012, GN116, 117 and 118).[622] New exploration activity would include any landscape disturbance, such as drilling, trenching and road construction, to ascertain whether or not a deposit is economically viable.

[622] International Finance Corporation (IFC). 2012. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes. https://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES

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stakeholders on the proposed project; c. Conducts mining-related activities in a manner consistent with protected area management plans for such areas; and d. Implements additional conservation actions or programs to promote and enhance the conservation aims and/or effective management of the area.	that any operations in protected areas are legally permitted. **For 4.6.5.1.b:** Review documentation related to stakeholder consultations, and/or interview stakeholders to confirm that they have been adequately consulted. Confirm that protected area sponsors and managers have been consulted, and potentially also conservation NGOs and community groups that have expressed interest or concern about the potential impacts of the mine on the protected area. **For 4.6.5.1.c:** Interview protected area managers to confirm that mining activities are being carried out in a manner that does not conflict with recognized management plans, but rather, supports the aims of the protected area. Management plans may include national land use, resource use, and management criteria. Examples of relevant management plans include Protected Area Management Plans or similar documents. **For 4.6.5.1.d:** Review company management plans to confirm that they include additional conservation actions, programs or projects, which may be in collaboration with others, to enhance the conservation aims of the area. These may include support for park management, including development of plans, alternative livelihood options for affected communities, support for research related to conservation in the area, etc.		Re: 4.6.5.1.a, as per IRMA Chapter 1.1 mines are required to meet host country laws. So mines should be aware that some host countries may have designated particular areas as being legally off limits to certain types of activities or developments, such as mining. If such laws are in place, IRMA expects companies to comply with those laws. Re: 4.6.5.1.b, "relevant stakeholders" may include, for example, government representatives, conservation NGOs, representatives from affected communities that have an interest in or dependence on biodiversity or ecosystem services, external experts, or others. Re: 4.6.5.1.c, "a manner consistent with protected area management plans" means that mining operations do not result in negative impacts on the particular species, ecosystems or other elements that are being protected as per the protected area management plans. For example, it could mean closing off certain roads during periods when breeding or calving of sensitive species is occurring, or carrying out actions that control invasive species in line with the protected area management plan. Re: 4.6.5.1.d., businesses sometimes invest in conservation interventions for features above and beyond those impacted by their own activities. Before beginning additional conservation actions companies should consult with protected area managers and other relevant stakeholders either to co-develop programs or to ensure that planned additional actions are appropriate and likely to lead to positive outcomes.

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4.6.5.2. (Critical Requirement) An operating company shall not carry out new mining-related activities in the following protected areas unless they meet 4.6.5.1.a through d, and an assessment, carried out or peer-reviewed by a reputable conservation organization and/or academic institution,[623] demonstrates that mining-related activities will not damage the integrity of the special values for which the area was designated or recognized. • International Union for Conservation of Nature (IUCN) protected area management category IV protected areas; • Ramsar sites that are not IUCN protected area management categories I-III; and • Buffer zones of UNESCO biosphere reserves.	**For 4.6.5.2:** Confirm that if mining takes place in the listed areas that an assessment has been carried out by a reputable organization/institution, and that the assessment demonstrates that mining does not threaten the special conservation values in the protected area. Confirm, also, that the requirements in 4.6.5.1 have been met.	**For 4.6.5.2:** • Documentation of legal permit to mine. • Records of meetings and correspondence with stakeholders (e.g., meeting minutes or notes, attendee lists, correspondence with stakeholders, input submitted by stakeholders and company responses). • Protected area management plan. • Records of additional conservation actions implemented by the company in the area. • Assessment of potential impacts of mining on the special values in the protected area. • Credentials of those conducting or reviewing the assessment (names, organization, curriculum vitae or similar).	Explanatory Note for 4.6.5.2: Requirement 4.6.5.1, above, enumerates safeguards if companies are legally operating in any protected area. Requirement 4.6.5.2 reflects that IRMA stakeholders have expressed that there should be added safeguards in place for a particular set of protected areas, in recognition of their contribution to global biodiversity. For example, Ramsar sites are wetlands of international importance because they are rare or unique, or of international importance for the conservation of global biodiversity. Data and information on Ramsar sites is available by country, wetland type and other criteria in the Ramsar Sites Information Service database[624] For links related to IUCN protected area management categories and UNESCO Biosphere Reserves, see the Note for requirement 4.6.5.3. Peer review should be undertaken by an academic institution or environmental/conservation non-governmental organization (NGO) with experience in biodiversity assessments. Also, the personnel responsible for carrying out the peer-review or assessment are expected to be competent professionals (i.e., in-house staff or external consultants with relevant education, knowledge, proven experience and necessary skill-sets and training to carry out the required work. Competent professionals are expected to follow scientifically robust methodologies to carry out their work).
4.6.5.3. IRMA will not certify new mines that are developed in or that	**For 4.6.5.3:** Review locations of the mining project (e.g., using maps or GPS coordinates) against locations of relevant	**For 4.6.5.3:** • Documentation of mine boundaries compared with nearby protected area boundaries.	Explanatory Note for 4.6.5.3: IRMA stakeholders have defined a set of areas deemed off-limits or "no-go zones" for mining. These are internationally and/or nationally

[623] E.g., An academic institution or environmental NGO with experience in biodiversity assessments. Also, the personnel responsible for carrying out the peer-review or assessment must be a competent professional (i.e., in-house staff or external consultants with relevant education, knowledge, proven experience and necessary skill-sets and training to carry out the required work. Competent professionals are expected to follow scientifically robust methodologies to carry out their work).

[624] Ramsar web site. https://rsis.ramsar.org/

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adversely affect the following protected areas: • World Heritage Sites, and areas on a State Party's official Tentative List for World Heritage Site Inscription; • IUCN protected area management categories I-III; • Core areas of UNESCO biosphere reserves.	protected areas (World Heritage Sites, IUCN protected area management categories I-III and core areas of UNESCO biosphere reserves), and review the host country's State Party Tentative Lists for World Heritage Site Inscription to confirm that exploration/mining has not taken place in those areas, or that mines developed close to such areas are not adversely affecting the special conservation values in those areas.	• Operating company's management plan or equivalent documenting actions to be taken to prevent impacts on the integrity of special values in nearby protected areas. • Records of meetings and correspondence with relevant protected area management authorities and stakeholders (e.g., meeting minutes or notes, attendee lists, correspondence, written comments from management authorities and company responses). • Records of stakeholder grievances related to impacts of the mining project on the special values in nearby protected areas.	recognized areas of high biodiversity or outstanding universal values. The important areas are as follows: • World Heritage Sites: The United Nations Educational, Scientific and Cultural Organization (UNESCO) maintains a list of World Heritage Sites (WHS), which are sites of cultural and natural heritage around the world considered to be of outstanding value to humanity. To become a WHS, a site must be nominated by a State Party and then approved for inscription by the World Heritage Committee. Sites on a State Party's Official Tentative List for World Heritage Site Inscription are sites that a State considers to be of outstanding universal value, and therefore, are being considered for nomination as a World Heritage Site. • IUCN Protected Area Management Categories: IUCN categories classify protected areas according to their management objectives. IUCN categories are recognized by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas. Categories I, II and III include Strict Nature Reserves, Wilderness Areas, National Parks and National Monuments or Features. • UNESCO Biosphere Reserves: These are special places for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity. There are three zones in each biosphere reserve: core, buffer and transition. The core area of a reserve is considered a strictly protected ecosystem that contributes to the conservation of landscapes, ecosystems, species and genetic variation. Note that if the World Heritage Site, the IUCN protected area management category I to III or the UNESCO biosphere reserve was designated in full or part to protect cultural

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			values, Chapter 3.7 also applies (see, in particular requirement 3.7.5.3). **FOR MORE INFORMATION:** • The official list of World Heritage Sites: http://whc.unesco.org/en/list/ • Protectedplanet provides public access to the World Database on Protected Areas (WDPA). Users can determine if protected areas have an IUCN management category classification: http://protectedplanet.net/ • Information on all of IUCN's protected areas management categories: https://www.iucn.org/theme/protected-areas/about/protected-areas-categories • A directory of Biosphere Reserves by region: http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/world-network-wnbr/wnbr/ • Biosphere Smart has an interactive map of the World Network of Biosphere Reserves: http://www.biospheresmart.org/
4.6.5.4. (Critical Requirement) An existing mine located entirely or partially in a protected area listed in 4.6.5.3 shall demonstrate that: a. The mine was developed prior to the area's official designation; b. Management plans have been developed and are being implemented to ensure that activities during the remaining mine lifecycle will not permanently and materially damage the integrity of the	**For 4.6.5.4.a:** If, through review of an existing mine's location, it is determined that the mine is located in a World Heritage Site, or an area on a state party's Tentative List for WHS inscription, or an area is classified as an IUCN protected area management category I-III, or in a core area of a UNESCO biosphere reserve, confirm through review of mining project records or documents (construction records, mine plans, etc.) that the mine was developed prior to the date when the protected area was designated as such.	**For 4.6.5.4:** • Documentation of legal permit to mine, including date that mining began. • Documentation related to designation of the protected area. • Operating company's management plan or equivalent, documenting actions to be taken to prevent impacts on the integrity of the area's special values. • Records of meetings and correspondence with relevant management authorities (e.g., meeting minutes or notes, attendee lists, correspondence, written comments from management authorities and	Explanatory Note for 4.6.5.4: IRMA leaders recognize that there may be a few instances where mines pre-existed the designation of a World Heritage Site or the other categories of areas mentioned in 4.6.5.3. IRMA stakeholders agreed that in such select cases, mines would be eligible for IRMA certification if they put in the safeguards enumerated in 4.6.5.4, in particular, ensuring the maintenance of the special values that led to the unique protected status of those areas.

