Draft ASI Performance Standard V4 (PS V4)

1st Consultation Draft

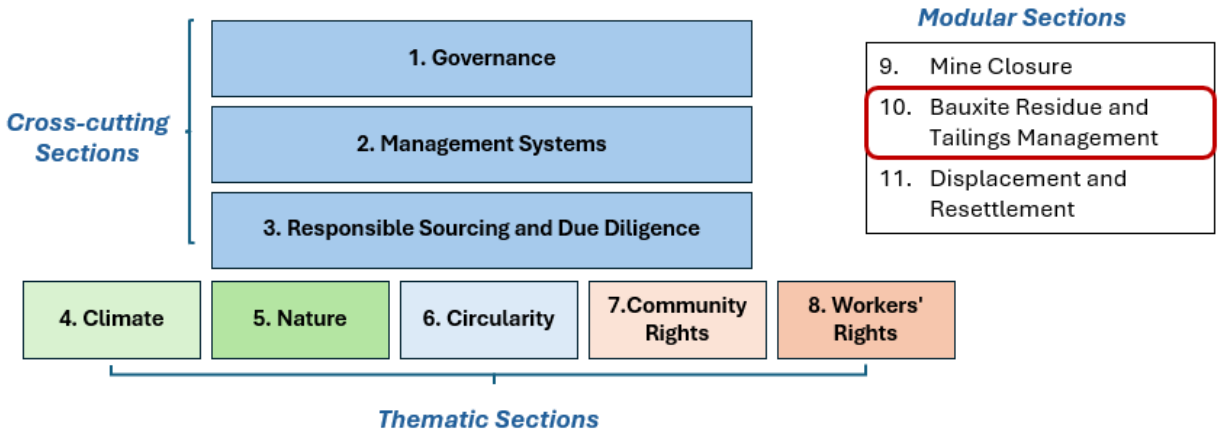
Modular Section 10: Bauxite Residue and Tailings

February 2026

Introduction

The ASI Performance Standard V4 (PS V4) consultation draft includes a main standard (PDF) with eight sections, as well as three 'modular' sections, which are separate documents and applicable only in specific contexts.

ASI PS V4 Proposed Structure: Consultation Draft



This *Section 10: Bauxite Residue and Tailings Management* is one of the modular sections and applies to Entities with bauxite mining or alumina refining activities under their certification scope, as well as other Entities with bauxite residue or tailings facilities. This section includes two main elements:

- Management of Bauxite Residue Storage and Tailings Facilities – this is a new addition (not comprehensively addressed in PS V3) for tailings and a strengthened criterion for bauxite residue storage, mainly aimed at critical risks related to high volume impoundment of bauxite residue, tailings, or other process materials. The proposed approach seeks to align with and recognise the Global Industry Standard on Tailings Management (GISTM), which many ASI-certified mines and refineries are already working towards adopting.
- Specific management of bauxite residue (BR), including both the material-specific risks of BR (e.g. high alkalinity) and the circularity elements. This expands on the BR criteria already included under the Waste Management section of PS V3.

ASI is seeking feedback on this consultation draft as part of the **first public consultation on the revised Performance Standard V4 (PS V4).** The consultation is open from 17 February – 20 April 2026 and more information can be found on the consultation webpage, including how to give your input.

Background context and alignment with GISTM:

Tailings facility management (with respect to high-volume material storage and catastrophic tailings facility failures) is a high risk and very technical subject. The aluminium sector does not generally have large numbers of tailings facilities nor large volumes of tailings impounded

(though data is scarce). However, the issues related to safe tailings management are generally applicable to storage of bauxite residue (BR, also known as red mud).

The Global Industry Standard on Tailings Management (GISTM) is widely considered a comprehensive and leading practice standard. Therefore, if ASI does incorporate tailings management criteria within the Performance Standard V4, early stakeholder input strongly recommends that we align with GISTM and recognise equivalence, rather than trying to recreate tailings management criteria or duplicate audit processes.

The Global Tailings Management Institute (GTMI), the organisation that will host and oversee GISTM implementation and assurance, is only recently established and will take time to develop its assurance and certification processes. While a number of ASI Members are already undertaking third-party validations against GISTM (through audits supported by ICMM Conformance Protocols), a formal assurance and third-party certification system under GTMI will likely will take several years to be implemented at scale. Thus, a hybrid approach is proposed (see 10.1.1.4) which would give Entities a roadmap and extended timeline to work towards GISTM certification, at leading practice level.

In addition to tailings facility management requirements, bauxite residue does have some additional, specific and unique risks, which are addressed under 10.2 and 10.3 in this modular section.

