
# The Copper Mark Interim Guidance on Tailings Management

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**Disclaimer:**

This guidance does not seek to establish new requirements. It should be understood as an interim interpretation of the existing Copper Mark Responsible Production Criteria.

The Copper Mark is currently revising its Responsible Production Criteria with the details on this process available on its website here. **A final position on tailings management will be adopted as part of this process and will apply to Copper Mark participants as soon as the revised Responsible Production Criteria are available.**

The Copper Mark welcomes the opportunity provided by the revision process to further engage our stakeholders on this important topic. We invite any interested stakeholder to provide feedback at any time by sending an email to info@coppermark.org.

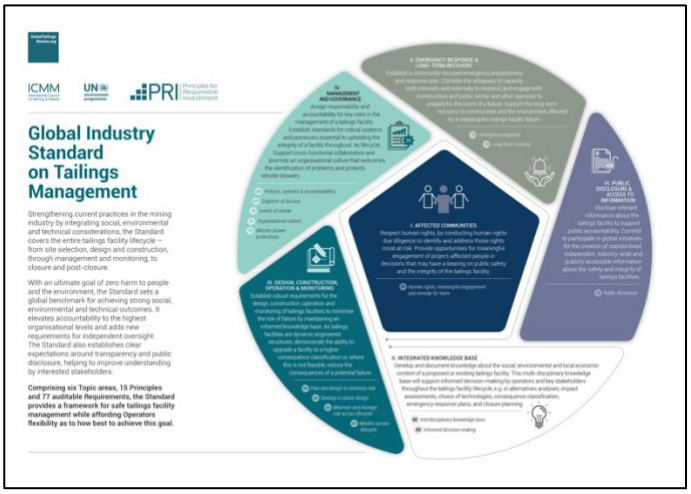
# 1 Overview

Failure to safely manage tailings can have catastrophic consequences for people and the environment as evidenced by the tailings dam failure in Brumadinho on 25 January 2019. According to the "Towards Zero Harm: A compendium of papers" (pp17-18), published by the chair of the Global Tailings Review, copper accounts for 46% of the world's tailings (2016). The same paper maintains that to obtain 20.1mio tons of copper, 14'913mio tons of rock are extracted from the ground. With declining ore grades in many active copper projects, as well as the projected increase in copper demand, tailings resulting from copper production will further increase.

It is imperative for the copper industry to ensure that tailings are managed with the ultimate goal of causing zero harm to people and the environment.

In August 2020, the International Council on Mining and Metals (ICMM), the United Nations Environment Programme (UNEP) and the Principles for Responsible Investment (PRI) jointly issued the Global Industry Standard on Tailings Management (GISTM).

**The GISTM is rapidly becoming the new internationally recognized standard for the safe management of tailings.**




ICMM members committed to bring all their sites into conformance with the GISTM within 5 years (by August 2025), with a shorter timeline for sites considered at "extreme" or "very high" risk for potential consequences. In May 2021, the ICMM published the Conformance Protocols for the GISTM, translating the standard's requirements into criteria that can be used by assessors and operators to determine conformance of a site with the GISTM.

## 2 Copper Mark Criterion 19: Tailings Management

The Copper Mark Criteria for Responsible Production, the Risk Readiness Assessment, include a specific requirement for tailings management. Participants must "*design, operate, monitor and close tailings impoundments while minimizing adverse impacts to the human health and the environment in line with internationally recognized standards."*

The Copper Mark Criteria Guide provides further details on the interpretation of this requirement as well as its implementation. The full text of the Criteria Guide is provided in Annex I of this document. The Copper Mark recognizes that its participants need to identify the most appropriate method of tailings construction to ensure the safe and sustainable operation of a facility.

However, the Copper Mark also recognizes that the Global Tailings Review was established with a view to define global best practices on tailings storage facilities. At the time of publication of the Copper Mark Responsible Production Criteria and Criteria Guide (February 2020), this process was not completed yet.

## 3 Interim Guidance on Tailings Management for Copper Mark Participants

The Copper Mark seeks to provide additional guidance for participants regarding the requirement to manage tailings "*in line with internationally recognized standards."* This guidance seeks to provide more details on the interpretation of the current requirements in the Copper Mark Responsible Production Criteria. **It provides an interim position of the Copper Mark on this topics and does not seek to establish new requirements. A final position will be adopted by the Copper Mark as part of the revision process of the Copper Mark Responisble Production Criteria.**

The development of the interim guidance is based on:

- The importance of safe tailings management in the context of copper production,
- The availability of the GISTM and the ICMM's corresponding conformance protocols since the publication of the Copper Mark's own requirements,
- The request for further guidance on the Copper Mark's position regarding riverine, lake and ocean tailings disposal, and
- The Copper Mark's commitment to continuous improvement.