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special values for which the area was designated or recognized; and c. The operating company collaborates with relevant management authorities to integrate the mine's management strategies into the protected area's management plan.	**For 4.6.5.4.b:** Review relevant mine management plans (e.g., biodiversity management plan) and mitigation strategies, and consult with stakeholders including protected area managers to confirm that the mine's plans are consistent with the protection of the special conservation values in the protected area. **For 4.6.5.4.c:** Review any relevant mine management plan(s) and the protected area's management plan and/or consult with protected area managers to confirm that the mine's strategies have been integrated into the overall protected area management plan.	company responses). • Protected area management plan.	
4.6.6. Monitoring 4.6.6.1. The operating company shall develop and implement a program to monitor the implementation of its protected areas and/or biodiversity and ecosystem services management plan(s) throughout the mine lifecycle.	**For 4.6.6.1:** Review documentation related to monitoring program, confirming that the program will be in place to monitor the implementation of biodiversity management plans (including, if relevant, plans related to biodiversity offsets) throughout the mine lifecycle.	**For 4.6.6.1:** • Documentation related to monitoring program (e.g., monitoring plan or equivalent). • Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists, written or verbal input from stakeholders, company responses to input, etc.) related to development of monitoring program.	
4.6.6.2. Monitoring of key biodiversity or other indicators shall occur with sufficient detail and frequency to enable evaluation of the effectiveness of mitigation strategies and progress toward the objectives of at least no net loss or net gain in biodiversity and ecosystem services over time.	**For 4.6.6.2:** Review publicly available monitoring findings, as well as any professional review of the monitoring program's design and findings. Confirm that the key indicators are being tracked and analyzed to determine if progress is being made toward mitigation objectives.	**For 4.6.6.2:** • Documentation related to monitoring program (e.g., monitoring plan or equivalent) that includes indicators, and monitoring schedule. • Monitoring records showing dates of activities and findings. • Records of stakeholder participation in consultations (e.g., meeting minutes or notes, attendee lists,	Explanatory Note for 4.6.6.2: The International Council on Mining and Metals (ICMM) has developed Guidance on Mining and Biodiversity that contains information on monitoring. Some relevant guidance includes:[625] • "Monitoring is the process of collecting information to determine progress against agreed biodiversity objectives. Indicators are the factors that are measured during monitoring – for example, to assess the extent of impact on biodiversity, the success of mitigation

[625] International Council on Mining and Metals (ICMM). 2006. Good Practice Guidance for Mining Biodiversity. https://www.icmm.com/website/publications/pdfs/biodiversity/good-practice-mining-and-biodiversity

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		written or verbal input from stakeholders, company responses to input, etc.) related to development of monitoring program.	measures or the outcomes of measures to enhance biodiversity conservation. There is no simple measure for biodiversity due to its complex and dynamic nature, which presents challenges in choosing effective indicators." (p. 63) • Expert assistance may be required in selecting and reviewing the most appropriate indicators of biodiversity to be measured, particularly regarding the measurability of the indicators. In addition, the initial suite of site-specific biodiversity indicators selected for the site is likely to alter during the life of the project." (p. 64) • "Frequently, no specific time limits are given by which rehabilitation objectives must be met. This is a matter for discussion between the company, regulators and other stakeholders. Valid reasons for the uncertainty include unpredictable weather and limited experience in relation to successional processes in the site's specific postmining environment. The recommended approach is to establish monitoring and research programs. . . and draft completion criteria and to agree to a series of reviews of the situation at designated time periods." (p. 50)
4.6.6.3. If monitoring reveals that the operating company's protected areas and/or biodiversity and ecosystem services objectives are not being achieved as expected, the operating company shall define and implement timely and effective corrective action in consultation with relevant stakeholders.	For 4.6.6.3: If monitoring data suggest that progress toward objectives is not being made, confirm that corrective actions are underway (these should be documented in the updated biodiversity management plan as per 4.6.4.5), and interview stakeholders to confirm that they were involved in the process to develop corrective actions.	For 4.6.6.3: • Documentation related to monitoring program (e.g., monitoring plan or equivalent) that includes indicators, and monitoring schedule. • Monitoring records showing dates of activities and findings. • Records of meetings or correspondence with stakeholders (e.g., meeting minutes or notes, emails or letters, etc.) documenting consultations on corrective actions.	Explanatory Note for 4.6.6.3: As the biodiversity at a particular site has numerous components, each interacting with the other over varying periods of time, seasons and space, the [monitoring] framework selected will need to be readily adaptable to observed changes. The timeliness of actions should be determined in consultation with relevant stakeholders. "Relevant stakeholders" may include, for example, government representatives, conservation NGOs, representatives from affected communities that have an interest in or dependence on biodiversity or ecosystem services, external experts, or others.

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.6.6.4. The findings of monitoring programs shall be subject to independent review.	For 4.6.6.4: Consult with company and/or relevant stakeholders and review any documents related to independent review of the protected areas and/or biodiversity and ecosystem services monitoring program. At minimum, any reviewer would need to be a competent professional as defined in the IRMA glossary.	For 4.6.6.4: • Records documenting independent reviews (e.g., reports, correspondence between reviews and the company).	Explanatory Note for 4.6.6.4: The International Finance Corporation (IFC) recommends that companies "retain external experts with appropriate regional experience to assist in the development of a mitigation hierarchy . . . [and] to verify the implementation of those measures."[626] According to International Council on Mining and Metals (ICMM): "Changes in biodiversity attributes need to be monitored to evaluate the success of management plans, rehabilitation trials, research projects and, equally important, the general changes in the biodiversity of the area around the site that may be influenced by non-mine factors. As long-term decisions are based on this information, the program needs to be designed soundly according to accepted statistical principles and credible to all stakeholders. . . Community review groups, external advisory panels and similar approaches can provide further assurances that the information collected and analyses are considered fair and reasonable by the majority of stakeholders."[627] Independent reviewers should be competent professionals. Although not a requirement, if it seems necessary to increase the credibility of the review process then independent reviewers could be selected with input from interested stakeholders, or reviewers could include stakeholders with the appropriate credentials.

NOTES

Although presented in a different format, this chapter is meant to generally align with IFC Performance Standard 6 (PS6). In particular, this chapter focuses on the conservation of the most important or critical areas of biodiversity (in some cases these have been designated as protected areas, Red List ecosystems or Key Biodiversity Areas, in other cases they will have country-specific designations or not have been officially designated but still contain important biodiversity values). Despite this emphasis, it is expected that mines will minimize impacts on biodiversity and ecosystem services generally, according to the mitigation

[626] International Finance Corporation (IFC). 2012. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes. Para. 8. https://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES

[627] International Council on Mining and Metals (ICMM). 2006. Good Practice Guidance for Mining Biodiversity. p. 70. https://www.icmm.com/website/publications/pdfs/biodiversity/good-practice-mining-and-biodiversity

hierarchy (see 4.6.4.1 and 4.6.4.2). Similarly, while the objectives of no net loss and preferably net gain are explicitly required to be planned for in the case of residual impacts on important biodiversity values and priority ecosystem services, it is strongly encouraged that such objectives be considered for any impacts on biodiversity or ecosystem services (e.g., IFC PS6 states that in areas of natural habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible).

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if there are host country laws governing protected areas or the protection of biodiversity or ecosystem services, the operating company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the company to violate host country law.
1.2—Community and Stakeholder Engagement	Engagement with stakeholders in the assessment and management of biodiversity, ecosystem services and protected areas shall conform to the requirements in Chapter 1.2. In particular, criterion 1.2.3 is important to ensure that stakeholders have the capacity to participate in assessments and the development of management plans. Also, 1.2.4 ensures that communications and information are in culturally appropriate formats and languages that are accessible and understandable to affected stakeholders, and provided in a timely manner.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Stakeholders who have complaints related to the operating company's assessment, mitigation, monitoring or other issues related to biodiversity, ecosystem services or protected areas will have access to raise these issues. As per Chapter 1.4, the operating company is required to have an operational-level grievance mechanism available to stakeholders, including procedures for filing complaints, and having complaints recorded, investigated and resolved in a timely manner.
2.1—Environmental and Social Impact Assessment and Management	The screening and assessment of the mining project's impacts on biodiversity, ecosystem services and protected areas as per 4.6.2 and 4.6.3 may be carried out as a stand-alone assessment or as part of an ESIA; or data collected for one may feed into the other. Similarly, the biodiversity management plan or its equivalent may be incorporated into the mine's larger environmental and social management plan.
2.4—Resettlement	Resettlement chapter addresses both the physical and economic displacement of communities. Resettlement may lead to impacts on biodiversity and ecosystem services, or protected areas depending on the location of resettled communities. The potential impacts of resettlement on biodiversity and ecosystem services, or protected areas should be identified during the Resettlement Risk and Assessment Process (See 2.4.1.2.c), and any necessary mitigation developed accordingly to 4.6.4.
2.6 —Reclamation and Closure	Chapter 2.6 requires companies to come to agreed post-mining land use with affected communities, and they are included in the development of reclamation and closure plans. So if the post-mining agreed uses require restoration of ecological systems or habitat that may not qualify as important biodiversity values or priority ecosystem services, then companies would still be expected to document that in their reclamation plan and carry out the necessary activities.
3.7—Cultural Heritage	If during the screening process the operating company identifies protected areas specifically designated to protect cultural heritage, the company will be expected to conform with requirements in Chapter 3.7. Similarly, if protected areas were designated to preserve cultural values, Chapter 3.7 applies. 3.7.5.5. To safeguard irreplaceable cultural heritage and respect indigenous peoples' right to self-determination, the operating company shall not carry out new exploration or develop new mines in areas where indigenous peoples are known to live in voluntary isolation.

Cross References to Other Chapters	
4.1—Waste and Materials Management	Mine waste management approaches may pose risks to protected, threatened or endangered species, biodiversity, ecosystem services or protected areas. These risks may be identified and evaluated during the screening, and if necessary, assessment processes in Chapter 4.6. The risks may also be identified during the Waste Facility Assessment process (4.1.4). Mitigation strategies may be developed as per 4.1.5, or developed as part of or integrated into the Biodiversity Management Plan (see 4.6.4). Any assessment and mitigation development processes should include input from experts and stakeholders that have expertise in biodiversity, ecosystem services or protected areas issues.
4.2—Water Management	Chapter 4.2 requires Site Characterization and Prediction of Potential Impacts (4.2.2) of mine water management on communities and the environment. If analyses reveal that there may be water-management-related impacts on biodiversity (e.g., effects on habitat or water supply for threatened and endangered species), ecosystem services (e.g., reduce flood regulation, availability of drinking water), or adverse effects on waters located in protected areas then the significance of the potential impacts should be further assessed (as per 4.6.3), and mitigation measures developed accordingly to 4.6.4.
4.3—Air Quality	The air quality screening process in 4.3.1 may reveal the potential for significant impacts to important biodiversity, priority ecosystem services, critical habitat (including threatened species) or the conservation values of protected areas from mining project air emission. If this is the case, then the significance of the potential impacts should be further assessed (as per 4.6.3), and mitigation measures developed accordingly to 4.6.4.

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Additional Conservation Actions

A broad range of activities that are intended to benefit biodiversity, where the effects or outcomes can be difficult to quantify.

Area of Influence

The area within which a project may potentially directly and indirectly cause impacts. The area of direct impacts caused by mining-related activities includes the physical mine site footprint, areas adjacent to the project site that are affected by emissions and effluents, power transmission corridors, pipelines, borrow and disposal areas, etc., and the area affected by associated facilities. Areas indirectly affected by mining-related activities include the physical footprint of non-project activities in the surrounding area that are caused or stimulated by the project plus the area affected by their emissions and effluents.

Avoidance

See Mitigation Hierarchy

Baseline (related to Biodiversity):

A description of existing conditions to provide a starting point (e.g. pre-project condition of biodiversity) against which comparisons can be made (e.g. post-impact condition of biodiversity), allowing the change to be quantified. (Source: BBOP Glossary)

Biodiversity/Biological Diversity

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems.

Biosphere Reserves

Biosphere reserves are areas comprising terrestrial, marine and coastal ecosystems. Each reserve promotes solutions reconciling the conservation of biodiversity with its sustainable use. Biosphere reserves are 'Science for Sustainability support sites' – special places for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity. Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located. Their status is internationally recognized.

