

REHABILITATION AND CLOSURE STANDARD

1. OBJECTIVE

Establishing the guidelines for:

- Obtaining physical, geochemical, hydrological, biological and social stability of waste components, referred in mining units and mining environmental liabilities.
- Prepare closure plans and mining environmental liabilities closure plans to prepare, program, implement and control progressive closure, final closure and post-closure activities.
- Rehabilitate disturbed or affected areas that require attention to return to the natural environmental conditions.
- Comply with environmental regulations referred to mine closure at all stages, pursuant to legal and other applicable requirements.

2. SCOPE

It applies to all Operating Units and Projects, including those activities conducted by related contractors and suppliers across the mining lifecycle, that is: exploration, design, construction, operation, closure and post-closure.

3. RESPONSIBILITIES

3.1. Corporate Environmental Management

- 3.1.1. Prepare, update and disseminate the general requirements of the standard hereof.
- 3.1.2. Collaborate with operations and projects to ensure that the standard is appropriately interpreted and implemented.

3.2. Mining Unit and/or Project Manager

- 3.2.1. Secure essential resources to comply with the standard hereof.
- 3.2.2. Designate responsibilities to implement the standard hereof.
- 3.2.3. Plan the budget to implement annual activities established in the mine closure plans.

3.3. Supervisor and/or Head of the Environment

- 3.3.1. Ensure that the standard hereof is implemented.
- 3.3.2. Communicate to relevant stakeholders the requirements of the standard hereof.
- 3.3.3. Plan the activities to be implemented, as established in the closure plan.
- 3.3.4. Monitor and support the implementing area to fulfill the scheduled activities during the year, according to the allocated budget.

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- 3.3.5. Verify that implementation criteria described in the closure plan are met.
- 3.3.6. Ensure the preparation of biannual reports on the closure progress and submit them through the legal department.
- 3.3.7. Carry out inspections to ensure physical, geochemical, hydrological and biological stability is maintained during the post-closure stage, and report to the unit and/or project management of any condition that shall be taken into account, so that resources are allocated to correct any diversion.
- 3.3.8. Prepare a schedule, well in advance, to amend or update closure plans.

3.4. Supervisor and/or Heads of Operating and Supporting areas

- 3.4.1. Enable and ensure the implementation of the standard hereof, as it may correspond.

4. DESCRIPTION

CLOSURE PLANNING

- 4.1. Ensure compliance with legal requirements and other requirements applicable to the mine closure process.
- 4.2. Ensure implementation of obligations subject to supervision, set forth in the EMI and closure plans of the mining operation.
- 4.3. Design the mining exploration and/or operation aiming at enabling the closure.
- 4.4. Initially planning the mine closure at the conceptual level for exploration projects, and at the feasibility level for mining operations or environmental liabilities.
- 4.5. Prepare the detailed engineering for implementation.
- 4.6. Identify and assess risks and opportunities of the mine closure process.
- 4.7. Identify the stakeholders for the mine closure process.
- 4.8. Establishing preventive actions and/or corrective actions for identified risks, ensuring an acceptable level of residual risk.
- 4.9. Ensure that all mining components are included in the closure plans or environmental management instruments submitted to the competent authorities.
- 4.10. Include in the conceptual-level closure plan the measures estimated to finish works and decommission facilities of project's components.
- 4.11. Timely communicate to the competent authority that closure of the auxiliary component is excluded, including the affidavit of the applicant and of the future responsible person, explicitly describing the responsibilities set forth by applicable laws.

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- 4.12. Continue implementing the environmental management plan, in the event of suspension of operations or shutdown imposed by the competent authority when performing its supervision and sanctioning duties. Suspension of mining operations or shutdown shall not affect proper compliance with the approved mine closure plan.

