Step 08

Post-Closure

At this eighth and final step in the final phase of mining operations, monitoring confirms that all relinquishment targets are met and liabilities are discharged. After they have been, the mining site is turned over to the government and can be put to its planned re-use. For mines that were not closed properly – abandoned or orphaned mines – the government will need to devise a strategy to close them, potentially in partnership with other actors.

Primary Target Audience

→ Mining Authorities
→ Environmental Authorities
→ Social Authorities & Human Rights Authorities & Local Government

Summary of Step 8: Post-Closure

	KEY ACTIONS IN THIS STEP	KEY MESSAGES
A	**Monitor the ESHR Impacts of Closure**	Monitoring remains a key activity throughout the post-closure period to ensure that the closure and post-closure activities meet their ESHR goals. Involving local communities, environmental organizations and trade unions in monitoring of closure plan completion is one way to build buy-in and trust in the outcomes and is a model of public participation in closure.
B	**Incorporate ESHR Targets into Relinquishment Conditions**	Putting in place clear criteria for relinquishment that meet regulatory and community expectations and include appropriate ESHR conditions is important not only to give mining companies certainty about the targets that they must meet, but also to ensure that the national and local governments are not left with unfulfilled environmental and social liabilities. There should be appropriate safeguards to ensure accountability for closure and post-closure planning. Community participation is an important part of the relinquishment process.
C	**Take a Leadership Role for Orphaned or Abandoned Mines**	The government should lead in addressing orphaned and abandoned mines, building partnerships with other actors – including the sector, other governments and international organizations – to develop technological solutions (including the reprocessing of mining wastes) or to contribute expertise or other resources to resolve the legacy issue of orphaned or abandoned mines.

A Monitor the ESHR Impacts of Closure

There is a wide range of activities that may take place in the post-closure phase (see Box 78 on Typical Post-Closure Activities). The closure plan should identify the types of monitoring programmes needed to verify that the closure planning process is meeting the goals set out in the plan. Having the right information to make the best technical and social decisions in closure planning requires the collection, assessment and management of ESHR and economic data early during planning so that this information can feed into refining closure and post-closure planning and activities. Seeking to incorporate international good practices into the process prevents new generations of mining personnel from having to relearn what is already known about effective closure.

Set in Place a Monitoring Programme from the Earliest Stages

Do the authorities require environmental and socio-economic monitoring for closure and post-closure?

- The ESMP and the closure plan should include a coordinated monitoring programme that specifically covers closure and post-closure. Data on baseline conditions before mining collected as part of the ESIA plays an important role in determining the degree to which restoration activities have brought the site back to baseline conditions and/or determining the differences between baseline conditions and the agreed post-mining land use (see Box 79 on monitoring programmes to support closure).

- Monitoring in the first few years of rehabilitation activities during the production phase:
  → Is useful in evaluating the initial establishment success of programmes and fine-tuning as needed – Is the microfinance programme taking root and being used to support diversified small and medium-sized enterprises (SME) development, including women-owned businesses? Is the rehabilitation of disturbed land and stabilization of creeks and drainage channels working as expected?
  → Can help refine long-term rehabilitation programmes that continue into the post-closure period

- By the time of decommissioning and post-closure, detailed monitoring should be tracking progress against decommissioning objectives and relinquishment targets, asking questions such as:
  → Is the rehabilitated ecosystem likely to be sustainable over the long term?
  → Will communities have diversified their economic base sufficiently to continue as a community post-closure?
  → Will social services be able to continue operating in the communities or will they have to be consolidated in neighbouring communities?

Revisit the Post-Closure Goals and Outcomes on a Periodic Basis

Do the authorities require periodic reassessment of the post-closure plans and accompanying monitoring plans?

- Requiring periodic reassessment of the post-closure goals and outcomes in light of changing environmental, social or economic circumstances and community expectations will be necessary to make sure the closure and post-closure actions meet their overall objectives.

