



Mine Rehabilitation & Closure Approach

PT Vale Indonesia Tbk

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I. Introduction

As outlined in the Sustainability Policy, PT Vale Indonesia Tbk (PTVI) is committed to being a sustainable operator and leaving a positive legacy for the future generation by working collaboratively, consciously, transparently and responsibly across the lifecycle of our projects, from their conception through implementation, operation, and closure, while respecting the local culture in which we operate.

We acknowledge that mining and smelting activities may potentially generate adverse impacts on the environment, landscapes, and local communities. To address these risks, this document sets out a comprehensive strategic approach that defines measures to avoid or minimize significant impacts, and to mitigate them where avoidance is not possible, while also reinforcing our commitment to optimizing positive environmental, social, and economic benefits for surrounding communities.

II. Objectives

To achieve long-term physical, chemical, and biological stability at any given site, it is essential to meet regulatory requirements and minimize potential environmental and human health risks. Preferably, this should be accomplished using passive, sustainable techniques that reduce the need for long-term active involvement such as operation, maintenance, and monitoring. In addition, risk and opportunity management should incorporate socio-economic considerations to help sustain the benefits that operations have brought to surrounding communities, even after closure.

III. Scope

This approach applies to all PT Vale Indonesia Tbk operations and projects across every phase of the operational lifecycle. It is mandatory for PTVI and its wholly owned subsidiaries, and its adoption is encouraged in entities where PTVI holds an equity interest.

IV. Principles

PTVI has introduced four fundamental principles of reclamation and closure planning:

- 1) To leave future generations with a safe and sustainably rehabilitated landscape and ecosystem
- 2) To maintain strong regulatory compliance and our licenses to operate
- 3) Demonstrate genuine active care to the communities and all interested parties in which we operate inclusively and transparently
- 4) To enhance the company's financial viability and reputation.



V. Commitments

The following commitments guide our actions across all project phases to ensure rehabilitation and closure objectives through regulations compliance and community engagement:

1. Comply with all related country law/legislation and align with good international industry practice/standards applicable to closure and rehabilitation
2. Implement progressive reclamation/rehabilitation at each stage of project cycles whenever possible to minimize negative impact of environmental risk, such as erosion, sedimentation, leaching of heavy metals, and ecosystem degradation while maximizing benefit
3. Involve/engage with affected community and related stakeholders through mutual, transparent and inclusive consultation during closure planning and implementation
4. Set aside sufficient funds, and ensure adequate organizational capacity and competencies, to effectively implement closure and rehabilitation commitments.
5. Foster a safe, stable, and sustainable environment while delivering long-term social and economic benefits to support ongoing community and local development.

VI. Process Approach

1. Closure Plans

The Closure Plan is an iterative technical document based on applicable standards and legal requirements, describing the activities and planning necessary for the successful decommissioning of facilities and closure of any given operational sites at all project cycles.

Plans are expected to address the following through their execution and progressive activities:

a. Risk management

Adopting a risk-based approach to closure planning aims to identify, eliminate, prioritize and mitigate closure related risks to human health & safety, the environment, socio-economic impacts, and business

b. Financial management

Closure planning, progressive closure, and progressive rehabilitation activities shall strive to minimize final closure and post closure costs throughout the operational lifecycle.

c. Post-closure land use

Closure activities and rehabilitation will be designed to optimize the desired post-closure land use throughout the operational lifecycle. The post-closure

land use options shall be selected using industry best practices and should meet both community needs and regulatory requirements.

d. Infrastructure physical stability

All remaining structures and facilities shall be physically stable, able to withstand the foreseeable environmental conditions and events (natural or otherwise), pose no threat to health, safety of humans or biota or the environment, and perform their long-term functions as designed and remain adequately protected and secure

e. Geochemical stability

Progressive rehabilitation shall be employed to remediate soil and groundwater to eliminate the presence of contaminants as far as is reasonably practicable and meet regulatory requirements

f. Biological stability

The biological environment shall be restored to a natural, balanced, self-sustaining ecosystem typical of the area or compatible with the agreed, planned post closure land use

g. Visual appearance

The site shall be brought to a visually acceptable state that is aligned with the post closure land use vision and agreeable to relevant stakeholders and regulatory requirements.

h. Natural resources

Closure measures shall ensure adequate amount and quality of natural resources at any given site (biological, water, mineral, energy etc.) as required to sustain environmental and community needs

i. Social economic issues

Closure planning shall aim to minimize adverse local and regional socio-economic effects. Relevant external stakeholder and community involvement/engagement shall be undertaken at the appropriate juncture to incorporate the views, expectations, and expertise of the local community and supplier network.

1.1. General Closure Plan Objectives

The Closure Plan shall be updated , in all necessary aspects in order to:

- consider all closure scenarios i.e. planned, sudden and temporary
- identify and propose measures to be developed and implemented over the course of the facility's life cycle, aiming for the progressive decommissioning and rehabilitation of exhausted or closed structures
- plan the gradual and systematic demolition of structures, considering their interdependencies, the impact on shared utilities, and the reclamation of contaminated land to support environmental recovery, to reduce closure costs
- account for changes in applicable legislation and regulatory requirements.