At the mining exploration:

- 4.13. Plan the closure activities pursuant to the provisions of the Environmental Management Instrument (EMI).
- 4.14. Fulfill obligations subject to supervision set forth in the EMI.
- 4.15. Prioritize activities to close platforms and ways of access, unless the community or another stakeholder require the assignment of any auxiliary component, or the start of mining operations is projected. Only in these cases, it may be excluded from closure operations with the prior approval of the competent authority.
- 4.16. Deduct the amount of the financial collateral of excluded auxiliary component, if any such collateral has been provided.
- 4.17. Generate the corresponding record to transfer or assign to the community the platform, or way of access.

In the mining operation:

- 4.18. Develop the mining operation closure plan at the feasibility level, according to the structure indicated by the competent authority. Add the design to the construction level if a mining environmental liability is planned to be used. In Brazil, a mine closure plan is required when the mining operation holder declares that activities will cease, but it doesn't exclude the possibility to develop the study internally.
- 4.19. Provide the financial guarantees once the mine closure plan is approved. In Peru, a Letter of Guarantee applies.
- 4.20. Consider the different closing scenarios in relation to the economic and operational circumstances: a) temporary closure, b) progressive closure, c) definitive closure and d) post-closure.
- 4.21. Determine the inventory of activities and mining components that will be considered in the mine's progressive closure, definitive closure and post-closure.
- 4.22. Describe the closing criteria for each mining component:
- Decommissioning, salvage, demolition and disposal.
 - Physical stability

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- Geochemical stability
 - Hydrological stability
 - Replanting
 - Rehabilitation
 - Social program
 - Post-closure maintenance and monitoring
- 4.23. Ensure compliance with the legal mechanisms of the consultation process to relevant stakeholders.
- 4.24. Describe interests and concerns that arise from the consultation process and define which will become requirements or commitments for the mine closure.
- 4.25. Communicate to the Supervisor of Rehabilitation and Mine Closure the mine progressive closure's obligations to be implemented.
- 4.26. Prepare the schedule for:
- Progressive closure, estimating the time required to implement each activity as part of the progressive closure and the time period required for maintenance and monitoring.
 - Definitive closure. It shall estimate the time required for implementing each activity considered for the definitive closure.
 - Post-closure stage. It shall estimate the time required to implement the post-closure activities, considering both the active and passive care conditions.
- 4.27. Include an estimation of all costs in the budget of:
- Progressive closure.
 - The definitive closure shall include an estimation of all costs related to definitive closure activities (such as decommissioning, physical and chemical stabilization, replanting, etc.)
 - Post-closure shall include an estimation of all the costs related to post-closure maintenance and monitoring activities. The operating costs of required systems shall be considered for active care conditions.
- 4.28. Submit to the competent authority the progressive closure activities to be carried out pursuant to the applicable legal requirements. The Office for Supervision of Rehabilitation and Mine Closure (SRCM, in Spanish), with the prior review and approval of the Legal, Social Management, Project, Exploration and Environmental departments, and the Unit Management. Then, it will be reviewed and approved by the Corporate Environmental Management, Corporate Affairs Management, Finances Management, Accounting department and/or CEO, according to the amount variation level.

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- 4.29. Include passive or active care conditions of post-closure maintenance and monitoring activities.
- 4.30. Ensure that the mine closure takes place according to the estimated plan.
- 4.31. Amend or update the closure plan during the mine's operating stage, as it may correspond. It shall be amended whenever: a) there is a substantial change in the production process, b) a new EMI is approved, c) there are changes in the implementation criteria and/or a new distribution of the schedule of implementation activities upon the request of the competent authority.
- 4.32. Submit the updated mine closure plan to the competent authority in the event an EMI is amended, adjusted or updated.
- 4.33. Communicate the updated mine closure plans to internal stakeholders.
- 4.34. Manage essential resources to implement closure activities as planned.

EXECUTION OF CLOSING ACTIVITIES

- 4.35. Have the corresponding permits. If necessary, implement activities or actions included in the mine closure plan in those properties which surface landowner is other than the mining operation holder who has to comply with such Plan.
- 4.36. Rehabilitate areas affected by the activities except for those occupied by works that will be used in the future.