Involve Communities and Other Stakeholder in Monitoring

Do the authorities involve communities and other stakeholders in post-closure monitoring?

- For local communities, the impact of mining does not end until the mine site is rehabilitated and returned to the agreed next land use. They will therefore maintain an interest in the outcomes of monitoring on a regular basis. The authorities and the mining company should continue to make monitoring information and updates available on a regular basis throughout post-closure
- Involving local communities, environmental organizations and trade unions in monitoring of closure plan completion is one way to build buy-in and trust in the outcomes and is a model of public participation in closure that can take a number of forms:
  - → Citizen advisory bodies that oversee the closure and post-closure monitoring programme
  - → Conducting or engaging in independent audits
  - → Becoming directly involved in joint monitoring programmes established with the authorities and/or the mining company

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Box 78

Typical Post-Closure Activities

Activities (which can run for some years) in this phase include:
- Demolition and removal of infrastructure
- Consolidation and decommissioning of the tailings facilities
- Reshaping of remaining mining landforms
- Re-establishment of surface hydrology and drainage systems
- Treatment, discharge or disposal of poor-quality water
- Completing the rehabilitation and remediation processes

- Managing, monitoring, recording and documenting closure processes
- Measuring the performance of closure activities against the agreed closure objectives and criteria and reporting that performance
- Inspections, consultation and reporting to stakeholders on progress
- Staged and progressive community and government sign-off[321]

Box 79

Typical Monitoring Programmes That Support a Mine Closure Programme

- Baseline monitoring in the early life of the mine to define the values that need to be protected or re-established, including by identifying or establishing unmined reference areas during pre-mining mapping and surveys
- Understanding, monitoring and recording all potential impacts during the operational phase

- Documenting rehabilitation operations to confirm that agreed procedures have been implemented and to aid the interpretation of later rehabilitation monitoring results
- Assessing early monitoring data from research and field trials implemented during progressive rehabilitation to determine the best techniques, identify problems and develop solutions.[322]

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321 This is reproduced directly from Australia, "Leading Practice Sustainable Development Program for the Mining Industry – Mine Closure Handbook," (2016), https://industry.gov.au/resource/Programs/LPSD/Pages/LPSDhandbooks.aspx#

322 Australia, "Leading Practice Sustainable Development Program for the Mining Industry – Mine Closure Handbook," (2016), https://industry.gov.au/resource/Programs/LPSD/Pages/LPSDhandbooks.aspx#

B Incorporate ESHR Targets into Relinquishment Conditions

When an operation has been successfully closed, the site has been reclaimed according to the desired condition and the regular monitoring of the site according to the agreed monitoring conditions has established that there are no apparent issues remaining, the mining company should be able to relinquish the mine site to the authorities. When this happens, the mining company can be absolved of any further liability and financial responsibility associated with the site. Clear, measurable and auditable conditions need to be agreed between companies and regulators that will allow relinquishment of obligations to be planned for and achieved.[323]

Establishing Clear ESHR Conditions for Relinquishment

Do the authorities have a clear approach to relinquishment that includes appropriate ESHR conditions?

- The authorities should have included within the permitting requirements clear relinquishment conditions. The precise nature of the relinquishment conditions is unlikely to be known at the permitting stage, particularly for longer-term mines. Instead, these conditions should be established closer to closure, but focus on the final objectives for post-closure with respect to environmental and social conditions. (See Box 80 on post-closure legal requirements.)
- Communities and community values change over decades. It will be important for the authorities and the mining company to maintain community acceptance for the post closure conditions that will prevail in order to finally get to relinquishment through community participation in the decision-making.
- Where post-closure involves re-training programmes, trade unions and other worker representatives should be involved.
- For the public authorities, it will be important that all final conditions are met before relinquishment is agreed and financial assurance is released so that the authorities are not left with uncompensated environmental and social liabilities for the site.

Accountability for Closure & Post-Closure

Do the authorities have in place appropriate safeguards to ensure accountability for closure & post-closure planning and execution?