Competent Professionals

In-house staff or external consultants with relevant education, knowledge, proven experience, necessary skills and training to carry out the required work. Competent professionals would be expected to follow scientifically robust methodologies that would withstand scrutiny by other professionals. Other equivalent terms used may include: competent person, qualified person, qualified professional. For independent reviews (in IRMA Chapter 4.1) competent professionals must not be in-house staff.

Conservation Outcome

A conservation outcome is the result of a conservation intervention aimed at addressing direct threats to biodiversity or their underlying socio-political, cultural, and/or economic causes. Conservation outcomes are typically in the form of: (a) extinctions avoided (i.e. outcomes that lead to improvements in a species' national or global threat status); (b) sites protected (i.e. outcomes that lead to designation of a site as a formal or informal protection area, or to improvement in the management effectiveness of an existing protected area); and (c) corridors created (i.e. outcomes that lead to the creation of interconnected networks of sites at the landscape scale, capable of maintaining intact biotic assemblages and natural processes, and, thereby, enhancing the long-term viability of natural ecosystems). Conservation outcomes would also include any other intervention that leads to conservation gains.

Conservation Values

The ecological, biological, geomorphological, geological, cultural, spiritual, scenic or amenity values, features, processes or attributes that are being conserved.

Collaborate

The process of shared decision-making in which all stakeholders constructively explore their differences and develop a joint strategy for action. It is based on the premise that, through dialogue, the provision of appropriate information, collectively defined goals, and the willingness and commitment to find a solution acceptable to all parties, it is possible to overcome the initially limited perspectives of what is achievable and to reach a decision which best meets the interests of the various stakeholders. At this level, responsibility for decision-making is shared between stakeholders.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle, the company should take into account the concerns and views expressed by stakeholders in the final decision.

Critical Habitat

Areas with high biodiversity value, including but not necessarily limited to: (i) habitat of significant importance to critically endangered, endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes. Other recognized high biodiversity values might also support a critical habitat designation, based on case-by-case evaluation.

Critically Endangered Species

A species that is considered to be facing an extremely high risk of extinction in the wild, as defined by IUCN.

Cumulative Impacts (on Biodiversity)

Cumulative impacts refer to the incremental impacts of the mining project on biodiversity values, when also considering other current and reasonably foreseeable future stressors affecting a biodiversity value in the landscape. Cumulative impacts can be similar in type (e.g., emissions to air from multiple projects) or distinct (e.g., the cumulative effect of habitat loss, habitat fragmentation, and vehicular mortality on wildlife).

Direct/Indirect Impacts

Direct impacts are those caused by activities that are undertaken, and facilities that are owned and managed by the mining company (including associated facilities). Indirect impacts are those that are caused or stimulated by the mining project's presence (e.g., impacts related to the influx of workers or others seeking economic opportunities due to the mine development).

Ecological Processes

Biophysical processes (e.g., hydrologic regimes, local climatic regimes, soil chemistry/nutrient cycling, fires, floods and other natural disturbance regimes, herbivory, predation, ecological corridors, migration routes) necessary for the habitat to persist in a landscape or seascape for the long term.

Ecosystem Services

The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

Enhancement (of Biodiversity Values)

The improvement of the ability of a degraded ecosystem to support biodiversity, through conservation measures such as alteration to the soils, vegetation and / or hydrology. The term is sometimes used for a type of restoration that enhances the biodiversity present but is not couched in terms of restoring the ecosystem to some prior state.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Habitat

A terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment. The place or type of site where an organism or population occurs.

Host Country Law

May also be referred to as national law, if such a phrase is used in reference to the laws of the country in which the mining project is located. Host country law includes all applicable requirements, including but not limited to laws, rules, regulations, and permit requirements, from any governmental or regulatory entity, including but not limited to applicable requirements at the federal/national, state, provincial, county or town/municipal levels, or their equivalents in the country where the mine is located. The primacy of host country laws, such as federal versus provincial, is determined by the laws of the host country.

Important Biodiversity Values

The particular biodiversity elements or features, such as individual species that may be threatened, assemblages of species, particular ecological processes, etc., that trigger an area's designation as having significant biodiversity value (e.g., designation as critical habitat, a Key Biodiversity Area or a Protected Area), as well as the ecological context needed to support the maintenance of the trigger elements.

Key Biodiversity Areas (KBA)

Sites that contribute to the global persistence of biodiversity, including vital habitat for threatened or geographically restricted plant and animal species in terrestrial, freshwater and marine ecosystems.

Mine Closure

A period of time when ore-extracting and processing activities of a mine have ceased, and final decommissioning and mine reclamation are occurring. It typically includes pre-closure (detailed closure design and planning), closure (actual activities of closure of mine workings and construction/decommissioning) and post-closure (mainly long-term reclamation, monitoring, and treatment) periods, each with its own specific activities.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

Mining-Related Activities

Encompasses any activities that may occur during any phase of the mine life cycle (planning, impact assessment, exploration, mine construction, mining, mine closure), and includes all physical activities (e.g., land disturbance and clearing, sampling, airborne surveys, construction, ore removal, ore processing, waste management, reclamation, etc.).

Minimize

See Mitigation Hierarchy

Mitigation

Actions taken to reduce the likelihood of a certain adverse impact occurring.

Mitigation Hierarchy (related to Biodiversity)

The mitigation hierarchy is a set of prioritized steps to alleviate environmental harm as far as possible through avoidance, minimization (or reduction) and restoration of detrimental impacts to biodiversity. Biodiversity offsetting is only considered to address residual impacts after appropriate avoidance, minimization and restoration measures have been applied.

i. Avoidance: measures taken to avoid creating impacts from the outset, such as careful spatial or temporal placement of elements of infrastructure, in order to completely avoid impacts on certain components of biodiversity. This results in a change to a 'business as usual' approach.

ii. Minimization: Measures taken to reduce the duration, intensity and/or extent of impacts that cannot be completely avoided, as far as is practically feasible.

iii. Restoration: measures taken to assist the recovery of ecosystems that have been degraded, damaged or destroyed. Involves altering an area in such a way as to re-establish an ecosystem's composition, structure and function, usually bringing it back to its original (pre-disturbance) state or to a healthy state close to the original.

iv. Offset: Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse impacts on biodiversity arising from project development after appropriate prevention and mitigation actions have been taken. The goal of biodiversity offsets is no net loss or a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity.

Modified Habitat

Areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition. (This excludes habitat that has been converted in anticipation of the project.) Modified habitats may include areas managed for agriculture, forest plantations, reclaimed coastal zones, and reclaimed wetlands.

Natural Habitat

Areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

No Net Loss and Net Gain (of biodiversity)

Targets for development projects in which the impacts on biodiversity caused by the project are balanced or outweighed by measures taken to first avoid and minimize the impacts, then to undertake on-site rehabilitation and/or restoration, and finally to offset the residual impacts (if appropriate). No net loss, in essence, refers to the point where biodiversity gains from targeted conservation activities match the losses of biodiversity due to the impacts of a specific development project, so that there is no net reduction overall in the type, amount and condition (or quality) of biodiversity over space and time. A net gain (sometimes referred to as Net Positive Impact) means that biodiversity gains exceed a specific set of losses.

Offset

See Mitigation Hierarchy

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Priority Ecosystem Services

Ecosystem services are considered priority under the following circumstances: (i) Project operations are likely to result in a significant impact on the ecosystem service; the impact will result in a direct adverse impact on affected communities' livelihood, health, safety and/or cultural heritage; and the project has direct management control or significant influence over the service; or (ii) The project directly depends on the service for its primary operations; and the project has direct management control or significant influence over the service. (Source: IFC)

Protected Area

A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. (See IRMA Glossary for an expanded definition based on IUCN management categories)

Protected Area Management Categories (IUCN)

A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. The definition is expanded by six management categories (one with a sub-division), summarized below.

Ia Strict nature reserve: Strictly protected for biodiversity and also possibly geological/ geomorphological features, where human visitation, use and impacts are controlled and limited to ensure protection of the conservation values

Ib Wilderness area: Usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, protected and managed to preserve their natural condition

II National park: Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems, which also have environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities

III Natural monument or feature: Areas set aside to protect a specific natural monument, which can be a landform, sea mount, marine cavern, geological feature such as a cave, or a living feature such as an ancient grove

IV Habitat/species management area: Areas to protect particular species or habitats, where management reflects this priority. Many will need regular, active interventions to meet the needs of particular species or habitats, but this is not a requirement of the category

V Protected landscape or seascape: Where the interaction of people and nature over time has produced a distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values

VI Protected areas with sustainable use of natural resources: Areas which conserve ecosystems, together with associated cultural values and traditional natural resource management systems. Generally large, mainly in a natural condition, with a proportion under sustainable natural resource management and where low-level non-industrial natural resource use compatible with nature conservation is seen as one of the main aims

Residual Impacts

Project-related impacts that remain after on-site mitigation measures (avoidance, minimization, restoration) have been applied.

Restoration

See Mitigation Hierarchy

Stakeholders

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Threatened or Endangered Species

Species that meet the IUCN (2001) criteria for Vulnerable (VU), Endangered (EN) or Critically Endangered (CR), and are facing a high, very high or extremely high risk of extinction in the wild, respectively. (See http://www.iucnredlist.org/technical-documents/categories-and-criteria) These categories may be re-interpreted for IRMA purposes according to official national classifications (which have legal significance) and to local conditions and population densities (which should affect decisions about appropriate conservation measures).

Tentative List for World Heritage Site Inscription

The list of sites that relevant State Parties are formally considering for nomination as a World Heritage Site in the next five to ten years.

World Heritage Site

A site/property inscribed on the World Heritage List, which has outstanding universal value and meets the conditions of authenticity and integrity. The World Heritage property includes within its borders all of the attributes that are recognized as being of outstanding universal value.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 4.7—Cyanide Management

BACKGROUND

Cyanide is a chemical used in the processing of gold and silver at many mine sites and as a minor processing reagent at some base metal mines. If released to the environment, or if improperly used in mineral processing, cyanide can pose a risk to workers, surrounding communities, aquatic resources and wildlife.

The International Cyanide Management Institute (ICMI) has developed a program for the gold and silver mining industry to improve the life-cycle management of cyanide used in gold and silver mining, to enhance the protection of human health, and to reduce the potential for environmental impacts. Although the *International Cyanide Management Code* only provides for the certification of gold and silver mines, the same principles can be applied to other types of mining operations that use cyanide for the extraction of commercial quantities of minerals. This chapter builds on the ICMI Principles and Standards of Practice.

TERMS USED IN THIS CHAPTER

Adaptive Management ■ Baseline Water Quality ■ Existing Mine ■ Mining Project ■ Mixing Zone ■ New Mine ■ Operating Company ■ Secondary Containment ■ Stakeholders ■ Water Quality Criteria ■ Whole Effluent Toxicity Testing ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To protect human health and the environment through the responsible management of cyanide.

