



The session will start soon

IRMA Standard Revision Process

Stakeholder Feedback Webinar

Chapter 4.X – MANAGEMENT OF PHYSICAL STABILITY

Agenda

1. House rules
2. Ways to contribute today
3. IRMA revision process
4. Overview of the proposed changes
5. Q&A and live chat contribution

1. House rules

- This event is hosted by **IRMA, the Initiative for Responsible Mining Assurance.**
- This event is being recorded and the recording will be made publicly available on the IRMA website.
- Participants may not post any unlawful, offensive, threatening, libelous, defamatory, obscene or otherwise objectionable content.
- Participants may not post, or send, or link to hateful, degrading, criminal or sensitive imagery or content, or to any content or material that violates laws, violates third party's privacy rights, advocates intolerance or hate against other people on the basis of actual or perceived ethnicity, national origin, caste, sexual orientation, gender, gender identity, religious affiliation, age, disability, or disease.
- Participants may not post or send or link to Spam content or mass unsolicited or aggressive activity that attempts to drive traffic or attention to unrelated accounts, products, services, or initiatives.

2. Ways to contribute today

- This event represents one of the many opportunities and channels available to contribute to the IRMA Standard Revision Process (incl. a dedicated online platform: www.responsiblemining.net/comments2)

Chat function

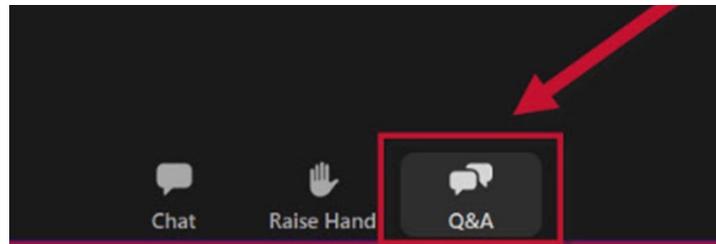
- Participants can also use the Chat function of zoom to share content with the whole audience
- Please note that the chat cannot be used in an anonymous way

2. Ways to contribute today

- This event represents one of the many opportunities and channels available to contribute to the IRMA Standard Revision Process (incl. a dedicated online platform: www.responsiblemining.net/comments2)

Q&A function

- Participants can use the Q&A function of zoom to submit any comment, suggestion, feedback, question, concern, recommendation to IRMA.
- Participants can decide to submit content via the Q&A function in an **anonymous** way



2. Ways to contribute today

- This event represents one of the many opportunities and channels available to contribute to the IRMA Standard Revision Process (incl. a dedicated online platform: www.responsiblemining.net/comments2)

=> All content shared with us today will be saved and considered by IRMA as part of the Standard revision process

3. IRMA revision process

A comprehensive revision of our standards allows us to:



Ensure our system remains accountable to all sectors and is aligned with our mission and vision



Remain up-to-date: Reflect the latest scientific understanding in our standard; learning from other standards, policies, laws



Add clarity: Make the standard clearer, more accessible for all stakeholders; learning from first audits



Add consistency: Better align the structure and flow of chapters that are similar; embedding good management systems practice and models

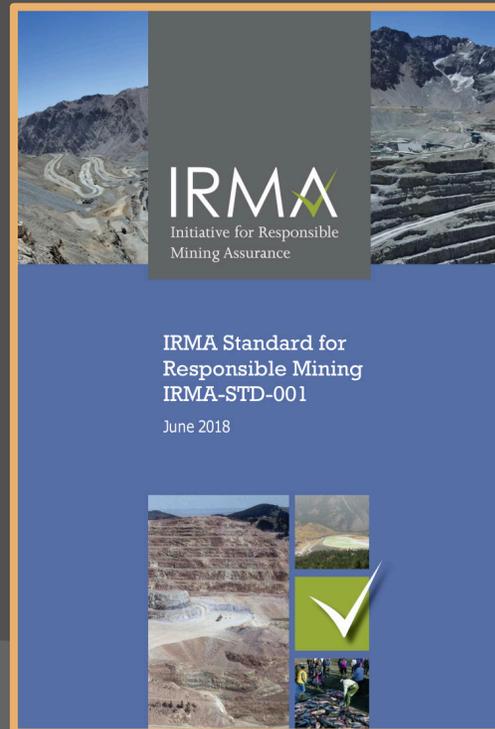


Fill gaps: Address the most significant environmental and social issues

Holistic and integrated approach

IRMA is evolving to address key phases of the mineral supply chain.