1.2. Typical Layout and Minimum Content for Active Site

The development of a new or update of an existing Closure Plan must involve identification of the full range of issues and concerns, risks, and potential outcomes associated with the planned, sudden, or temporary closure of an operation, in order to control or minimize negative environmental, socio-economic, financial, and other impacts on the business and its relevant stakeholders.



2. Closure Cost Estimates and Cash Flow

Closure cost estimates provided in Closure Plans are used as the basis for the calculation of Financial Assurances (where applicable), in the annual update of Mineral Resource and Mineral Reserves (MRMR) and Life of Mine financial models, as well as for the Asset Retirement Obligations (ARO) and are therefore under a high level of scrutiny.

3. Project Management Pre-closure Plan Execution

Within 10 years of the closure date, the Closure Plan shall be reviewed with increased rigor to assess the level of accuracy of scope, schedule, and cost, and define whether additional detail and studies are required to further decrease uncertainty and increase the accuracy estimate of the liability. The requirements to meet all legal obligations such as permit surrender, long-term contractual obligations, shared utilities, social transitioning etc., shall be detailed during this report to ensure the timely and cost-effective execution of the closure plan is not delayed beyond the planned closure date.

4. Progressive Rehabilitation

Progressive rehabilitation refers to activities carried out during the operational phase on disturbed land that are no longer needed for operational purposes, often including areas with legacy issues. These activities may involve land contouring, landscaping, seeding, revegetation, and remediation of contaminated areas, with the aim of addressing or preventing significant environmental and landscape impacts.

5. Abandoned Mine Site (AMS) Projects

A constructive obligation is established when there is a valid expectation from third parties that the corporation will discharge certain responsibilities. This can be created from an established pattern of past practice that indicates to third parties that the corporation will accept responsibility, or from a public announcement creating such an expectation.

6. Constructive Obligations

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7. Closure Plan Reviews and Reporting

PT Vale Indonesia is committed to transparency in the implementation of its Mine Closure Plan and site rehabilitation. We regularly conduct monitoring and report progress to company management to ensure effective oversight. In addition, reporting is submitted to relevant government agencies in line with regulatory requirements, and results are also disclosed publicly through our Sustainability Report and official company channels.

As part of this process, adjustments to the Closure Plans and associated costs may be made to reflect any material changes in scope, objectives, or methodologies, ensuring that our approach remains accurate, up to date, and aligned with stakeholders and regulatory expectations.

a. Quarterly

The following items but not limited shall be prepared by the operational site & reviewed by the Sustainability team and reported to PT Vale BOD every quarter:

- Any upcoming or actual changes to environmental legislation that will affect the current Closure Plan
- Any upcoming or actual changes to financial assurance legislation and impact
- Any actual or expected changes to the Closure Plan – rationale and impact (e.g. changes to rehabilitation approach or technology to be used).

b. Annual

- All Closure Plans, related projects, associated costs and cash flows shall be examined annually and updated to reflect any material changes due to planning, operations, legislation or other changes.
- This review is formalized through the corporate reclamation committee (CRC) meetings which take place in late Q4 every year. Participants include, but are not limited to, operational area environment team representatives and representatives from Environment, Sustainability, Resource Management Group, Legal and Finance teams.
- The CRC and final year-end cashflow details are summarized and presented to senior leadership team and audited by external financial auditors.

c. Five-year Review

- Closure Plans undergo a detailed review and update at least every five years to ensure that they continue to remain relevant and accurate, particularly with respect to the closure objectives and the estimated costs of closure
- The review should incorporate developments better defining the closure objectives associated with the mine's activities and its socio-environmental context, the impact of progressive closure and progressive rehabilitation projects, the evolution of stakeholder inputs, the results of environmental monitoring, and scientific and technological innovations applicable to closure at the time of the review
- Cost estimates shall be revised using updated unit rates provided by a competent third party. The new cost estimate will be shared with Finance, who will consolidate the asset retirement obligation (ARO) Provision accordingly.
- Closure plans must include details considering all closure scenarios i.e. planned (end of life), sudden, and temporary (care and maintenance).

8. Application of Closure Cost Estimates

The Closure Plan describes the scope of work to decommission, demolish, and remediate the land (mine, processing plant, port, etc.) that is impacted by mining and processing activities. The Closure Plan describes the footprint as of the Life of Mine (LOM) closure date, including the associated costs of post-closure monitoring. This is called the end of life mine closure footprint or final scenario.

For specific purposes, closure costs may be estimated based on the scope of work to decommission and remediate only the disturbances that have already occurred. This is called the current liability, current configuration or current scenario. It is used for establishing the Asset Retirement Obligation (liability).

Where applicable legislation exists, the content of a Closure Plan is usually controlled through environmental regulations and is based on final configurations.