- The authorities should have a number of mechanisms for addressing a company failure to comply with the closure and post-closure plan or ESHR laws:
  - → Contractual, licensing or permitting requirements that require compliance with the closure plan(s)
  - → Financial assurance put in place as a condition of permitting
  - → Enforcement tools under ESHR laws
- The financial assurance arrangements should not be released until relinquishment conditions are met. (See Box 74 on IGF recommendations on financial assurance mechanisms.)

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323 ICMM, Planning for Integrated Mine Closure Toolkit (2008), p. 48

Are there mechanisms for stakeholders to hold the authorities or the mining company accountable for a failure to comply with agreed closure plans?

- Members of the public concerned should have access to a court of law or other independent and impartial body or administrative procedures to challenge any decision, act or omission by public authorities or private actors that affects the environment or violates ESHR laws including around closure.[324]
- While stakeholders should be able to challenge closure & post-closure activities that fail to comply with the law, whether they can directly challenge a failure to comply with the closure or post-closure plan will depend on whether it is a condition of permitting or licensing that can be challenged by the public.
- Where the completion of the closure plan is not subject to direct challenge, the authorities might agree on other approaches to assess compliance, such as an independent audit. (See Box 77 case study in Step 7 for an example of using an independent audit.)

Box 80

Post-Closure Legal Requirements on the Use and Discharge of Water

A recent study compares the legal and regulatory frameworks governing the use and discharge of water by the copper and gold mining sectors in a selected sample of resource rich jurisdictions. The study maps out how water issues are regulated prior to and during mining operations and post-mine closure, including the enforcement actions available to different stakeholders, and identifies the key institutions and legislation regulating water use and discharge in mining. The study provides a useful tool for regulators who seek to understand how water reclamation, including during closure and post-closure, is dealt with in other jurisdictions.[325]

C Take a Leadership Role for Orphaned and Abandoned Mines

Given the large number of abandoned mine sites in many mineral-rich jurisdictions, the government should start with establishing and managing a database on these sites and progress through a series of steps that builds a systematic approach to managing orphaned and abandoned mines and potentially leads to innovative solutions to address impacts and harness value from the sites. (See Box 81 on IGF Recommendations on Orphaned and Abandoned Mines.) Public participation in identifying abandoned mine sites should be encouraged. Plans for rehabilitation of abandoned mines should review and prioritize sites for rehabilitation based on criteria ranking social and environmental risks, as well as prospects for their future commercialization.[326]

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324 Bali Guideline and developed from: UNEP, "Putting Principle 10 Into Action: Implementation Guide for the UNEP Bali Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters," Guideline 17, (2015), http://wedocs.unep.org/handle/20.500.11822/11201

325 CCSI, "Assessing Water Related Legal Risks in the Mining Sector," http://ccsi.columbia.edu/work/projects/assessing-water-related-legal-risks-in-the-mining-sector/

326 See the discussion on financing remediation of abandoned mines in the Asia Pacific Economic Commission, "Mine Closure: Checklist for Governments," https://mail.google.com/mail/u/0/#label/4.+UNDP/15f07a05ba4de500?projector=1

Box 81

IGF Recommendations on Orphaned and Abandoned Mines

- Working in partnership with entities that collec-tively constitute the mining industry to explore options for developing technological solutions (including the reprocessing of mining wastes) or contributing expertise or other resources to help resolve the legacy issue of orphaned or abandoned mines
- Working in partnership with those countries whose economies benefited from the flow of low-cost industrial inputs that came at least in part from mines that are now orphaned or abandoned

- Using targeted fiscal arrangements to encour-age the re-activation of those mines to create economic activity and fund remediation and provide for post-closure management in cases where such a mine or its wastes have economic potential
- Seeking recognition by multilateral agencies and organizations that the historical and legal situation of such mines, particularly in develop-ing countries, requires their leadership in mana-gerial, advisory, hortatory and financial forms[327]

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327 IGF, "Mining Policy Framework," (2013), http://igfmining.org/mining-policy-framework/