**Participants and approved assessors of the Copper Mark are required to refer to the interim guidance when determining conformance with the Copper Mark Responsible Production Criteria.**

## 3.1 Implementation of the Global Industry Standard for Tailings Management

**The Copper Mark considers the GISTM to be the main "internationally recognized standard" for the safe management of tailings.**
**The Copper Mark expects its participants to implement the Global Industry Standard for Tailings Management for existing and new tailings facilities at their site.**

To become "fully meets" with Criterion 19: Tailings Management, participants have to "*align with a recognized international standard for the design, monitoring or closure of our tailings impoundments or dams*". Full conformance with all Copper Mark Responsible Production Criteria has to be achieved within 24months of the signing of the Letter of Commitment.

The Copper Mark understands that the implementation of the GISTM may require significant adjustments to a participant's current practice. The Copper Mark will work with participants to ensure the GISTM is implemented within the required timeframe or, where that is not reasonably possible, within a reasonable timeframe that is agreed between the site and the Copper Mark.

Any extension of the timeframe for conformance will be managed in accordance with the Copper Mark Assurance Process. Section 3.5.5. of the Copper Mark Assurance Process, states that: "*In exceptional circumstances, The Copper Mark may allow for more than the defined timeframe for the site to implement all required improvement measures to become "fully meets" with all applicable criteria. A longer timeframe will be reviewed on a case-by-case basis and extensions can only be granted if the Participant is able to provide evidence that the required improvement measures cannot reasonably be implemented within the given timeframe. In this case, a reasonable timeframe is agreed between the site and The Copper Mark before results are communicated*".

Progress towards full implementation must be subject to a clearly defined timeline and milestones of improvement measures. Implementation of the improvement measures will be monitored on a regular basis, in accordance with Section 3.5.4. of the Copper Mark Assurance Process.

## 3.2 Guidance on Riverine, Lake and Ocean Tailings Systems

The Copper Mark has been asked to provide further guidance regarding the practice of riverine, lake and ocean tailings systems. In order to develop this guidance, the Copper Mark has considered three main elements:

1. The Copper Mark vision and principles
2. The Copper Mark Responsible Production Criteria and Criteria Guide
3. Current practice in exising standards

### Copper Mark Vision and Principles

The Copper Mark has considered the available standards and guidance in the context of its vision, mission and core principles, particularly:

- For Copper Mark participants to be recognized as having adopted internationally recognized responsible operating practices;
- Inclusiveness, meaning the Copper Mark is accessible to all companies in scope, at whatever stage along their journey to sustainability and to all sizes of operations.
- The continuous improvement through regular reviews of the Copper Mark standards and their implementation.

### Copper Mark Responsible Production Criteria

The Copper Mark's Responsible Production Criteria are discussed throughout this guidance. The criteria currently do not explicitely address riverine, lake or ocean tailings systems.

### Current Practice in Existing Standards

Based on a desktop research, the Copper Mark notes:

1. The main "*internationally recognized standards*" for tailings management referenced in the Copper Mark Criteria Guide do not explicitly address riverine tailings systems and few reference lake and ocean tailings systems.
2. It is worth noting that the Global Tailings Review explicitly excluded riverine, deep sea and non-tailings related storage systems from the scope of its review.[1]
3. The Copper Mark found three standards that explicitly address riverine, lake and ocean tailings systems[2]. Across the three standards, :
    a. Riverine tailings systems are not considered good international practice.
    b. Two of the three standards provide additional criteria for lake or ocean tailings systems. Such criteria include the expectation that lake or ocean

[1] See the Scope of Work of the GISTM as defined here: https://globaltailingsreview.org/wp-content/uploads/2019/06/190604_GTR_governance-and-scope.pdf.
The GISTM defines a tailings facility as "*A facility that is designed and managed to contain the tailings produced by the mine. Although tailings can be placed in mined-out underground mines, for the purposes of the Standard, tailings facilities refer to facilities that contain tailings in open pit mines or on the surface ('external tailings facilities')*".