9. Accountability

The accountability for closure management performance, including land closure, reclamation, and rehabilitation, rests with designated managerial functions. An accountability framework will guide the assignment of roles, responsibilities, and reporting obligations to ensure closure commitments are implemented effectively, monitored transparently, and aligned with both regulatory requirements and corporate standards.

The accountability of closure management performance will be based on the following responsibility matrix:

Function	Responsible
Site Environment Department	<ul style="list-style-type: none"> • Implement and report on progressive reclamation/rehabilitation • Develop progressive reclamation/rehabilitation and closure plan • Conduct the 5-year reviews via competent third parties in close communication with Mine Planning and External Relation team to ensure community involvement in the process
Site Mine Planning Department	<ul style="list-style-type: none"> • Supply closure dates based solely on mineral reserves to Environment team and Management • Include progressive closure activities listed in the current closure plan into the operation's strategic plan • Review the annually revised closure dates (LOM) based solely on mineral reserves in coordination with Environment team
Site Director	Verifying and approving the ARO and closure reporting
Corporate Sustainability	<ul style="list-style-type: none"> • Maintain the Closure Standard and associated documents and records. • Maintain a calendar of activities integrated with MRMR and Financial reporting, and business strategic planning calendar. • Provide guidance and clarification on the standard to the site teams as necessary. • Manage the document control for all periodic reviews from site Environment teams, review the information, update and store the records. • Liaise with Financial Team for providing document related to Reclamation & Closure Guarantee as per country regulations

Function	Responsible
	<ul style="list-style-type: none"> • Coordinate the annual CRC review, including issuing minutes and action items. • Consolidate the ARO and MRMR cash flows and summary tables. • Communicate updated ARO and MRMR cash flows to Corporate Finance. • Present results and outcomes of the CRC and ARO processes to BOD for approval. • Participate in closure related audits as required • Liaise regularly with local project management groups on all projects involving closure planning, from pre-feasibility conceptual closure plans, through all stages of the feasibility study process, particularly leading up to and during the execution of a closure plan
Corporate Finance	<ul style="list-style-type: none"> • Provide the official inflation and exchange rates to be used in the consolidation of the ARO cash flow. • Participate in the CRC meeting. • Review the consolidated ARO cash flows prepared by PT Vale Environment team. • Communicate annual closure cashflow to PT Vale BOD and update ARO provision accordingly. Facilitate closure related financial audits • Incorporate updated and approved Closure Plan cash flows into site financial models
Corporate Treasury	<ul style="list-style-type: none"> • Provide and manage the necessary Bank Guarantee, Time Deposit or agreed alternative to meet Financial Assurance obligations, upon receipt of the relevant information and approvals from the site Directors. • Executed placement of reclamation guarantee and closure guarantee
Corporate Legal	<ul style="list-style-type: none"> • Review and update memos regarding the status of legal liabilities as necessary. • Participate in the CRC meeting.
Project Management Group (Capital and R&D Project)	<ul style="list-style-type: none"> • Liaise with Corporate Sustainability team on all projects involving closure planning, from pre-feasibility conceptual closure plans, through all stages of the feasibility study process, particularly leading up to and during closure plan execution. • Participate in quarterly ARO meetings to provide closure project updates when preparing for and during closure plan execution phase. • Participate in bi-annual Project planning meetings with Corporate Sustainability
Board of Director	Approve corporate ARO and Closure plan and report

Glossary

Asset Retirement Obligations (ARO): Financial obligations recognized for the decommissioning, remediation, and closure of assets at the end of their useful life, calculated using closure cost estimates.

Closure: The final stage of a project's lifecycle, covering rehabilitation, reclamation, decommissioning, and post-operational management to ensure long-term environmental, social, and economic sustainability.

Closure Plan: An iterative technical document that outlines the activities, requirements, and resources necessary for successful decommissioning and closure of operational sites. It covers aspects such as risk management, financial planning, post-closure land use, and environmental stability.

Corporate Reclamation Committee (CRC): An internal body responsible for the formal annual review of closure plans, associated costs, and cash flows, involving representatives from relevant functions and reporting to senior management.

Financial Assurances: Mechanisms (e.g., bank guarantees, time deposits, or equivalent instruments) that ensure sufficient funds are available to meet closure and reclamation obligations, based on closure cost estimates.

Life of Mine (LOM): The projected duration of mining operations, based on mineral reserves, which defines the expected closure date and informs closure planning and cost estimates.

Rehabilitation: Efforts to restore, maintain, and enhance the function of disturbed land or forest areas so that they regain ecological support capacity, productivity, and their role in sustaining life-support systems.

Progressive Rehabilitation: Rehabilitation activities carried out during the operational phase on disturbed land that is no longer required, including land contouring, landscaping, seeding, revegetation, and remediation, to reduce or prevent environmental and landscape impacts.

Reclamation: Actions to restore or improve degraded land, particularly forest areas, so they can function optimally in line with designated land use. Reclamation requires appropriate standards and procedures from planning and implementation to success evaluation.