In the mining exploration:

- 4.37. Implement progressive closure measures pursuant to the approved scheduled.
- 4.38. Implement the corresponding definitive closure and post-closure measures that are necessary to reestablish physical and chemical stability and long-term ecological processes of the disturbed area within the terms and the timeframe provided in the approved EMI.
- 4.39. Implement post-closure measures within two (2) years, or until the physical, geochemical, hydrological and biological stability is achieved. For the latter assumption the timeframe shall be no longer than four (4) years.
- 4.40. Communicate to the competent authority the prohibition to enter the area for decommissioning works for reasons that are not under the company's control.
- 4.41. Present to the competent authority a new EMI or its amendment, after having verified the closure measures implemented in an area that had a previous EMI.

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- 4.42. Prepare the progressive closure, definitive closure and post closure report, including all the activities carried out with each component and the photos that evidence their approval, and submit it to the competent authority.

In the mining operation:

- 4.43. Describe the activities that will take place during the final decommissioning and mine closure period, as well as all the progressive closure activities and the temporary closure scenarios.
- 4.44. Describe and implement the closure activities by mining component and according to the corresponding proposed schedule.
- 4.45. Continue the implementation and complete the compensation plan, as it may correspond, until the competent authority verifies that the objectives have been fulfilled.
- 4.46. Validate updated information related to the mine closure activities. (SRCM).
- 4.47. Communicate the closure activities carried out to internal stakeholders, including the actual expenditure. (SRCM).
- 4.48. Record the actual expenditure made for mine component closure activities.
- 4.49. Present periodical reports on the mine closure progress to the competent authority, as applicable.
- 4.50. Coordinate the update of the provision for mine closure.

POST-CLOSURE MAINTENANCE AND MONITORING

- 4.51. Carry out post-closure maintenance activities, as it may correspond: physical, geo-chemical, hydrogeological and/or biological.
- 4.52. Carry out post-closure monitoring activities, as it may correspond: physical, geochemical, hydrological and biological stability, social monitoring.
- 4.53. Indicator and/or deliverable:
- Timely and full delivery of periodical report on progressive closure – For mining operation.
 - Timely and full delivery of the progressive closure, definitive closure and/or post-closure report – for mining exploration.
 - % of compliance with the closure schedule
 - Cost performance index
 - Timely updating, adjusting and/or amending the mine closure plan – Mining operation

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5. SAFETY AND ENVIRONMENTAL CONSIDERATIONS

Safety: Review the IPERC (Hazard identification, risk assessment and control measures) of the activity or related project to ensure controls are implemented, keeping risks at an acceptable level.

Environment: Review the environmental study of the activity or related project, the Environmental Management Plan, matrix of environmental aspects and/or matrix of environmental commitments, and applicable legal requirements.

6. FORMS

Those associated to applicable legal regulations.

7. DEFINITIONS AND ABBREVIATIONS

Lifecycle: consecutive and interrelated activities comprising the acquisition or generation of commodities, manufacturing, distribution, use, appraisal and elimination as waste.

Mine lifecycle: exploration, construction, operation or exploitation and mine closure.

EMI: Environmental Management instrument

ICMM: International Council on Mining and Metals.

IFC: International Finance Corporation

Mine closure plan: Environmental management instrument comprised by technical and legal actions. It establishes measures to rehabilitate the area used for or disturbed by mining activities, so that it has again the characteristics of an ecosystem compatible with a healthy environment that is appropriate for the development of life and landscape preservation (Law 28090).

Restoration or rehabilitation: Terms used indistinctly to refer to the process to recover disrupted lands so that they become once again stable and productive (Source: ICMM).

PRAD: Program to recover degraded areas

IPAAM: Institute for the Environmental Protection of Amazonas.

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CENEM: National Commission of Nuclear Power.

CETESB: Environmental company of the Sao Paulo.


8. LEGAL REFERENCES AND OTHER REGULATIONS

Review the matrix of environmental commitments derived from the EMI and the matrix of legal requirements applicable to the activities.

9. ANNEXES

Not applicable.

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