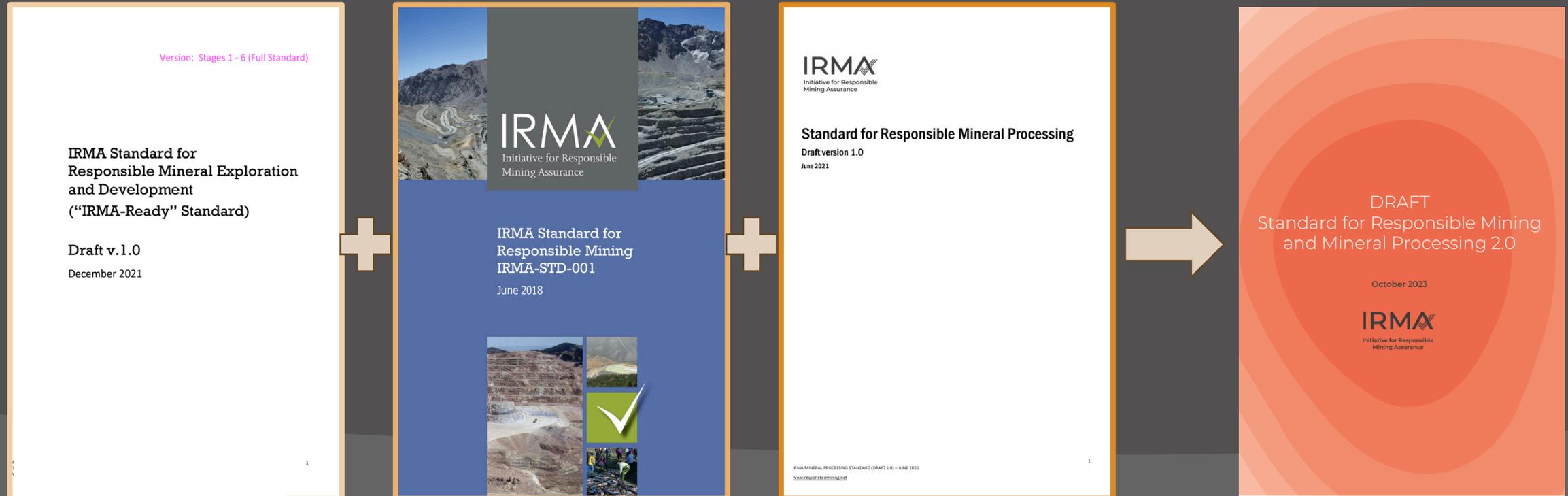
■ Mining



Holistic and integrated approach

IRMA is evolving to address key phases of the mineral supply chain.

- Exploration & Development
- Mining
- Mineral processing



What is in the new consultation draft?

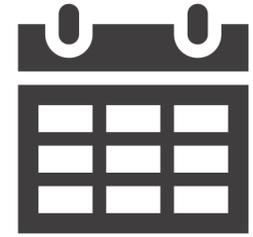
- **Transmittal Letter:** **Not Board approved**; invitation for comments on all content; reflection of IRMA principles (best practice, sound science, efficiency, equal stakeholder value, etc.), the context for proposed changes and questions
- **Drafters' Notes:** Indicate divergence with the 2018 Mining Standard, why the change is being proposed.
 - **NOTES** at the beginning of each chapter (summary of changes proposed)
 - **NOTES** under requirements that are proposed to change and why (e.g., previous requirement wording was unclear, or we had a gap with other standards, international norms, regulatory bodies. Indicates **NEW** or **REVISED** or unchanged.)
 - **CONSULTATION QUESTIONS** lay out the challenging issues that have been raised and ask for feedback to help resolve them
- An **Excel version**, as some prefer to read and comment back in Excel. It contained consultation questions and NOTES.
- **Spanish** translation is available (full text)

Consultation draft informed by:

- Experiences from initial IRMA audits
- Review of other standards
- Increased public awareness and evolving expectations of best practice
- Review of emerging issues garnering international discussions
- Comments on DRAFT IRMA-Ready and Mineral Processing
- Ongoing input from stakeholders on particular content
- Expert working group discussions