SCOPE OF APPLICATION

Chapter Relevance: This chapter is applicable to operating companies that own, control or operate mining projects associated with the production, storage, use or transportation of cyanide; and to any mining project that requires the storage onsite of cyanide in bags or bulk containers, or that use cyanide in a mill process. It applies during operations and decommissioning of the associated facilities. This does not apply to cyanide for laboratory use or other de minimis testing purposes.

Mining projects must also maintain and provide documentation that cyanide producers and transporters supplying the projects are International Cyanide Management Code (Code) certified.

New vs. Existing Mines: New mines shall meet all of the requirements of this chapter. Existing mines are not required to meet the design/construction requirements in 4.7.2, unless new cyanide storage facilities, mixing, and process tanks are constructed after the IRMA Standard takes effect.

CRITICAL REQUIREMENTS IN THIS CHAPTER

Gold or silver mines using cyanide are certified as complying with the Cyanide Code (4.7.1.1).

Cyanide Management Requirements

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.7.1. Compliance with the International Cyanide Management Code (The Cyanide Code) 4.7.1.1. (Critical Requirement) If the operating company is eligible to be a signatory to the Cyanide Code, it shall obtain a certification of compliance in accordance with the requirements of the International Cyanide Management Institute (ICMI). 4.7.1.2. If the operating company is not eligible to become a signatory of the Cyanide Code, but the mining project requires the storage onsite of cyanide in bags or bulk containers, or uses cyanide in a mill process, the mine's cyanide management practices shall be: a. Audited against the Cyanide Code's "Gold Mining Operation Verification Protocol" by auditors meeting ICMI requirements; and b. Verified as being generally consistent with Cyanide Code requirements. 4.7.1.3. The operating company shall demonstrate that it has taken steps to	**For 4.7.1.1:** If the mine is a gold or silver mine, confirm that a mine has ICMI certification. This can be done by first determining if a company is a Signatory, and then by reviewing summary audit reports for a particular mine site. This audit information is found by clicking on the company name: https://www.cyanidecode.org/signatory-companies/directory-of-signatory-companies **For 4.7.1.2:** If the mine is not a gold or silver mine (the only types of mines currently eligible for ICMI certification), determine whether the mine requires the storage onsite of cyanide in bags or bulk containers (e.g., through review of mine supply records or other means), or uses cyanide in a mill or beneficiation process. If it does, confirm that an ICMI-accredited auditor has found that the operating company would be in compliance with the Cyanide Code's Gold Mining Operation Verification protocol. Auditors meeting ICMI accreditation requirements are listed on the ICMI website (http://www.cyanidecode.org/auditors-auditing). NOTE: for IRMA's Launch Phase we will not require that an ICMI-accredited auditor has assessed compliance of non-gold/silver mines with the Cyanide Code. IRMA auditors will	**For 4.7.1.1:** • Links to certification information from the ICMC website (e.g., Summary Audit Reports, and, if relevant, Corrective Action Plan Reports and Corrective Action Plan Completion Reports). **For 4.7.1.2:** • Documentation from an ICMI certified auditor that the mine is verified as being generally consistent with Cyanide Code requirements. **For 4.7.1.3:** • ICMI certification documentation for producers and transporters. • ICMI application materials for cyanide producers and transporters.	Explanatory Note for 4.7.1.1: The International Cyanide Management Institute (ICMI) has developed a program for the gold mining industry to improve the life-cycle management of cyanide used in gold and silver mining, to enhance the protection of human health, and to reduce the potential for environmental impacts.[628] Although the *International Cyanide Management Code* only provides for the certification of gold and silver mines, the same principles can be applied to other types of mining operations that use cyanide for the extraction of commercial quantities of minerals. Gold and silver mining companies that are signatories to the Cyanide Code can get certified by meeting Cyanide Code requirements, which are available at: https://www.cyanidecode.org/about-cyanide-code/cyanide-code Audit reports and corrective action reports for ICMI certified gold mines are published on the ICMC website under the company name. https://www.cyanidecode.org/signatory-companies/directory-of-signatory-companies Mine sites that have current full or conditional ICMI certification at the time of an IRMA audit shall be considered in compliance with IRMA requirement 4.7.1.1.[629]

[628] International Cyanide Management Code. "Become a Signatory." http://www.cyanidecode.org/become-signatory

[629] International Cyanide Management Code. https://www.cyanidecode.org/about-cyanide-code/cyanide-code

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
ensure that cyanide producers and transporters supplying the mining project are certified as meeting the "Cyanide Production and Transport Practices" of the Cyanide Code.	assess general conformance with some key Cyanide Code indicators (to be added in Explanatory Notes). **For 4.7.1.3:** Review documentation related to cyanide producers and transporters supplying the mine. Confirm whether or not the producers and transporters are ICMI certified. A list of ICMI certified cyanide producers and transporters can be found at: http://www.cyanidecode.org/signatory-companies/directory-of-signatory-companies. If the mine's cyanide suppliers or transporters are not ICMI certified, then confirm that the company has taken appropriate steps to bring them into compliance. (E.g., has contacted them, and there is a plan in place for the company to seek ICMI certification).		Explanatory Note for 4.7.1.2: Although the International Cyanide Management Code ("Cyanide Code") only provides for the certification of gold and silver mines, the same principles in the Cyanide Code Principles and Standards of Practice can be applied to other types of mining operations that use cyanide for the extraction of commercial quantities of minerals. This section does not apply to cyanide for laboratory use, or for other de minimis purposes. The phrase "uses cyanide in a mill process" should be interpreted as any milling or beneficiation process, including flotation, where cyanide might be used. **NOTE:** for IRMA's Launch Phase we will not require that an ICMI-accredited auditor has assessed compliance of non-gold/silver mines with the Cyanide Code. IRMA auditors will assess general conformance with some key Cyanide Code indicators (to be added soon in Explanatory Notes), guided by the Cyanide Code Implementation Guidance: https://www.cyanidecode.org/become-signatory/implementation-guidance Explanatory Note for 4.7.1.3: Cyanide Production and Transportation verification protocols, which outline expected practices for cyanide producers and transporters, can be found on the International Cyanide Management Code (ICMC) website page "Auditing the Cyanide Code."[630] Many producers and transporters have been certified by ICMI, and their information can be found on the ICMC web page "Directory of Signatory Companies."[631]

[630] International Cyanide Management Code (ICMC) website: "Auditing the Cyanide Code." http://www.cyanidecode.org/auditors-auditing/auditing-cyanide-code

[631] International Cyanide Management Code (ICMC) website: "Directory of Signatory Companies." http://www.cyanidecode.org/signatory-companies/directory-of-signatory-companies.

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			If the mine's cyanide suppliers or transporters are not ICMI certified, the mine should be able to demonstrate that is taking steps to bring them into compliance (e.g., company has contacted suppliers and transporters, and there is a plan in place for them to seek ICMI certification).
4.7.2. Construction 4.7.2.1. In addition to the requirements of the Cyanide Code, the following design criteria shall be met:[632] a. Impermeable secondary containment for cyanide unloading, storage, mixing and process tanks shall be sized to hold a volume at least 110% of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event; and b. Pipelines containing process solution[633] shall utilize secondary containment in combination with audible alarms, interlock systems, and/or sumps, as spill control measures.	**For 4.7.2.1:** Review operating company documentation to confirm that all relevant storage facilities, mixing, and process tanks meet the requirements.	**For 4.7.2.1:** • Facility design documents that include information on secondary containment for cyanide unloading, storage, mixing and process tanks. • Facility design documents that include information on pipelines containing process water (or process solution).	Explanatory Note for 4.7.2.1: Requirement 4.7.2.1 applies to all storage facilities and mixing or processing tanks constructed at new mines, and new facilities and tanks constructed at existing mines. Re: 4.7.2.1.a: IRMA's requirement provides conditions in addition to those found in the Cyanide Code (Standard of Practice 4.7). However, the IRMA requirement is generally consistent with information found in ICMI's Auditor Guidance: "Are secondary containments for cyanide unloading, storage, mixing and process tanks sized to hold a volume greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event? Secondary containments must have adequate capacity to hold the volume of the largest tank within the containment as well as any piping that would drain back to the tank and additional capacity for the design storm event. As with the Standard of Practice regarding the water balance, the Code does not specify a design storm event, and the auditor must determine if the one used by the operation is reasonable for the site's environment.

[632] This requirement applies to all storage facilities and mixing or processing tanks constructed at new mines, and new facilities and tanks constructed at existing mines.

[633] This applies if process solutions have a concentration of 0.5 mg/l WAD cyanide or greater.

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			A factor of 110% of the volume of the largest tank can usually be used as a rule of thumb for the adequacy of secondary containment. However, this approximation may not be adequate where the volume of the largest tank is relatively small and the size of the containment (or in the case discussed in question 4, below, the drainage area collected by the containment) is large. In some cases, the adequacy of containment's capacity will be obvious from a visual inspection, while in others, the auditor will need to review data on tank size and calculations of the containment's volume. The auditor should also verify through visual observation that there are no materials stored within the containment that compromise this capacity."[634] It is left to the professional judgment of the IRMA auditor as to whether the intent of both the ICMI guidance and the IRMA requirement have been met. Re: 4.7.2.1.b, this requirement is relevant only if process water/solution has a concentration of 0.5 mg/l WAD cyanide or greater. In addition to requirement 4.7.2.1, see Cyanide Code Implementation Guidance for details on other design criteria – in particular, see Principles 3 (Standard of Practice 3.1) and 4 (Standards of Practice 4.5, 4.7 and 4.8).[635]
4.7.3. Discharges	Auditing Note for 4.7.3: This is also required in Chapter 4.2.	**For 4.7.3.1:** • Records of discharges to surface waters mixing	Explanatory Note for 4.7.3.1: For general mixing zone requirements see IRMA Chapter 4.2, requirement 4.2.3.2.