10. Modular Section: Bauxite Residue and Tailings Management

Overview of Subsections:

10.1. Bauxite residue storage and tailings facilities management

10.2. Bauxite residue specific risks

10.3. Bauxite residue circularity

10.4. Legacy facilities

10.1. Bauxite residue storage and tailings facilities management

Key reference for 10.1: Global Industry Standard on Tailings Management (GISTM), August 2020; available at: https://globaltailingsreview.org/wp-content/uploads/2020/08/global-industry-standard-on-tailings-management.pdf

Criterion 10.1.1. Assess risks of failure of bauxite residue and tailings storage facilities and implement management plans to minimise risks at all stages of the facility lifecycle, including closure and post-closure	*Notes*
10.1.1.1. Determine the Consequence Classification of all bauxite residue storage and tailings facilities, following the approach outlined in requirement 4.1 (and Annex 2, Table 1: Consequence Classification Tables) in the Global Industry Standard on Tailings Management (GISTM). The assessment and selection of the classification shall be based on credible failure modes and shall be defensible and documented. *Explanatory notes: A tailings facility refers to any facility that is designed and managed to contain the tailings produced by the mine. See GISTM Section 4.1 and Annex 2, Table 1. This risk-based approach under the GISTM standard determines the consequences of failure through assessing the downstream conditions documented in the knowledge base and selecting the classification corresponding to the highest Consequence Classification for each category (see GISTM Annex 2, Table 1.). Applicable to all bauxite residue storage and/or other tailings facilities within the certification scope.* ***Key reference:*** *Global Industry Standard on Tailings Management (GISTM), August 2020*	New *Applicable: Mining, Refining + other Entities with bauxite residue or tailings facilities*
10.1.1.2. For facilities determined under 10.1.1.1 to have a 'High', 'Very High', or 'Extreme' Consequence Classification, the Entity shall **publicly disclose** all information as required under Requirement 15.1 of the Global Industry Standard on Tailings Management (GISTM). *Explanatory notes: Refer to Principle 15, Requirement 15.1 of the GISTM Standard, available on page 23. This takes a risk-based approach to prioritise actions, aligning with the GISTM Consequence Classification approach.* ***Key reference:*** *Global Industry Standard on Tailings Management (GISTM), August 2020*	New *Applicable: Same as 10.1.1.1*
10.1.1.3. Perform regular checks and controls, including those conducted by third parties, to ensure the integrity of bauxite residue storage and tailings facilities.	Minor change (6.6d) *Applicable: Same as 10.1.1.1*
10.1.1.4. **Leading Practice:** Carry out a self-assessment and an independent third-party validation against the full Global Industry Standard for Tailings Management (GISTM) for all facilities with a Consequence Classification of 'High', 'Very High', or 'Extreme' (see 10.1.1.1). *Explanatory notes: Under this requirement, Entities are expected to carry out a self-assessment and third-party validation against the GISTM standard for higher-risk bauxite residue and tailings facilities. Recognising that formal GISTM third-party certification procedures are under development (see 10.1.1.5), this allows flexibility for Entities to achieve some external auditing/ validation against the GISTM standard in the interim period. Use of ICMM Conformance Protocols in third party validation (https://www.icmm.com/en-gb/our-principles/tailings/tailings-conformance-protocols.* ***Key reference:*** *Global Industry Standard on Tailings Management (GISTM), August 2020*	New *Applicable: Same as 10.1.1.1*

10.1.1.5.	**Leading Practice:** Implement a plan to achieve third-party certification against the GISTM standard for all facilities with a Consequence Categorisation of 'High', 'Very High', or 'Extreme,' within 3 years of the GISTM audit and certification process becoming fully operational. *Explanatory notes: See 10.1.1.1 and GISTM Section 4.1 and Annex 2, Table 1. This requirement includes a future timeline for achieving third party certification against the GISTM standard, recognising that the full certification and assurance model for GISTM is still under development.* ***Key reference:*** *Global Industry Standard on Tailings Management (GISTM), August 2020*	New *Applicable: Same as 10.1.1.1*

10.2. Bauxite residue specific risks

Criterion 10.2.1. Impacts on the environment are minimised through appropriate bauxite residue discharge practices		*Notes*
10.2.1.1.	Not discharge bauxite residue to aquatic environments.	Existing (6.6a) *Applicable: Refining*
10.2.1.2.	Not discharge bauxite residue into lagoons (applies to bauxite residue storage facilities constructed after 2020). For existing lagoon facilities, the Entity shall develop and implement a timebound plan to remediate the lagoons to a safe, stable and non-polluting landform. *Explanatory notes: "Lagooning / Lagoon" refers to a legacy method of bauxite residue disposal involving the pumping of a dilute slurry (typically 18–22% solids) into natural or engineered depressions, old mine workings, or impoundments formed by dykes or levees. The residue gradually settles and consolidates, while excess liquor is decanted and often returned to the refinery. Lagooning generally requires large land areas and carries higher seepage and water management risks compared with modern high-solids or dry stacking systems. (Source: IAI Sustainable Bauxite Residue Management Guidance, 2022)*	Major change (6.6b) *Applicable: Refining*
10.2.1.3.	**Leading Practice**: Deposit all bauxite residue at >60% solids, measured at point of discharge to the storage area. *Explanatory notes: Entities should use a gravimetric oven-drying method (e.g. ASTM D2216, ISO 17892-1), drying at 105 ± 5 °C until constant mass. Alternative methods (e.g., microwave, NIR, RF sensors) may be used for operational control, provided they are regularly calibrated against the oven-dry method. Sampling should be carried out at least once per operating shift for each disposal stream (e.g., filter line, stacking conveyor). Report the rolling monthly average solids content, with all individual samples retained. To demonstrate alignment with leading practice, ≥90% of samples in a reporting period should meet or exceed the 60% solids threshold.* *Applies to all newly generated bauxite residue being placed in permanent or temporary storage. Does not apply to historical lagoon material under remediation (see 10.4: Legacy facilities).* *The requirements and leading practices under Criterion 10.2.2 (Monitoring) and 10.2.3 (Discharges) also apply to drainage water from bauxite residue storage areas, including decant water, seepage, and controlled releases. These waters should be monitored, managed, and disclosed in line with site-specific discharge conditions and applicable regulations.* ***Key reference:*** *Dry storage threshold as defined by IAI, https://international-aluminium.org/wp-content/uploads/2022/04/BRManagementGuidance.pdf, pg. 30*	New *Applicable: Refining*