Public Consultation period is open

From Oct 26 – Jan 26: **90 days**

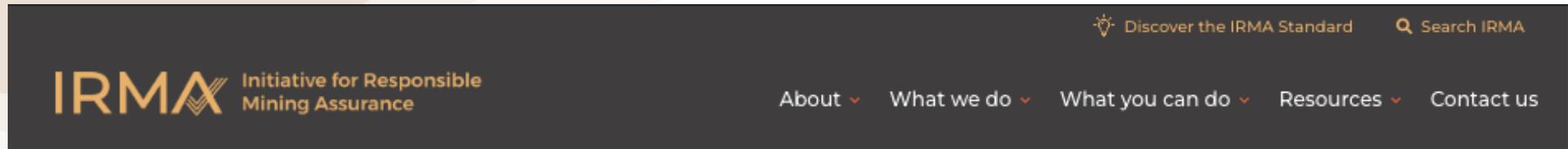


End date:
January 26, 2024

- Consultation period is 90 days
- There are many ways to participate!
- All comments will be considered equally and objectively
- They will be included in a public summary of all comments received
- **Comments may be treated confidentially if desired**

Online platform

<https://www.responsiblemining.net/comments2>



Standard 2.0 online comments

Welcome to the online commenting form for the DRAFT Standard for Responsible Mining and Mineral Processing 2.0. Commenting on the draft is open until 25 January 2024.

To start commenting enter the required fields on the *Get Started* tab and click *Proceed*. For assistance with this form visit the *Support* tab. Visit the [main Standard 2.0 page](#) to learn more about the Standard and other ways to comment.

A screenshot of the 'Get Started' tab in the online commenting form. On the left, there is a vertical menu with three tabs: 'Get Started' (selected), 'Support', and 'Chapter 1.1 Legal Compliance'. The main content area is titled 'Get Started' and contains a 'Name (REQUIRED)' section with two input fields: 'First' and 'Last'.

Other channels

- Via email

comments@responsiblemining.net

- Via WhatsApp

To comment via text or voice, use the IRMA WhatsApp number:

+1.301.202.1445

- Via postal mail to

IRMA Std Comments

113 Cherry St, #74985

Seattle, Washington, 98104

USA

4. Proposed changes

Objectives/Intent of this chapter

To manage wastes, materials and facilities in a manner that minimizes their short- and long-term physical risks, and protects workers as well as the human rights, health and safety of communities and future land and water uses.

Scope of application

This chapter is applicable to all exploration, mining and mineral processing projects and operations.

— not all requirements will be relevant in all cases —

A NEW CHAPTER to serve a NEW APPROACH

We are proposing a NEW APPROACH:

In the 2018 Mining Standard, the primary emphasis of Chapter 4.1 was on 'mine waste,' which included tailings, waste rock, spent ore from heap leaches, and wastes generated during mineral processing (e.g., residues and used processing fluids, wastes from thermal processing). Much less attention was paid to understanding risks and managing risks from chemicals that were used in the processing, or the chemical constituents of brines, or other substances like fuels, etc. Also, there was little attention paid to the management of non-mine wastes, which can be generated in considerable volumes at industrial-scale mines and processing facilities, and, depending on the wastes, can pose varying degrees of environmental and health hazards.

A NEW CHAPTER to serve a NEW APPROACH

We are proposing to separate the aspects of waste management into two chapters:

1. A revised Chapter '4.1 – Waste and Materials Management' will be focused the management of the chemicals and the potential pollution-related aspects of wastes, and
2. This new Chapter '4.X – Management of Physical Stability' currently inserted after Chapter 4.2, has been designed to evaluate the physical stability risks related to mine waste (and other) facilities.