[2] See e.g. the International Finance Corporation (IFC), Environmental Health and Safety Guidelines for Mining, 2007, p.7; The Responsible Jewellery Council Code of Practices, 2019, Provision 39.3, or the IRMA Standard for Responsible Mining v.1.0, Chapter 4.1.8

tailings systems may only be used if there is scientific evidence to demonstrate that these would result in less environmental and social impact than land-based options.

c. The third system does not certify sites that use riverine, lake and ocean tailings system, noting however that further work is required to determine specific requirements under which lake and ocean tailings systems could be considered for certification.

### Guidance to Copper Mark Participants

**As a matter of principle, the Copper Mark expects participants to manage tailings with the goal of causing zero harm to people and the environment.** The Copper Mark expects participants to review all possible tailings systems alternatives and to implement the system that is the most aligned with the overall objective to cause zero harm.

Specifically for any participants that have existing systems using riverine, lake or ocean tailings systems:

- The participant must "fully meet" all Copper Mark Responsible Production Criteria, including Criterion 19: Tailings Management, within the timelines stated in the Copper Mark Assurance Process.
- The Copper Mark recognizes that there is no applicable, internationally recognized, standard for the management of riverine, lake or ocean tailings systems. In the absence of an applicable standard, the Copper Mark has defined the following requirements that shall be implemented by participants operating riverine, lake or ocean tailings systems:
    - The Copper Mark expects all its participants to implement a management system that reflects best available practices to design, construct, operate, monitor and close their tailings system.
    - Participants shall demonstrate, using scientifically valid data, that:
        - The riverine, lake or ocean tailings system results in less risk of and actual environmental and social impact than all tailings system alternatives.
        - Adverse effects on riverine, marine or coastal resources and on local communities are minimized and managed using best available practices.
    - Participants shall respect the rights of affected stakeholders and meaningfully engage them at all phases of the tailings system lifecycle, including closure. Participants may also refer to Copper Mark Criteria 3, 26 and 28 (Stakeholder Engagement, Human Rights and Indigenous People's Rights) for requirements on the engagement with affected stakeholders.
    - Participants shall ensure:
        - There is long-term monitoring of environmental, social and local economic impacts, including cumulative impacts and implementation of a mitigation plan.

        - The tailings system is periodically reviewed. Reviews shall consider the technical, social, environmental and local economic context and shall assess the effectiveness of the management system.
        - Participants shall refine the tailings technologies, design, and management strategies to minimise risk and improve outcomes for people and the environment.
    - Participants shall develop and maintain an interdisciplinary knowledge base to support safe tailings management throughout the tailings lifecycle, including closure. This knowledge shall capture uncertainties due to climate change.
    - Participants shall publicly disclosure and provide access to information about the tailings system to support public accountability.

## 4 Revision of the Copper Mark Responsible Production Criteria

The Copper Mark believes that the above interim guidance on tailings management is aligned with its current Responsible Production Criteria and Criteria Guide.

The Copper Mark and Responsible Minerals Initiative (RMI) are currently revising the Risk Readiness Assessment (RRA) Criteria and corresponding Criteria Guide. Further details on this process are available on the Copper Mark website here. **A final position on tailings management will be adopted as part of this process and will apply to Copper Mark participants as soon as the revised Responsible Production Criteria are available.**

The Copper Mark welcomes the opportunity provided by the revision process to further engage our stakeholders on this important topic. As part of the development of this guidance, the Copper Mark has taken note of several recommendations regarding tailings management that will be considered and further discussed during the RRA revision process. Specifically, these are:

- The request to add:
    - a ban on riverine tailings disposal - and preferably all three (riverine, lakes, oceans) for new facilities
    - a requirement to work towards the elimination of these approaches for existing facilities.
- The request to indicate in the summary assessment report when a next review of the tailings system is expected for riverine, lake and ocean tailings systems
- The addition of a definition of “tailings systems”
- A review if the Criteria Guide, taking into account specific feedback received.

We invite any interested stakeholder to provide feedback at any time by sending an email to info@coppermark.org.

## 5 Annex I: Criteria Guide for Criterion 19: Tailings Management

**RRA ISSUE AREA: TAILINGS MANAGEMENT**
To design, operate, monitor and close tailings impoundments while minimizing adverse impacts to the human health and the environment in line with internationally recognized standards.[3]

Explanation:

Tailings is a common by-product of the mineral recovery process. They usually take the form of a liquid slurry made of fine mineral particles – created when mined ore is crushed, ground and processed – and water. In some cases, mining operations generate 'dry' tailings, however. If not managed properly, tailings can have a damaging impact on the environment and human health and safety, with pollution from effluent and dust emissions being potentially toxic to humans, animals or plants. This harm is multiplied many times over should a tailings storage facility physically fail. Flooding from tailings materials can greatly damage the surrounding environment and even lead to loss of human life.