[634] ICMI. February 2018. Auditor Guidance for Use of the Mining Operations Verification Protocol. p. 43. https://www.cyanidecode.org/sites/default/files/pdf/16_AuditorGuidanceforMines_2-2018.pdf

[635] International Cyanide Management Code (ICMC) website: "Implementation Guidance - Standards of Practice 3.1 - 3.2" https://www.cyanidecode.org/become-signatory/implementation-guidance#handling and "Implementation Guidance - Standards of Practice 4.1 - 4.8." https://www.cyanidecode.org/become-signatory/implementation-guidance#operations

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
4.7.3.1. Discharges to a surface water mixing zone shall not contain cyanide, either alone or in combination with other toxins, that will be lethal to resident aquatic life or interfere with the passage of migratory fish.	**For 4.7.3.1:** Interview operating company and review relevant information (e.g., water quality management plans, monitoring data). If a mixing zone is used for surface water discharges that contain cyanide, confirm, as per IRMA Chapter 4.2, requirement 4.2.3.2.b.i and ii, that mixing zone is not lethal to aquatic life, and that the mixing zone does not interfere with the passage of migratory fish. Confirm that water quality in the surface water mixing zone will not be lethal to local aquatic life. This may be evaluated based on the results of the whole effluent toxicity testing or by comparing the concentration of constituents measured inside the mixing zone to acute toxicity values, or by other credible scientific means. This should be done prior to the use of the mixing zone. If, at some point during use of the mixing zone, point source discharges are found to be lethal to a particular species, confirm that the company has identified adaptive management actions to reduce concentrations of constituents responsible for the toxicity. Actions could include, for example, improving treatment methods, mixing with cleaner water, or decreasing or ceasing effluent discharge. Also, confirm that the surface water mixing zone does not interfere with the passage of migratory fish. This could be done by	zones (e.g., water quality of discharges, and in particular, cyanide concentrations). • Water quality monitoring data from inside the mixing zone. • Documented studies from literature or conducted by the company on lethal toxicity of cyanide to resident fish species. • Records (e.g., studies or observations) of the health and behavior of resident and migratory fish (if any are present). Biologic monitoring of fish in surface water mixing zones.	To avoid lethal toxicity to fish, cyanide in discharges should be limited to 20 ug/L, measured as Weak Acid Dissociable cyanide.[636] However, the operating company can also carry out analyses to predict site-specific lethal toxicity, e.g., based on the results of whole effluent toxicity testing, or by comparing the concentration of constituents measured inside the mixing zone to acute toxicity values, or by other credible scientific means. If, during use of the mixing zone, point source discharges are found to be lethal to a particular species, measures should be immediately undertaken to reduce concentrations of point source discharges found to be lethal. Actions could include improving treatment methods, mixing with cleaner water, or decreasing or ceasing effluent discharge. For example, as per the Cyanide Code: "Treatment may be passive (allowing sufficient residence time in an impoundment for natural processes to reduce cyanide concentrations or use of wetlands) or active (utilizing any of the various available technologies to oxidize cyanide or to regenerate hydrogen cyanide for reuse in production). It should be noted that some treatment methods could increase the concentration of cyanide degradation products (such as cyanate, ammonia and nitrate) in the discharge. These substances can themselves be harmful to fish and wildlife."[637] Companies can demonstrate that the surface water mixing zone does not interfere with the passage of migratory fish by, e.g.:

[636] Eisler, R. 1991. Cyanide Hazards to Fish, Wildlife, and Invertebrates: A Synoptic Review. (U.S. Fish and Wildlife Service). Biological Report 85(1.23). https://pubs.er.usgs.gov/publication/5200123

[637] Cyanide Code Implementation Guidance for Standard of Practice 4.6. https://www.cyanidecode.org/become-signatory/implementation-guidance

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	interviewing operating company and stakeholders that use or are familiar with the affected waters, to find out if migratory fish have been observed avoiding the portion of the surface water that contains the mixing zone. Or, to prove that the mixing zone is not interfering, the operating company could provide documentation that migratory fish are found upstream and downstream of the mixing zone in numbers similar to what existed prior to the development of the mining project (pre-mining values may have been established for migratory fish populations during the ESIA, see Chapter 2.1, or possibly during Biodiversity, Ecosystem Services and Protected Areas screening, see Chapter 4.6).		• Confirming that substances known to cause avoidance, like copper for salmonids, are not present in the discharge; • Providing documentation that migratory fish are found upstream and downstream of the mixing zone in numbers similar to what existed pre-mining (if baseline values were established for the migratory fish populations).
4.7.4. Monitoring 4.7.4.1. The operating company shall carry out baseline water quality sampling and monitor discharges to surface waters or groundwaters for weak acid dissociable (WAD) cyanide.	**For 4.7.4.1:** If there is a discharge of treated water to surface water or ground waters, confirm the discharge is being monitored for WAD cyanide. (See also IRMA Chapter 4.2, criteria 4.2.4.)	**For 4.7.4.1:** • Baseline/background water quality data for surface and/or groundwater (e.g., laboratory reports, company summaries and analyses). • Water quality monitoring data (e.g., laboratory reports, company summaries and analyses).	Explanatory Note for 4.7.4.1: Baseline water quality sampling is used to establish the level of naturally-occurring substances and existing non-mine pollution present in water bodies and the variability in water quantity before the mine is developed. Documentation of baseline conditions can help to prevent mis-attribution of pollution and water quantity changes to the mine. If baseline sampling was not done, the company should establish background water quality conditions. (See IRMA definitions for more information) As per requirements 4.7.1.1 and 4.7.1.2, mining projects that use or store cyanide are expected to demonstrate compliance with the Cyanide Code (e.g., have certification of compliance with the Code). So companies would be expected to meet the following monitoring-related requirements: • The Cyanide Code requires the implementation of monitoring programs to evaluate the effects of

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			cyanide use surface and groundwater quality. It includes monitoring of cyanide in discharges to surface water and groundwater up-gradient and downgradient of the mine. (See ICMC website, Implementation Guidance for Standard of Practice 4.9)[638] • The Cyanide Code also includes monitoring of wildlife. For facilities that are open to the environment the Code requires that measures be put in place to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions (See ICMC website, Standard of Practice 4.4[639]). The Code's Implementation Guidance states that monitoring for wildlife mortalities should be part of the daily inspection of cyanide facilities. Mining projects that use or store cyanide are also expected to meet all relevant IRMA requirements. For example: • IRMA requirements 4.7.4.1 and 4.7.4.2, like the Cyanide Code Standard of Practice 4.9, address the monitoring of surface waters and groundwaters, but they are more specific than the Cyanide Code on the forms of cyanide that must be monitored. • IRMA Chapter 4.2 includes general water quality monitoring requirements, which include cyanide if there is a reasonable potential that it might be present surface waters or groundwaters (see requirements 4.2.4.1 and 4.2.4.2). That chapter also includes water quality criteria for cyanide (which vary based on end-use of the affected water). • If cyanide is present in mine waste facilities (E.g.,

[638] International Cyanide Management Code (ICMC) website: "Implementation Guidance." https://www.cyanidecode.org/become-signatory/implementation-guidance#operations

[639] International Cyanide Management Code (ICMC) website: "Principles and Standards of Practice." https://www.cyanidecode.org/about-cyanide-code/cyanide-code

CRITERIA AND REQUIREMENTS	MEANS OF VERIFICATION	EXAMPLES OF EVIDENCE	EXPLANATORY NOTES
			tailings storage facilities, heap leach facilities) then monitoring information should be incorporated in the Operations, Maintenance and Surveillance plan in Chapter 4.1 (see requirement 4.1.5.5.c). IRMA is currently seeking input on the water quality criteria for cyanide. See the flag language in IRMA's Water Quality Criteria by End-Use Tables, as well as the flag for question 4.2.3.3 in Chapter 4.2.
4.7.4.2. If WAD cyanide is detected in discharges to surface waters, then the operating company shall also monitor total cyanide, free cyanide, and thiocyanate levels.	**For 4.7.4.2:** If WAD is detected in a discharge, confirm that total cyanide, free cyanide and thiocyanate are also being monitored.	**For 4.7.4.2:** • Water quality monitoring data (e.g., laboratory reports, company summaries and analyses).	
4.7.5. Reporting 4.7.5.1. Cyanide water quality monitoring data shall be published on at least a quarterly basis in tabular format, and graphical format if available, on the mine or the operating company website, or provided to stakeholders upon request.	**For 4.7.5.1:** Review company website to confirm availability of quarterly monitoring data.	**For 4.7.5.1:** • Links to websites where data can be accessed. • Records of correspondence with stakeholders requesting cyanide monitoring data (e.g., emails, letters) and company responses.	
4.7.5.2. If the operating company is a Cyanide Code signatory it shall include in its annual report or sustainability report a link to the company's audit	**For 4.7.5.2:** If the operating company is a signatory to the Cyanide Code, confirm that it links to its audit/compliance information is available in its annual or sustainability reports.	**For 4.7.5.2:** • Copies of company documents or website content that provide links to audit information and corrective action information.	Explanatory Note for 4.7.5.2: Audit reports and corrective action reports for ICMI certified gold mines are published on the ICMC website under the company name.[640] The company can provide the exact link to these reports in its own written or website materials.

[640] International Cyanide Management Code (ICMC) website: "Directory of Signatory Companies." http://www.cyanidecode.org/signatory-companies/directory-of-signatory-companies

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information and corrective actions published on the ICMI website.			

NOTES

The International Cyanide Management Institute (ICMI) Principles broadly state commitments that signatories make to manage cyanide in a responsible manner. Standards of Practice identify the performance goals and objectives that must be met in order to comply with the Principles. Separate Verification Protocols have been developed for cyanide production, transportation, and gold and silver mine operations. Cyanide production, transportation, and operations are certified as being in compliance with the Code following an independent third-party audit (paid for by the operating company) verifying conformance with the Code's Standards of Practice. Audit results are made public on the ICMI website to inform stakeholders of the status of cyanide management practices at certified operations. The IRMA Cyanide Management Chapter requires the same auditing procedures, and certified auditors, as for the Cyanide Code.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if there are host country laws governing cyanide transport, storage, use, etc., the company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the operating company to violate the host country law.
1.2—Community and Stakeholder Engagement	Reporting to stakeholders shall conform with the Communications and Access to Information requirements in 1.2.4, which require that communications and information be in culturally appropriate formats and languages that are accessible and understandable to affected communities and stakeholders, and provided in a timely manner.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Stakeholders with complaints related to an operating company's use of cyanide, can raise complaints through the company's operational-level grievance mechanism. As per Chapter 1.4, the company is required to have a grievance mechanism available to stakeholders for filing complaints, and having them investigated and resolved in a timely manner.
2.1—Environmental and Social Impact Assessment and Management	The potential impacts to nearby communities and the environment from cyanide may be scoped as part of the Environmental and Social Impact Assessment process, and mitigation strategies developed as part of the Environmental and Social Management System.
2.5—Emergency Preparedness and Response	The transportation of cyanide is a potential hazard to communities and the environment along transportation routes, and releases of cyanide from the handling, storage and use of cyanide at the mine site may also have impacts on nearby communities and the environment. Chapter 2.5 mandates emergency response planning for spills or other incidents that pose risks to communities, and requires coordination between the mine and emergency responders in potentially affected communities. If relevant, the emergency response plan should contain procedures related to cyanide that conform with the Cyanide Code (see Standard of Practice 7.1 in the Code's Implementation Guidance).[641]

[641] Cyanide Code. Standard of Practice 7.1. https://www.cyanidecode.org/become-signatory/implementation-guidance#emergency

Cross References to Other Chapters	
3.2—Occupational Health and Safety	Cyanide use is an occupational health and safety consideration, and its use, storage and transport should be included in the OHS risk assessment process, mitigation and monitoring processes outlined in Chapter 3.2, and be carried out in conformance with the Cyanide Code (see Implementation Guidance for Standards of Practice 6.1, 6.2 and 6.2).[642]
3.3—Community Health and Safety	The use of cyanide at mining operations may present a health risk to local communities, and may be analyzed during the community health and safety risk and impact assessment process.
4.1—Waste and Materials Management	If cyanide is present in mine waste facilities (E.g., tailings storage facilities, heap leach facilities) then monitoring for potential impacts on wildlife from cyanide is required as per 4.7.4. Relevant information should be incorporated in the Operations, Maintenance and Surveillance plan) as per 4.1.5.5.c.
4.2—Water Management	IRMA's water quality criteria for cyanide discharge limits appear in Tables 4.2.a –h. If a mixing zone is used for surface water discharges that contain cyanide, the requirements 4.2.3.2.b.i and ii apply (i.e., the mixing zone cannot be lethal to aquatic life, and shall not interfere with the passage of migratory fish). Monitoring of cyanide in water, as required in 4.7.4, may be incorporated into the water management program in Chapter 4.2 (see criteria 4.2.4).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Adaptive Management

A structured, iterative process of robust decision-making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. It includes the development of management practices based on clearly identified outcomes, and monitoring to determine if management actions are meeting desired outcomes. If outcomes are not being met, the process requires development and implementation of management changes to ensure that outcomes are met or re-evaluated.