Overview of Proposed changes



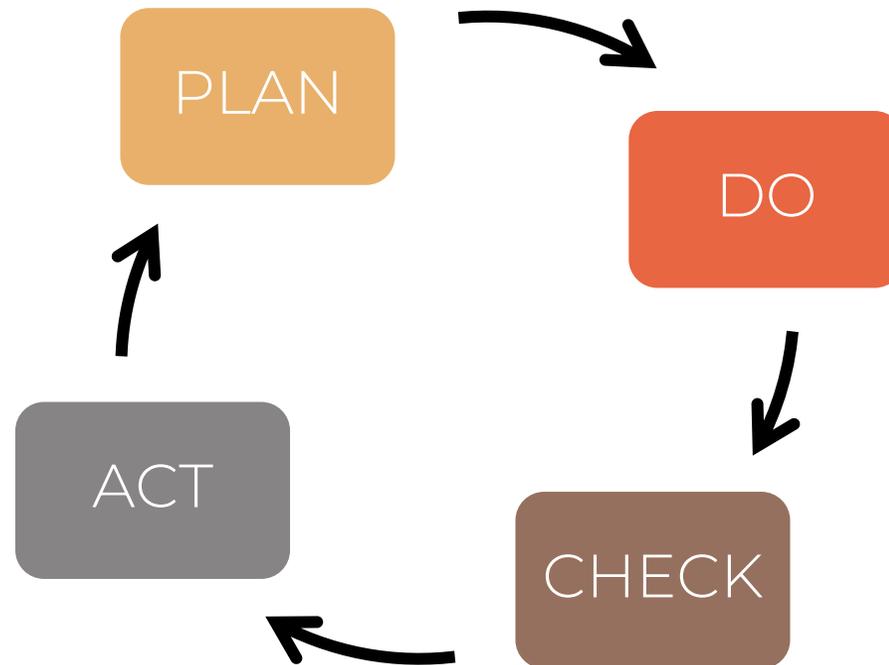
Add consistency: structure



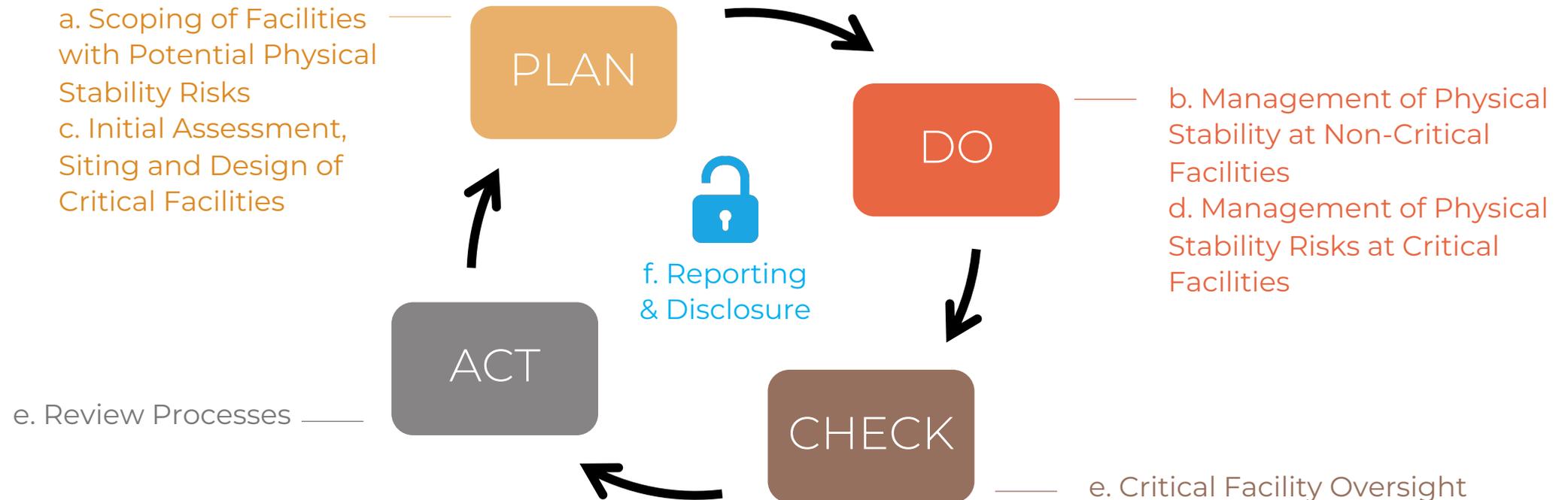
Chapter is organized to flow like other similar social and environmental responsibility chapters:

- a. Scoping of Facilities with Potential Physical Stability Risks
- b. Management of Physical Stability at Non-Critical Facilities
- c. Initial Assessment, Siting and Design of Critical Facilities
- d. Management of Physical Stability Risks at Critical Facilities
- e. Critical Facility Oversight and Review Processes
- f. Reporting and Disclosure

Overview of Proposed changes



Overview of Proposed changes



Overview of Proposed changes

2

Remain up-to-date



In 2020 the Global Industry Standard for Tailings Management (GISTM) was released: outcome of a two-year-long multi-stakeholder effort (GTR), which included discussions with IRMA.

There is considerable overlap between the GISTM and the IRMA Standard. But the GISTM focuses only on the management of tailings (and to a large extent only new tailings facilities), and is by nature much narrower in scope than the 26-chapter IRMA Standard.