The management of tailings, both during and after mining, is the responsibility of mining companies and is subject to advanced regulatory regimes. This means that tailings management needs to be effective throughout the life of an operation, from initial feasibility through to closure and post-closure.

Tailings can be stored in a variety of ways: which way depends on numerous factors, for instance the local topography, how much rainfall an area gets, whether there is regular or irregular seismic activity recorded, the type of mineral being mined and how close the mine is to populated areas. There is no one-size-fits-all solution, each tailings storage facility is unique. Identifying the most appropriate method of tailings construction is important to ensure the safe and sustainable operation of a facility.[4]

Companies should engage a competent, objective third party to conduct an independent review and evaluation that covers all aspects of the planning, design, construction, operation and maintenance of waste facilities.[5]

The International Council on Mining and Metals (ICMM), the United Nations Environment Programme (UNEP) and the Principles for Responsible Investment (PRI) have co-convened the Global Tailings Review to establish global best practices on tailings storage facilities. The Global Tailings Review is consulting on a new draft Global

[3] For example, TSM Tailings Management Protocol (2019): https://mining.ca/documents/tsm-tailings-management-protocol-2019-version/; and Global Tailings Review: https://globaltailingsreview.org

[4] Adapted from ICMM: https://www.icmm.com/en-gb/environment/tailings

[5] For additional guidelines and standards see: https://gmggroup.org/tailings/

Tailings Standard that aims to prevent catastrophic failures by creating a step change for the industry in the safety and security of tailings facilities.[6]

The company's efforts towards meeting global best practices on tailings management should be proportionate to the size of the company's operations and the significance of its impacts.

Performance Determination:

Does Not Meet
We do not align with a recognized international standard for the design, operation or closure of our tailings impoundments or dams.

Partially Meets
We have begun to align with a recognized international standard for the design, monitoring or closure of our tailings impoundments or dams, but implementation has not started or is incomplete.

Fully Meets
We align with a recognized international standard for the design, monitoring or closure of our tailings impoundments or dams.

Verification:

*Types of evidence:*

The following are examples of documents a Producer can upload to demonstrate conformance:

- Policy that commits the site to conformance with international standards and best practices on tailings management;
- Procedures for designing, building, maintaining, monitoring and closing down any tailings and waste rock facilities and supporting infrastructure;
- Monitoring records;
- Records of government inspections;
- Engineering reports and external experts reports conducted, for example, to monitor tailings disposals, to assess their stability, carry out simulations, etc;
- Risk assessments relating to tailings and waste rock facilities;
- Record of potential impacts on local environments and communities, including information on protection measures;
- Site-level assurance claim on publicly available website, annual report, or corporate sustainability report.

[6] https://globaltailingsreview.org

- Site-level audit of conformance (implementation of international standard observed at the site)
- Disclosure of conformance with international standards such as the Global Tailings Review.
- Third-party assurance of zero tailings disposal into marine or river environments;
- Government inspection reports;
- Documented evidence of mitigation, or remediation of potential impacts.

*Site assessment:*

During interviews with management, managers can demonstrate understanding of the company's policy on tailings management, knowledge of international standards on tailings management, and can describe the risk-based approach used by the company, including regular, rigorous risk assessment and transparent decision-making to choose the most appropriate site-specific approach to disposal. They can demonstrate that there are critical controls to identify, implement and monitor actions for managing high risks. They can demonstrate that they engage an engineer(s) to provide technical direction for waste management. They can demonstrate that an independent review and evaluation is conducted by a competent, objective third party and the review covers all aspects of the planning, design, construction, operation and maintenance of waste facilities. They can describe clear lines of accountability and responsibility within the company for the oversight and implementation of the system. They can describe how designated employees are trained on the company's policy on tailings and waste rock.

During interviews with designated employees, they can demonstrate a basic understanding of the company's policy on tailings and waste rock and know where to find a written or formal electronic copy of the policy. They have received training on the policy and the measures in place to protect human health and the environment.

During the site walk through, the assessor observes good practices in tailings management and does not observe environmental or social impacts caused by the tailings.