Background Water Quality

Established after mining has commenced, it is the water quality in a similarly mineralized area outside of the mine's influence (e.g., surface water quality upstream of the mine site or upgradient for groundwater).

Baseline Water Quality

The water quality at the site or in the area surrounding a proposed mining project, before mining-related activity has occurred.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

[642] Cyanide Code. Standards of Practice 6.1, 6.2 and 6.3. https://www.cyanidecode.org/become-signatory/implementation-guidance#safety

Mixing Zone

A volume of surface water or groundwater containing the point or area of discharge and within which an opportunity for the mixture of wastes with receiving surface waters or groundwaters has been afforded, and where water quality is allowed to exceed otherwise specified standards.

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Secondary Containment

Requires that areas be designed with appropriate containment and/or diversionary structures to prevent a discharge in quantities that may be harmful.

Stakeholders

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Water Quality Criteria

Numerical concentrations or a narrative statement recommended to support and maintain a designated water use. Criteria are based on scientific information about the effects of water pollutants on a specific water use

Whole Effluent Toxicity

Refers to the aggregate toxic effect to aquatic organisms from all pollutants contained in a mine's effluent.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.

Chapter 4.8—Mercury Management

BACKGROUND

Mercury can occur in both inorganic and organic forms. An inorganic form, elemental mercury is a byproduct of some mining operations, due to the presence of mercury compounds in ore bodies such as gold, silver, copper and zinc deposits.

Mercury is a persistent, bio-accumulative pollutant. When released into the environment and deposited or carried by air and water, and **deposited onto wetlands, streams, or some other types of environments,** mercury can be converted to methyl-mercury. Methyl-mercury can be transmitted up the food chain and accumulates in the tissues of animals.

Because of mercury's potentially significant health and environmental impacts, mining operations should work to restrict the release of point source mercury emissions to surface and ground waters and to the atmosphere by adopting appropriate mercury reduction goals and by applying suitable mercury reduction technologies.

TERMS USED IN THIS CHAPTER

Affected Community ■ Artisanal and Small-Scale Mining ■ Consultation ■ Existing Mine ■ Facility ■ Indigenous Peoples ■ Mercury Emission Control System ■ Mercury Waste ■ Mining Project ■ New Mine ■ Operating Company ■ Stakeholder ■ Tailings ■ Waste Rock ■

These terms appear in the text with a dashed underline, and they are explained at the end of this chapter

OBJECTIVES/INTENT OF THIS CHAPTER

To protect human health and the environment through the responsible management of mercury.

SCOPE OF APPLICATION

Chapter Relevance: This chapter applies to any mining project, new or existing, that utilizes an autoclave, roaster, carbon kiln, refining furnace, retort or other process that could lead to significant emissions of mercury.

CRITICAL REQUIREMENTS IN THIS CHAPTER

Mercury wastes are not permanently stored on site without adequate safeguards (4.8.2.3), are not sold or given to artisanal or small-scale miners, and are otherwise sold only for end uses covered in the Minamata Convention or disposed of in regulated repositories (4.8.2.2).

Mercury Management Requirements

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4.8.1. Planning 4.8.1.1. A mining project with a mercury emission control system shall perform a mercury mass balance that assesses the	**For 4.8.1.1:** Review documentation to confirm that the operating company has calculated the annual and cumulative mass balance of mercury present in waste rock and ore, and the mercury	**For 4.8.1.1:** • Documentation on type of mercury emissions control system(s) being used. • Mercury mass balance inputs,	Explanatory Note for 4.8.1.1: One of the most striking revelations that came from EPA's implementation of the Toxic Reporting Initiative (TRI) was that large amounts of mercury were being emitted from gold mines, primarily in Nevada.

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amount of mercury in the waste rock and ore, and document (or estimate, if measurements are not available) the amount of mercury during or after processing: a. Released to air and water; b. Produced as by-product; and c. Resident in tailings ponds, waste rock dumps, etc.	generated, stored, or released from mining and processing activities.	calculations and results.	Because the scale of these previously unreported emissions was approximately the same as that of coal-fired power plants, addressing these discharges was imperative. This was initially approached as a voluntary initiative through the State of Nevada, however Nevada soon learned their voluntary compliance measures were being seriously violated. Nevada then went to a mandatory program, based mainly on monitoring procedures that had been established for power plants. The EPA, concerned about non-Nevada mercury emissions from mining sources, subsequently established a program based on the Nevada model. After this went into effect, researchers from the University of Nevada, using a portable mercury air detection system, established the presence of significant non-point sources of mercury air emissions at a Nevada mine, most notably from heap leach facilities. These ambient-temperature emissions are still poorly understood and researched. The first step in limiting mercury air emissions from mines is controlling high-temperature point sources, but a longer term goal should be to define and control non-point emission sources too. A mercury mass balance is an accounting of the amount of mercury contained in the mined materials (ore and waste rock), based on the chemical analyses of these materials, versus the amount of mercury in the mine waste (tailings and waste rock) plus the amount of recovered mercury and the amount(s) released to the environment via air and water. Theoretically the amount of mercury coming from mining (ore + waste rock) will equal the amount of

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			mercury in the tailings + waste rock + recovered + released. Data on mercury can be collected at the same time as ore-sampling. The mass of mercury disposition should match mercury mined. Data on mercury emitted/retained will not have the accuracy as mercury in mined materials. Values may be estimated if measurements are not available. A quantitative estimate of the accuracy of the mercury emitted/retained should also be supplied.
4.8.2. Mercury Capture and Disposal 4.8.2.1. Any mine facility that uses a thermal process to treat material containing mercury (e.g., ore, concentrate) shall utilize best available techniques (BAT) and best environmental practices (BEP) to control and minimize the amount of mercury released to the atmosphere unless the operating company can demonstrate that mercury emissions from the mining project are unlikely to pose a significant risk to human health or the environment.	**For 4.8.2.1:** Determine if there are any mine facilities that use a thermal process to treat material (e.g., ore or concentrate) that contains mercury. For gold mines located in the United States, determine if levels are below the allowable mercury emissions under the U.S. National Emission Standards for Hazardous Air Pollutants (NESHAP): Gold Mine Ore Processing and Production Area Source Category (40 CFR Part 63, Subpart EEEEEEE, § 63.11645 (available at: https://www.law.cornell.edu/cfr/text/40/63.11645). The NESHAP mercury limits are as follows: Affected Source: Ore pretreatment processes Existing Sources: 127 New Sources: 84 Units: lb of mercury emitted/ million tons of ore	**For 4.8.2.1:** • Documentation on type of mercury emissions control system(s) being used. • Analysis of the potential impacts of mercury emissions on human health or the environment. • Documentation on BAT and/or BEP being used to reduce mercury emissions from thermal sources.	[flag] **4.8.2.1 Issue Brief:** Mercury is a potent neurotoxin that negatively impacts human health and the environment around the world. Mercury is transported globally in the atmosphere and in water, so mercury emitted in one location may affect ecosystems and populations far removed from the source. While global efforts such as the Minamata Convention aim to reduce emissions of mercury, there are very few national or global standards on what are acceptable mercury emission limits for the mining industry. One national example is the US Environmental Protection Agency's National Emission Standards for Hazardous Air Pollutants (NESHAP), which sets out mercury emission limits for industrial-scale gold mines. During the Launch Phase, IRMA will not score this requirement, but will strive to collect information and test with companies and stakeholders whether there are effective approaches to responsibly manage mercury in addition to the requirements currently laid

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Carbon processes with mercury retorts	2.2	0.8	lb Hg/ton of concentrate
Carbon processes without mercury retorts	0.17	0.14	lb Hg/ton of concentrate
Non-carbon concentrate processes	0.2	0.1	lb Hg/ton of concentrate

If mines from the United States are not meeting the NESHAP limits, then confirm that BAT/BEP are being used to control mercury emissions. Also, determine if these mines are considered to be legally compliant with US law.

For non-US gold mines or other types of mines such as iron, lead, copper, zinc, silver, tin, nickel, silico- and ferro-manganese, etc. that are smelting, roasting or using other thermal processes on ores or concentrates that contain mercury, see the Explanatory Note for 4.8.2.1.

out in 4.8.2.1 that should be integrated in the IRMA Standard.

Explanatory Note for 4.8.2.1: Certain types of mineral deposits have a greater potential to contain mercury than others. The following types of deposits do not always have mercury associated with them, but according to Rytuba (2003) the following types of mineral deposits have produced by-product mercury: volcanogenic massive sulfides, sedimentary exhalitive (sedex) deposits, polymetallic base metals, hot-spring gold, comstock gold–silver, high sulfidation gold–silver, sediment-hosted gold and antimony–mercury. And other types of deposits are known to have had elevated concentrations of mercury: Mississippi Valley type (MVT), volcanogenic manganese, basaltic copper, simple antimony, porphyry copper, low-sulfide-gold-quartz, and bedded barite deposits.[643]

"thermal processes" may include:[644]

- roasting operations and autoclaves that are used to pre-treat gold mine ore;
- carbon regeneration kilns;
- pregnant and barren tanks;
- electrowinning cells;
- retorting and smelting; and
- melt furnaces.
- Definitions for these processes can be found at:

[643] Rytuba, J. (2003). "Mercury from mineral deposits and potential environmental impact. Environmental Geology." 43. 326-338. 10.1007/s00254-002-0629-5. pp. 329, 332. https://www.researchgate.net/publication/225798176_Mercury_from_mineral_deposits_and_potential_environmental_impact

[644] A useful diagram of sources of mercury emissions can be found in the following presentation, slide 16. Cripps, C. and Bamford, R. 2013. Mining and Mercury in Nevada. https://tax.nv.gov/uploadedFiles/taxnvgov/Content/Boards/Mining_Oversight_and_Accountability/MOAC_Meeting_Docs/December_17_2013_Docs/Agenda%20Item%203%20NDEP%20Overview%20of%20Mercury%20Program%20FINAL.pdf