Overview of Proposed changes

2

Remain up-to-date



The intent of this proposed chapter is not to duplicate the efforts of GISTM or other industry standards such as MAC Toward Sustainable Mining tailings protocol, but rather to align on important requirements and apply them in a manner that encompasses the needs of, and provides transparency to, all stakeholders.

The intent is also to recognize that many mining and mineral processing facilities, not just tailings facilities, have inherent risks related to physical stability that can result in both catastrophic failures and less severe but still damaging stability failures, and that those inherent risks need to be recognized and addressed.

Overview of Proposed changes

2

Remain up-to-date



The intent of this proposed chapter is not to duplicate the efforts of GISTM or other industry standards such as MAC Toward Sustainable Mining tailings protocol, but rather to align on important requirements and apply them in a manner that encompasses the needs of, and provides transparency to, all stakeholders.

The intent is also to recognize that many mining and mineral processing facilities, not just tailings facilities, have inherent risks related to physical stability that can result in both catastrophic failures and less severe but still damaging stability failures, and that those inherent risks need to be recognized and addressed.

Overview of Proposed changes

3

Fill gaps



A review of the 2018 Mining Standard requirements that were in place to manage physical stability risks revealed some gaps including:

- 1) how to determine which facilities may have a potential for catastrophic failure;
- 2) no explicit requirement outlining the process for determining a “failure consequence classification” (i.e., a rating of the severity of the human, environmental and economic consequences if a facility were to experience a catastrophic failure).

Overview of Proposed changes

3

Fill gaps



- 1) Proposed to include scoping and assessment requirement to determine levels of risk and critical risks (4.X.1.1, 4.X.1.2, 4.X.1.3, 4.X.1.4, 4.X.1.5)

Overview of Proposed changes

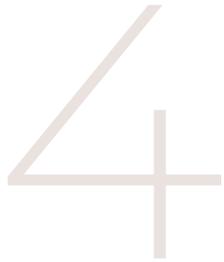
3

Fill gaps



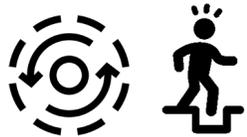
- 2) Proposed to include an explicit requirement outlining the process for determining and reviewing a “failure consequence classification”, in line with GISTM *low/significant/high/very high/extreme*:
(4.X.1.7, 4.X.1.8)

Overview of Proposed changes



Add consistency

+ Fill gaps



Proposed comprehensive set of requirements to management all potential risks (includes annexes of mitigation and design criteria to ensure facilities are built to prevent/mitigate failures)

Annex 4.X-A: Best Practices for the Management of Physical Stability

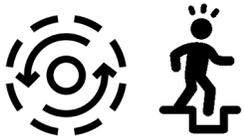
1. Stability Analysis
2. Permanent stormwater conveyances, ditches, channels and diversions
3. Access roads and other project site and/or ancillary features
4. Surface mines including pit highwalls and other associated features
5. Underground mine subsidence
6. Subsidence from underground fluid extraction
7. Facilities storing/stockpiling wastes from underground and surface mines
8. Waste storage facilities associated with mineral processing, chemical processing and waste remediation
9. Water reservoirs

Overview of Proposed changes

5

Add consistency

+ Fill gaps



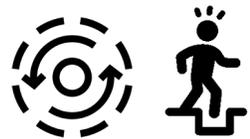
Proposed to include enhanced quality control, monitoring, maintenance and oversight of facilities with critical risks.

Overview of Proposed changes

6

Add consistency

+ Fill gaps



Elaborates on the documentation,
and public reporting and data-sharing
(4.X.6.1, 4.X.6.2)

up-to-date description of all critical facilities, their failure consequence classifications and the entity's rationale for the classification; rationale for the basis of the facility design and site selection; risk assessments; planned and implemented mitigation measures; results of surveillance/monitoring program.