Criterion 10.2.2. Impacts of bauxite residue facilities on the surrounding environment are effectively monitored and managed	*Notes*
10.2.2.1. Monitor surface water, groundwater and air quality outside the boundary of the bauxite residue facility. *Explanatory notes: Outside the boundary refers to points beyond the direct facility footprint, for example surface and ground water upstream and downstream of the facility. In cases where monitoring extends beyond the Entity's lease, access may restrict where monitoring can be carried out. Refer to the IAI Bauxite Residue Sustainable Management Guidance, available: https://international-aluminium.org/wp-content/uploads/2022/04/BRManagementGuidance.pdf*	New *Applicable: Refining*
10.2.2.2. **Leading practice:** Integrate monitoring results (as per 10.2.2.1) into improvement programmes.	New *Applicable: Refining*

Criterion 10.2.3. Discharges from bauxite residue storage areas are controlled and neutralised, to minimise impacts to the environment	*Notes*
10.2.3.1. Derive and implement site specific discharge values for all discharges, including drainage water (decant, seepage, or controlled releases). *Explanatory notes: Site-specific discharge values should be derived in alignment with applicable national or local regulatory requirements, which often incorporate species protection levels and risks identified through SEIAs or permitting processes (e.g., licence-to-operate conditions). Where such regulatory thresholds exist, these may be used as the basis, provided they adequately address local environmental and social risks. In the absence of regulatory thresholds, the Entity shall establish site-specific discharge values using a risk-based approach consistent with international best practice.*	New *Applicable: Refining*
10.2.3.2. **Leading Practice: Publicly disclose** at least annually discharge volumes, quantities, and receiving environments for all authorised discharges, with clear indication of drainage water pathways (reuse, discharge, evaporation). *Explanatory notes: Where a facility operates under a zero-discharge system, the Entity should disclose this status and provide supporting evidence (e.g., water balance data or system design documentation) to auditors to demonstrate that no discharges occur.*	New *Applicable: Refining*

10.3. Bauxite residue circularity

Criterion 10.3.1. The Entity enhances the circularity of bauxite residue	*Notes*
10.3.1.1. Monitor and **publicly disclose** annually the amount of bauxite residue generated and the amount of bauxite residue reused, recycled or repurposed. *Explanatory note: Temporary storage or disposal should not be counted toward the amount of bauxite residue reused, recycled or repurposed. Reporting may be provided at the company or operating business-unit level, provided it covers all operations within the ASI certification scope.* ***Key reference**: IAI Sustainable Bauxite Residue Management Guidance v2022*	New *Applicable: Refining*

10.3.1.2. **Leading practice**: Demonstrate a reduction trend in bauxite residue generation and/or an increase in the percentage of bauxite residue reused, recycled, or repurposed relative to the site's own baseline.	New *Applicable: Refining* *Outcome-based*

10.4. Legacy facilities

Criterion 10.4.1. Entities manage legacy residue storage facilities to minimise negative impacts to people and the environment.	*Notes*
10.4.1.1. For Entities that have legacy residue storage facilities located near or adjacent to certified facilities, the entity shall manage and monitor associated environmental and social impacts (e.g. embankment stability, leakage risks, etc) while they continue to manage the site. *Explanatory notes: To be clarified in the ASI Assurance Manual that co-located legacy facilities are to be included in the certification scope.*	New *Applicable: Entities that retain ownership and management responsibility for a legacy residue storage facility*
10.4.1.2. **Leading Practice:** For entities that have legacy residue storage facilities located near or adjacent to certified facilities, the entity implements measures to rehabilitate and progress the legacy facility to closure. This includes: a. Setting closure commitments and timelines. b. **Public disclosure** of closure commitments and timelines. c. Carrying out consultation with affected communities to inform the closure commitments and planning. *Explanatory notes: To be clarified in the ASI Assurance Manual that co-located legacy facilities are to be included in the certification scope.*	New *Applicable: Same as 10.4.1.1*