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			https://www.law.cornell.edu/cfr/text/40/63.11651 If gold mines in the US or elsewhere are meeting the mercury emissions limits set out in the U.S. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Gold Mine Ore Processing and Production,[645] then those mines would not be required to also demonstrate use of BAT/BEP. (See Means of Verification for NESHAP emission limits) If non-U.S. gold mines or other types of mines such as iron, lead, copper, zinc, silver, tin, nickel, silico- and ferro-manganese, etc. are smelting, roasting or using other thermal processes on ores or concentrates that contain mercury, then those mines are expected to demonstrate that they use one of the following to determine if they need to apply best available techniques (BAT)/best environmental practices (BEP) to control and minimize the amount of mercury released to the atmosphere to protect human health or the environment: • The NESHAP levels. If below the levels, then there is no need to demonstrate use of BAT/BEF. If there are significant risks to human health or the environment, confirm that BAT/BEP are being used. • A risk assessment process to establish whether or not they need BAT/BEP. If there are significant risks to human health or the environment, confirm that BAT/BEP are being used. During IRMA's Launch Phase we will be collecting information on the risk assessments processes followed. At minimum, we're assuming that risk assessments would include quantitative analyses of mercury in ore/concentrate (as required in 4.8.2.1), and a modeling

[645] U.S. National Emission Standards for Hazardous Air Pollutants (NESHAP): Gold Mine Ore Processing and Production Area Source Category. 40 CFR Part 63, Subpart EEEEEEE, § 63.11645. (Available at: https://www.law.cornell.edu/cfr/text/40/63.11645),

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			exercise to determine potential emissions of mercury to the atmosphere with and without BAT/BEP, and an analysis of the risks to human health or the environment posed by different options. Best available techniques (BAT) for mercury removal include activated carbon adsorption and selenium adsorption in combination with dust filtration[646], or, if non-ferrous metal production includes a sulfuric acid plant, there are a variety of processes that can be employed to remove mercury including wet scrubbers and other techniques (e.g., Boliden-Norzink process, Outotec process and others).[647] Presently adopted BAT/BEP form a baseline for accuracy and effectiveness, but BAT and BEP may also include new techniques if there is sufficient evidence to demonstrate that these techniques reduction in mercury emissions are equal to or greater than what occurs with more popular techniques or practices.
4.8.2.2. (Critical Requirement) Mercury from mercury emission control systems: a. Shall not be stored on-site or disposed with tailings after removal; b. Shall not be sold or given away either directly or indirectly to an entity engaged in artisanal or small-scale mining; and	For 4.8.2.2: Review mercury disposal procedures and records.	For 4.8.2.2: • Documentation of transportation of ore-related mercury. • Documentation of storage and/or disposal locations. • Documentation of sale or distribution of mercury.	Explanatory Note For 4.8.2.2: The intent of this requirement is to keep collected mercury in safe, long-term storage, and if mercury is relocated, to ensure that it is used or disposed in a manner that will minimize the amount of mercury released to the environment via air and water. Mercury wastes may include elemental Hg, calomel, sulfidized carbon residue, etc.

[646] European Commission Implementing Decision (EU) 2016/1032 of 13 June 2016 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the non-ferrous metals industries. pp. 46 and 105. http://eippcb.jrc.ec.europa.eu/reference/BREF/BATC_NFM.pdf

[647] Section 2.12.5.5. Techniques to reduce mercury emissions. (Cusano, G., Gonzalo, M., Farrell, F., Remus, R., Roudier, S., Sancho, L. 2017. Best Available Techniques (BAT) Reference Document for the Main Non-Ferrous Metals Industries (European Union). EUR 28648, doi:10.2760/8224. http://eippcb.jrc.ec.europa.eu/reference/BREF/NFM/JRC107041_NFM_Bref_2017.pdf); and UN Economic and Social Council. 2013. Guidance Document on Best Available Techniques for Controlling Emissions of Heavy Metals and Their Compounds from the Source Categories Listed in Annex II to the Protocol on Heavy Metals. pp. 12 – 25. https://www.unece.org/fileadmin/DAM/env/documents/2012/EB/ECE_EB.AIR_116_E.pdf

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c. Shall be sold only for an end use listed in Annex A (Products) or Annex B (Processes) of the Minamata Convention on Mercury[648] or sent to a regulated repository for mercury wastes.			In 4.8.2.2.c, "regulated" refers to the certification and regulation of a storage facility by a governmental authority. Re: 4.8.2.2.c, Annexes A and B of the Minamata Convention on Mercury list phase-out dates after which the manufacture, import or export of the product shall not be allowed.[649] Companies are expected to comply with those phase-out dates.
4.8.2.3. (Critical Requirement) As an exception to 4.8.2.2.a, wastes from mercury emission control systems that contain mercury may be stored or disposed of on-site only if: a. A risk-based evaluation of the on-site storage or disposal of mercury waste demonstrates that the risk of long-term contamination is low; and b. Disposal occurs in fully lined tailings storage facilities using synthetic liners that have a permeability of 10^{-9} cm/sec or less.	**For 4.8.2.3:** If waste from mercury emission control systems is disposed on-site: confirm that a risk-based evaluation of the disposal has been carried out, and that the disposal occurs in a lined tailings facility with permeability less than 10^{-9} cm/sec.	**For 4.8.2.3:** • Risk-based evaluation of potential for mercury waste disposal to result in environmental contamination. • Information on liners utilized (e.g., technical specifications).	Explanatory Note For 4.8.2.3: The on-site disposal of secondary mercury waste is anticipated to be only for relatively small amounts of mercury compounds for which it would otherwise be difficult to locate a regulated repository. 4.8.2.3 has been developed so that if on-site disposal of collected mercury occurs, that the disposal area offers essentially the same protections as a certified hazardous waste disposal facility. An operations plan for mercury wastes should be developed as per Chapter 4.1, requirement 4.1.5.5.a. This plan may be integrated in the general Operations, Maintenance and Surveillance plan in Chapter 4.1. As per Chapter 4.1, the effectiveness of mine waste facility operations (including those storing mercury wastes) should be evaluated on a regular basis.
4.8.3. Monitoring 4.8.3.1. For each mining project with a source of mercury air emissions a mercury	**For 4.8.3.1:** Review mercury monitoring plan. Interview the operating company and relevant stakeholders (e.g., include public health agencies,	**For 4.8.3.1 – 4.8.3.3:** • Mercury monitoring plan. • Documentation of stakeholder	Explanatory Note for 4.8.3.1: The monitoring of for mercury air emissions may be incorporated into a broader air quality monitoring plan (See Chapter 4.3,

[648] Annex A and B also list phase out dates after which the manufacture, import or export of the product shall not be allowed. Companies are expected to comply with those phase-out dates. The text and Annexes of the Minamata Convention are available at: www.mercuryconvention.org/Convention/tabid/3426/Default.aspx

[649] Minamata Convention on Mercury. Text and Annexes. http://www.mercuryconvention.org/Portals/11/documents/Booklets/COP1%20version/Minamata-Convention-booklet-eng-full.pdf

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monitoring plan shall be developed in consultation with relevant stakeholders.	concerned community groups and other interest groups like fishing associations from affected communities, government agencies, non-governmental environmental organizations, indigenous peoples and others who may consume fish from the local area, etc.) to confirm that stakeholders were consulted in the development of the mercury monitoring plan.	consultations undertaken during the development of the plan.	criteria 4.3.3), and monitoring of mercury in water may be incorporated into the broader water monitoring program for the mining project (See Chapter 4.2, criteria 4.2.4.1).
4.8.3.2. The mercury monitoring plan shall address: a. Potential public health impacts (e.g., food source and blood level mercury); b. Environmental impacts monitoring (e.g., fish tissue and stream sediment mercury levels), including locations that are most likely to promote methylation, such as still waters, wetlands, and anaerobic sediment; and c. Mercury air emission monitoring, which shall be conducted at least annually for direct releases to the atmosphere from an autoclave, roaster, carbon kiln, refining furnace, or other thermal process that has an emission control system.[650]	For 4.8.3.2: Confirm that the monitoring plan addresses the elements listed in a through c. Interview operating company and review monitoring data to confirm that monitoring is occurring as outlined in the plan.	For 4.8.3.1 – 4.8.3.3: • Mercury monitoring plan. • Documentation of stakeholder consultations undertaken during the development of the plan.	Explanatory Note for 4.8.3.2: This plan should include any air monitoring required as part of a regulatory permit requirement. "thermal processes" may include: • roasting operations and autoclaves that are used to pre-treat gold mine ore; • carbon regeneration kilns; • pregnant and barren tanks; • electrowinning cells; • retorting and smelting; and • melt furnaces. • Definitions for these processes can be found at: https://www.law.cornell.edu/cfr/text/40/63.11651 The regular sampling locations and frequency to be sampled should be developed and, ideally also conducted, in consultation with relevant stakeholders from affected communities (as per Chapter 2.1, requirement 2.1.9.4). The ultimate goal for mercury emission monitoring is the collection of real-time data. That is not realistic

[650] This includes air monitoring required as part of a regulatory permit requirement.

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			for water discharges, but might be technologically achievable for air emissions in the foreseeable future.
4.8.3.3. The mercury monitoring plan shall include the monitoring of: a. The quantity of mercury released to air including fugitive emissions (to the extent technologically and economically feasible with air monitoring equipment); b. The quantity of mercury released to water, including the forms of mercury; c. The amount of mercury captured in pollution control systems; and d. The amount of by-product mercury produced (including the mercury captured in pollution control systems); and e. Methyl mercury and sulfate, if mines have a mercury recovery system. In such cases, sampling shall be regularly conducted in wetlands and water bodies on or near the mine site.	For 4.8.3.3: Confirm that the monitoring plan includes the elements listed in a through e. Interview operating company and review monitoring data to confirm that monitoring is occurring as outlined in the plan.	For 4.8.3.1 – 4.8.3.3: • Mercury monitoring plan. • Documentation of stakeholder consultations undertaken during the development of the plan.	Explanatory Note for 4.8.3.3.e: Sampling for methyl mercury would not need to occur in all water bodies. Sampling should focus on wetlands or other areas where methylation or bioaccumulation may occur.
4.8.4. Reporting 4.8.4.1. The operating company shall report publicly, at least annually, a summary report of the findings from the implementation of the mercury monitoring plan, including the monitoring data.	For 4.8.4.1: Review company website and/or interview company and stakeholders to confirm that information is publicly available (e.g., published annually on the mine or company website, or otherwise available to the public).	For 4.8.4.1: • Monitoring data and summary of monitoring findings, summary of mercury management. • Documentation showing that information is publicly available on a website, or in publicly accessible locations. • Records of meetings with stakeholders where information related to the	Explanatory Note for 4.8.4.1: Public reporting means that the information should be conveyed to general stakeholders either through verbal presentations, through documents published on the company's website, or in hard copies in publicly accessible locations. The objective is for those interested to be able to easily calculate the efficiency of the mercury capture

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		mercury monitoring plan and results has been shared.	systems, and to track the amount and location of mercury disposed. As per IRMA Chapter 1.2, public communications should be in formats and languages that are appropriate for stakeholders and affected communities.

NOTES

The US EPA "National Emission Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and Production Area Source Category regulations, effective December 16, 2010, are the only existing national mercury emissions standards for mining.

