
CORRECTIVE ACTION PLAN

Barrick Loulo Gold Plant **Mali**

Introduction

One component of auditing the ICMI Cyanide Code is developing a Corrective Action Plan for audit findings that are in substantial compliance and require focused responses to achieve full compliance.

ICMI requirements indicate that Corrective Action Plans and notification thereof must be completed within 12 months of posting of the Plan on the ICMI website.

The section below details the corrective actions, agreed by the Barrick Loulo Gold Plant and the Lead Auditor, necessary to bring the Plant to full compliance, as indicated in the Detailed Audit Report.

Corrective Action Plan-1

Principle 5 – Decommissioning: Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities.

Production Practice 5.2 Establish a financial assurance mechanism capable of fully funding cyanide-related decommissioning activities.

Deficiencies

- The Malian Government has circularised all Malian mines regarding a requirement for a financial instrument to fund closure activities (including cyanide decontamination and decommissioning). Mines are required to negotiate individually an agreed funding instrument with a bank or other financial institution acceptable to the Malian Government and based in Mali. Until Loulo Mine has negotiated and signed an agreement designating an instrument acceptable to the government, no acceptable financial instrument is in place.
- The previous certification audit found that the funding source for the Closure Plan (including cyanide decontamination and decommissioning) for Loulo Mine was a Barrick Gold Corporation Letter of Financial Strength dated 29th March 2021 and signed by Graham Shuttleworth, Senior Executive Vice-President and Barrick Chief Financial Officer, using tests set forth in 10 CFR Part 30, Appendix A to demonstrate financial assurance, as required by 10 CFR Part 40, Appendix A Criteria 9 (approved by ICMI) addressed to the US Nuclear Regulatory Commission, Decommissioning, Uranium Recovery and Waste Program, and relating to Homestake Mining Company, a wholly owned subsidiary of Barrick Gold Corporation, Canada. Also sighted was a letter dated 19th July 2021 from John Behrens, Director of Business Assurance and SOX for Africa and the Middle East at Barrick Gold Holdings, stating that the Loulo Gold Mine is a subsidiary of Barrick Gold Corporation, Canada.

- Updated documentation guaranteeing that Barrick Gold Corporation would fund the Loulo Mine Closure costs (including cyanide decontamination and decommissioning) was unavailable.

Corrective Actions

- Negotiate an agreement with the Malian Government which designates an accepted financial instrument to fund the Closure Plan (including cyanide decontamination and decommissioning).
- Obtain an updated Letter of Financial Strength conforming to ICMI requirements, or provide signed documentation on an alternative self-guarantee, self-insurance, insurance or bank guarantee with written acceptance by the Malian Government and approved by the ICMI.

Evidence for Auditors

Evidence required by auditors to confirm the corrective actions have been implemented effectively: -

- Signed Documentation from the Malian Government and Loulo Mine, agreeing on a specific final instrument to fund the Closure Plan (including cyanide decontamination and decommissioning) for Loulo Mine.
- A signed Letter of Financial Strength conforming to ICMI requirements, or signed documentation from an approved Malian Bank, or Insurance Company, guaranteeing the financing of the Loulo Closure Plan (including cyanide decontamination and decommissioning).

Corrective Action Plan-2

Principle 4 – Operations: Manage cyanide process solutions and waste streams to protect human health and the environment.

Operations Practice 4.4: Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

Deficiency

Whilst WAD cyanide exceedances were recorded and investigated, and immediate action taken to reduce the WAD cyanide levels to below 50 mg/L, there was little evidence that the exceedances were reviewed with a view to identifying the causes in the process and looking for ways and means to eliminate or reduce these causes. Some causes have carried through the years. Whilst the Code does not expect 100%, it does expect that repeated causes be investigated to explore ways of preventing recurrence. Some longer-term corrective actions have been initiated, but there has been insufficient time to evaluate whether they are sustainable and manage the root causes.

Corrective Action

The exceedances and their causes for the three-year period have been reviewed in the context of operational design, with a view to recommending modifications to the process or procedures to minimise, reduce or eliminate the recurrence of the repetitive WAD cyanide exceedances.

The following plans have been put in place: -

1. To deal with the tailings tank overflow, the tailings pumps will be upgraded to handle all discharges from the plant to the TSF without the paste plant operation.
2. The pollution control dam capacity will be upgraded.
3. To cope with the increased residual cyanide levels in the plant, a new cyanide analyser with an early alert system is being installed to enable early response to rising subsequent WAD cyanide levels.
4. To counter the peroxide pump failures, a second standby pump is being installed, and manual dosing on top of the tailings tank will be initiated.

Evidence for Auditor

1. There needs to be at least 6 months of performance results to demonstrate that the corrective actions are solving the problems of WAD cyanide exceedance and the actions are sustainable over time.
2. There needs, specifically, to be a reduction/elimination of tailings tank overflows (overflow of tanks are not part of the original design).
3. Evidence needs to be presented that shows how early identification of rising WAD cyanide trends has been identified and mitigating measures taken to prevent WAD cyanide exceeding 50mg/L.
4. Evidence needs to be presented that the second standby peroxide pump is in place and operational (along with evidence of appropriate PM inspections and maintenance), and the occurrence of peroxide pump failures has reduced or been eliminated, removing WAD cyanide exceedances caused by peroxide pump failures.

Corrective Action Plan-3

Principle 4 – Operations: Manage cyanide process solutions and waste streams to protect human health and the environment.

Operations Practice 4.8: Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

Deficiencies

- A new Gekko ILR (InLine Leach Reactor) was constructed, but no QA/QC documentation was made available to the auditor. It is reported that a separate "fit-for-purpose" Structural Engineer's Report has been completed on the Gekko ILR and that the recommendations have been implemented, but no Report was made available to the Auditor.
- The structural "fit-for-purpose" Audit for the Plant was carried out in 2017 and was reportedly followed up by an updated audit. This updated audit report was not made available to the Auditor.

Corrective Action

- Produce the updated version of the 2017 Plant Structural Audit, or if this is unavailable, prepare another report by a Structural Engineer or similarly competent person, within 12 months, with a report on the structural integrity of

- the plant, by a competent person (Structural Engineer or appropriately qualified Professional Engineer) including steel structures and concrete, and any prioritised recommendations for repairs to ensure structural integrity.
- Produce the Fit-for-Purpose Report on the construction of the GEKKO ILR, or if this is not available, prepare another Report by a Structural Engineer or similarly competent person, within 12 months to show that the GEKKO ILR is structurally "fit-for-purpose".

Evidence for Auditors

Evidence required by the auditor to confirm the corrective actions have been implemented effectively: -

Either: -

- Produce the updated version of the 2017 Plant Structural Audit
- Produce the Fit-for-Purpose Report on the construction of the GEKKO ILR

Or

- Produce another "fit-for-purpose" report by a Structural Engineer or similarly competent person, within 12 months, on the structural integrity of the plant, including steel structures and concrete, and any prioritised recommendations for repairs to ensure structural integrity.

Completion Date: 12 months from the date the substantial compliance and Corrective Action Plan is published on the ICMI website.



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