+ Requires the entity to offer to provide assistance to stakeholders from affected communities to select and hire independent experts to advise them on physical stability risks and the management of critical facilities, in order to facilitate effective stakeholder engagement.
(4.X.6.3)

Alignment with GISTM (partially or fully)

Criteria Name	Requirement #	Related references
Scoping of Facilities with Potential Physical Stability Risks	4.X.1.1	
Scoping of Facilities with Potential Physical Stability Risks	4.X.1.2	
Scoping of Facilities with Potential Physical Stability Risks	4.X.1.3	
Scoping of Facilities with Potential Physical Stability Risks	4.X.1.4	
Scoping of Facilities with Potential Physical Stability Risks	4.X.1.5	GISTM 2.3
Scoping of Facilities with Potential Physical Stability Risks	4.X.1.6	GISTM 1.3, 2.1
Scoping of Facilities with Potential Physical Stability Risks	4.X.1.7	
Scoping of Facilities with Potential Physical Stability Risks	4.X.1.8	GISTM 4.2
Management of Physical Stability at Non-Critical Facilities	4.X.2.1	
Management of Physical Stability at Non-Critical Facilities	4.X.2.2	
Management of Physical Stability at Non-Critical Facilities	4.X.2.3	
Initial Assessment, Siting and Design of Critical Facilities	4.X.3.1	GISTM 3.2
Initial Assessment, Siting and Design of Critical Facilities	4.X.3.2 Critical	GISTM 10.1
Initial Assessment, Siting and Design of Critical Facilities	4.X.3.3	GISTM 15.1
Initial Assessment, Siting and Design of Critical Facilities	4.X.3.4	GISTM 5.1, 5.4, 15.1
Management of Physical Stability Risks at Critical Facilities	4.X.4.1	GISTM 4.3, 4.7, 5.7, 6.5, 8.3, 8.4, 8.5, 8.6, 11.2, 11.5
Management of Physical Stability Risks at Critical Facilities	4.X.4.2	GISTM 7.2, 7.4, 7.5
Management of Physical Stability Risks at Critical Facilities	4.X.4.3	GISTM 6.4
Management of Physical Stability Risks at Critical Facilities	4.X.4.4	
Management of Physical Stability Risks at Critical Facilities	4.X.4.5	GISTM 6.5
Critical Facility Oversight and Review Processes	4.X.5.1	GISTM 6.2, 6.3
Critical Facility Oversight and Review Processes	4.X.5.2	
Critical Facility Oversight and Review Processes	4.X.5.3	GISTM 10.5
Critical Facility Oversight and Review Processes	4.X.5.4	GISTM 8.7, 10.5
Critical Facility Oversight and Review Processes	4.X.5.5	
Reporting and Disclosure	4.X.6.1	GISTM 15.1
Reporting and Disclosure	4.X.6.2	GISTM 1.3
Reporting and Disclosure	4.X.6.3	GISTM 1.3

Applicability to all phases: Full document available on IRMA website, under Resources

Criteria #	Criteria name	Req #	Critical	Exploration - Stage 1	Exploration - Stage 2	Exploration - Stage 3	Project Development	Project Permitting	Operating Mine or Mineral Process
4.X.1	Scoping of Facilities with Potential Physical Stability Risks	4.X.1.1				Yes	Yes	Yes	Yes
4.X.1	Scoping of Facilities with Potential Physical Stability Risks	4.X.1.2				Yes	Yes	Yes	Yes
4.X.1	Scoping of Facilities with Potential Physical Stability Risks	4.X.1.3					Yes	Yes	Yes
4.X.1	Scoping of Facilities with Potential Physical Stability Risks	4.X.1.4					Yes	Yes	Yes
4.X.1	Scoping of Facilities with Potential Physical Stability Risks	4.X.1.5					Yes	Yes	Yes
4.X.1	Scoping of Facilities with Potential Physical Stability Risks	4.X.1.6					Yes	Yes	Yes
4.X.1	Scoping of Facilities with Potential Physical Stability Risks	4.X.1.7					Yes	Yes	Yes
4.X.1	Scoping of Facilities with Potential Physical Stability Risks	4.X.1.8					Yes	Yes	Yes
4.X.2	Management of Physical Stability at Non-Critical Facilities	4.X.2.1					Yes	Yes	Yes
4.X.2	Management of Physical Stability at Non-Critical Facilities	4.X.2.2					Yes	Yes	Yes
4.X.2	Management of Physical Stability at Non-Critical Facilities	4.X.2.3					Yes	Yes	Yes
4.X.3	Initial Assessment, Siting and Design of Critical Facilities	4.X.3.1					Yes	Yes	Yes
4.X.3	Initial Assessment, Siting and Design of Critical Facilities	4.X.3.2	Yes				Yes	Yes	Yes
4.X.3	Initial Assessment, Siting and Design of Critical Facilities	4.X.3.3					Yes	Yes	Yes
4.X.3	Initial Assessment, Siting and Design of Critical Facilities	4.X.3.4					Yes	Yes	Yes
4.X.4	Management of Physical Stability Risks at Critical Facilities	4.X.4.1						Yes	Yes
4.X.4	Management of Physical Stability Risks at Critical Facilities	4.X.4.2						Yes	Yes
4.X.4	Management of Physical Stability Risks at Critical Facilities	4.X.4.3							Yes
4.X.4	Management of Physical Stability Risks at Critical Facilities	4.X.4.4							Yes
4.X.4	Management of Physical Stability Risks at Critical Facilities	4.X.4.5							Yes
4.X.5	Critical Facility Oversight and Review Processes	4.X.5.1						Yes	Yes
4.X.5	Critical Facility Oversight and Review Processes	4.X.5.2						Yes	Yes
4.X.5	Critical Facility Oversight and Review Processes	4.X.5.3							Yes
4.X.5	Critical Facility Oversight and Review Processes	4.X.5.4						Yes	Yes
4.X.5	Critical Facility Oversight and Review Processes	4.X.5.5							Yes
4.X.6	Reporting and Disclosure	4.X.6.1						Yes	Yes
4.X.6	Reporting and Disclosure	4.X.6.2						Yes	Yes
4.X.6	Reporting and Disclosure	4.X.6.3						Yes	Yes