The EU regulates mercury emissions from major industrial sources (EU Directive 96/61/EC on Integrated Pollution Prevention and Control). These standards do not include direct mining provisions but are intended to reduce mercury use and target the "metallic mercury gained from non-ferrous mining and smelting operations" by prohibiting metallic mercury export and by-product sales and requiring safe metallic mercury storage.

IRMA recognizes both the paucity of existing regulations and the high cost of monitoring and collecting mercury from mine emission sources, and seeks to begin to develop better air monitoring though targeted approaches that use broad, less expensive testing protocols to determine if more testing is necessary. Given the significant health risks associated with mercury, and the challenges and costs associated with reducing mercury once it enters environmental pathways, it is important that accurate information is available on all mercury emissions from mines certified by IRMA.

This chapter of the IRMA Standard seeks to reduce the costs to public health associated with mercury exposure, and the technical challenges of removing mercury once it is in the environment, by encouraging source control – preventing mercury from getting into the environment in the first place.

Researchers have documented fugitive mercury air emissions from non-thermal sources at mines, most notably heap leach facilities.[651] However, mercury air emission testing for fugitive mercury from non-thermal sources can be expensive. Further research is needed to assess the pervasiveness of these non-thermal sources,[652] as well as to verify the reliability of the thermal-source measurements. The IRMA Steering Committee is considering ways to incentivize companies to engage in research to help elucidate the scale and scope of these emissions.

Cross References to Other Chapters	
CHAPTER	ISSUES
1.1—Legal Compliance	As per Chapter 1.1, if there are host country laws governing mercury transport, storage, use, etc., the operating company is required to abide by those laws. If IRMA requirements are more stringent than host country law, the company is required to also meet the IRMA requirements, as long as complying with them would not require the company to violate host country law.

[651] See: Joyce, P and Miller, G. Mercury Air Concentrations in Northern Nevada: Monitoring Active Metals Mines as Sources of Mercury Pollution. University of Nevada, Reno, Department of Natural Resource & Environmental Science, January 2007; and most recently: Miller, M and Gustin, M. Testing and Modeling the Influence of Reclamation and Control Methods for Reducing Non-Point Mercury Emissions Associated with Industrial Open Pit Gold Mines. Journal of the Air & Waste Management Association, 2013 Jun;63(6):681-93.

[652] Eckley CS, Gustin M, Miller MB, Marsik F. 2011. Nonpoint source Hg emissions from active industrial gold mines-influential variables and annual emission estimates. Environmental Science and Technology 45 (2) 392-399.

Cross References to Other Chapters	
1.2—Community and Stakeholder Engagement	Requirement 4.8.3.1 shall conform with the stakeholder engagement requirements in Chapter 1.2. In particular, criterion 1.2.3 is important to ensure that stakeholders have the capacity to participate in mercury monitoring. Also, regarding reporting of data in 4.8.4, requirement 1.2.4 requires that communications be in formats and languages that are culturally appropriate, accessible and understandable to affected communities and stakeholders.
1.4—Complaints and Grievance Mechanism and Access to Remedy	Stakeholders who have complaints related to an operating company's use of mercury, can raise complaints through the company's operational-level grievance mechanism. As per Chapter 1.4, the operating company is required to have an operational-level grievance mechanism available to stakeholders, including procedures for filing complaints, and having complaints recorded, investigated and resolved in a timely manner.
2.1—Environmental and Social Impact Assessment and Management	If mercury is identified during ESIA as a key risk to human health or the environment, stakeholders shall be provided with the opportunity to propose independent experts to collaborate with the company on the design and implementation of its mercury monitoring program; and the company is required to facilitate the independent monitoring of key impact indicators where this would not interfere with the safe operation of the project.
2.5—Emergency Preparedness and Response	The protection of communities and workers during emergencies related to the transport and storage of hazardous substances, such as mercury, may be addressed in Emergency Response Planning. Chapter 2.5 mandates emergency response planning for a spill, and requires coordination between the mine and emergency responders in potentially affected communities.
3.2—Occupational Health and Safety	Mercury may present an occupational health and safety (OHS) hazard, and if so, may be included in the OHS risk assessment process.
3.3—Community Health and Safety	Mercury emissions may present health risks to communities, and if there are thermal mercury sources at the mine then risks from mercury exposure should be analyzed during the community health and safety risk and impact assessment process.
3.6—Artisanal and Small-Scale Mining	Although requirement 4.8.2.2 mentions a prohibition on selling or giving away mercury to artisanal and small-scale mining (ASM) operations, the primary requirements related to interactions between the large-scale mines that apply for IRMA certification and ASM entities are addressed in Chapter 3.6.
4.1—Waste and Materials Management	If mercury wastes are generated and recovered from thermal processes, 4.8.2.3 requires a risk-based evaluation before the operating company can store or dispose of those wastes on site (e.g., co-disposed in tailings facilities). This requirement may be met through the risk assessment process in Chapter 4.1, requirement 4.1.4.1. As per 4.1.4.1, if mercury is disposed of onsite the risk assessment should be updated if there is a potential that risks from such disposal may increase (e.g., more mercury waste is being produced than initially estimated). If mercury wastes are stored or disposed of on-site, relevant information should be included in the Operation, Maintenance and Surveillance plan as per 4.1.5.5.a.
4.2—Water Management	Mercury monitoring in water, as required in 4.8.3, may be incorporated into the water management program in Chapter 4.2 (see criteria 4.2.4). As per Chapter 4.2, if mercury is expected to be present in any effluent from the mine then monitoring for mercury would be required and concentrations in surface and groundwaters would be expected to meet IRMA Water Quality Criteria for relevant end uses of those waters (see Tables 4.2a through h).
4.3—Air Quality	If mercury is identified as a potential air contaminant in Chapter 4.3 then Chapter 4.8 applies. Mercury monitoring in air, as required in 4.8.3, may be incorporated into the air quality management plan and monitoring program in Chapter 4.3 (see criteria 4.3.2 and 4.3.3).
4.6—Biodiversity, Ecosystem Services and Protected Areas	If there is the potential that mercury emissions from mining-related activities (e.g., thermal processes, effluent) may pose a threat to biodiversity (e.g., threatened or endangered species), ecosystem services or protected areas, then the potential impacts should be further assessed as per Chapter 4.6 (see 4.6.3).

TERMS USED IN THIS CHAPTER

Not all terms in the Cross References Table are defined below. For those terms, see the Glossary of Terms at the end of the IRMA Standard document.

Affected Community

Local communities that are subject to risks or impacts from a project.

Artisanal and Small-Scale Mining

Formal or informal operations with predominantly simplified forms of exploration, extraction, processing and transportation. ASM is normally low capital intensive and uses high labour intensive technology. ASM can include men and women working on an individual basis as well as those working in family groups, in partnership or as members of cooperatives or other types of legal associations and enterprises involving hundreds or thousands of miners. For example, it is common for work groups of 4-10 individuals, sometimes in family units, to share tasks at one single point of mineral extraction (e.g. excavating one tunnel). At the organisational level, groups of 30-300 miners are common, extracting jointly one mineral deposit (e.g. working in different tunnels), and sometimes sharing processing facilities.

Best Available Techniques (BAT)

Techniques that can most effectively achieve a high level of environmental protection and allow implementation in relevant sectors under economically and technically viable conditions. "Techniques" includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned; "Available" techniques means those techniques that are accessible to the operator and that are developed on a scale that allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages; and "Best" means most effective in achieving a high general level of protection of the environment as a whole.

Best Environmental Practices

The application of the most appropriate combination of environmental control measures and strategies.

Consultation

An exchange of information between a company and its stakeholders that provides an opportunity for stakeholders to raise concerns and comment on the impacts and merits of a proposal or activity before a decision is made. In principle the company should take into account the concerns and views expressed by stakeholders in the final decision.

Existing Mine

A mine that was operational prior to the date that the IRMA Certification System becomes operational (estimated 2019).

Facility

The term facility is widely utilized in this Standard, and for the most part is associated with a specific type of facility that is that is self-described (e.g., stormwater facilities, waste rock facilities, tailings facility, etc.). However, in a number of instances the term facility is used more generically. For example, "mine facilities" include any facilities owned by the operating company that are located on the mine-lease property, and "associated facilities" are facilities essential to and developed because of the mining project. See "Associated Facility" elsewhere in the Glossary.

Heap Leach/Heap Leaching

An industrial mining process to extract precious metals, copper and other compounds from ore. Typically, mined ore is crushed and heaped on an impermeable leach pad, and chemicals (reagents) are applied that percolate through the ore and absorb specific minerals and metals. The solution is collected and target metals are recovered from the solution.

Indigenous Peoples

An official definition of "indigenous" has not been adopted by the United Nations system due to the diversity of the world's indigenous peoples. Instead, a modern and inclusive understanding of "indigenous" includes peoples who: identify themselves and are recognized and accepted by their community as indigenous; demonstrate historical continuity with pre-colonial and/or pre-settler societies; have strong links to

territories and surrounding natural resources; have distinct social, economic or political systems; maintain distinct languages, cultures and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities. In some regions, there may be a preference to use other terms such as: tribes, first peoples/nations, aboriginals, ethnic groups, Adivasi and Janajati. All such terms fall within this modern understanding of "indigenous."

Mercury Emissions Control System

Any system that will limit mercury emissions (either designed specifically for mercury, or mercury capture is a co-benefit), including sorbent technologies that can remove mercury from the gas stream during processing, or oxidation technologies that will increase the percentage of particulate-bound mercury removed by particulate scrubbers.

Mercury Waste

Substances or objects consisting of mercury or mercury compounds, containing mercury or mercury compounds, or contaminated with mercury or mercury compounds, that are disposed of, are intended to be disposed of, or are required to be disposed of by provisions of national law or applicable conventions. Mercury waste does not include ores or waste rock that contain trace quantities of naturally occurring mercury or mercury compounds.

Mining Project

Any set of activities undertaken for the purpose of extracting mineral resources, and the infrastructure and associated facilities required to support these activities. Mining projects may include exploration, mine construction, mining, mine closure, post-closure and related activities either as separately or in combination.

New Mine

A mine that becomes operational and applies for IRMA certification after the date that the IRMA Certification System becomes operational (estimated 2019).

Operating Company

An operating entity, effectively in control of managing a mine site, or close agglomeration of sites within one operating entity, especially if there are shared facilities.

Stakeholder

Persons or groups who are directly or indirectly affected by a project, such as rights holders, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively.

Tailings

The waste stream resulting from milling and mineral concentration processes that are applied to ground ore (i.e., washing, concentration, and/or treatment). Tailings are typically sand to clay-sized materials that are considered too low in mineral values to be treated further. They are usually discharged in slurry form to a final storage area commonly referred to as a tailings storage facility (TSF) or tailings management facility (TMF).

Waste Rock

Barren or mineralized rock that has been mined but is of insufficient value to warrant treatment and, therefore, is removed ahead of the metallurgical processes and disposed of on site. The term is usually used for wastes that are larger than sand-sized material and can be up to large boulders in size; also referred to as waste rock dump or rock pile.

For a full list of terms used in the Standard, see the Glossary of Terms at the end of the document.