Based on the outcome of scoping:

- For facilities with *low or significant failure consequence* classifications but no potential loss of life the requirements of criteria 4.X.1 and 4.X.2 are applicable, and criteria 4.X.3 through 4.X.6 are not applicable.
- For facilities with *significant failure consequence* classifications that include potential loss of life, and facilities with higher consequence classifications, the requirements of criteria 4.X.1, 4.X.2.1.a, and 4.X.3. through 4.X.6. are applicable.

2018/2023 comparative analysis

TOTAL NUMBER OF REQUIREMENTS

2018 standard: 28 requirements

2023 draft standard:

- Waste & Materials Management: 24 requirements
- Management of Physical Stability: 28 requirements

2018/2023 comparative analysis

IN PRACTICE

6 new elements:

1. Includes non-mine waste facilities
2. Thorough Scoping of Facilities with Potential Physical Stability Risks
3. Consequence classification approach
4. Information-sharing with affected communities and relevant stakeholders
5. Change management process
6. Oversight of engineering work quality for all critical facilities

Key consultation questions

- **We are proposing a new approach:** wider scope; but clarity between waste and materials management VS physical stability of facilities

What do you think? Feedback, opinion, comments, reflections on this are warmly welcome

Key consultation questions

- **New guidance proposed on best practice for design and management**

1) Do you agree with the proposal to create guidance to better inform auditor's assessments? If not, how do you suggest auditors determine whether or not the measures at a site are sufficient to prevent or mitigate physical instability?

Key consultation questions

- **New guidance proposed on best practice for design and management**

1) Do you agree with the proposal to create guidance to better inform auditor's assessments? If not, how do you suggest auditors determine whether or not the measures at a site are sufficient to prevent or mitigate physical instability?

2) Do you agree that IRMA's best practice design criteria follow the well-established Canada Dam Association criteria? If not, why not? Or are there other design criteria that have emerged as best practice criteria? Do you agree with the inclusion of slope stability criteria? If not, why not?

Key consultation questions

- **Regarding existing facilities (esp. Tailings facilities)**

As with GISTM, should IRMA make additional allowances for existing facilities if they can demonstrate that upgrade to the best practice design criteria is not viable or cannot be retroactively applied? If so, then like GISTM, should IRMA require demonstration that upgrades still take place to minimize risk to as low as reasonably practicable (ALARP) at those sites?

Key consultation questions

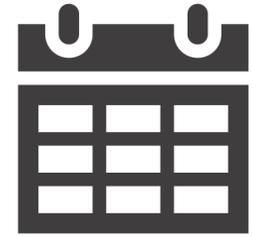
- **Regarding existing facilities (esp. Tailings facilities)**

Perhaps if sites do not meet all of the design criteria but can demonstrate that risks have been reduced to ALARP, IRMA could cap a site's rating for this requirement at substantially meets (i.e., they would never be able to fully meet the requirement), so that the sites that have implemented best design practices are able to distinguish themselves.

Is that an approach that you would support?

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From Oct 26 – Jan 26: **90 days**



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