

Environment Sustainability Standards

HGO SUSTAINABILITY STANDARDS FOR ENVIRONMENT

HGO is committed to providing a high standard of care for the natural environment through effective organisational practices. HGO's activities are undertaken within the framework of approvals, lease conditions and licenses established by environmental regulatory authorities. HGO actively engages with local communities and stakeholders during the various stages of a mining or exploration project to ensure the environmental, social and economic impacts of projects are understood, mitigated and well managed.

The Environmental Standards support HGO's Sustainability Policy by prescribing the minimum requirements for managing environmental threats and impacts associated with specific activities or tasks, and to identify opportunities that have the potential to drive value creation for both HGO and the communities in which it operates.

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1. Air Quality

1.1. Scope

Point and non-point source air emissions and ambient air quality.

1.2. Performance Requirements Assets and Projects

Planning

Develop and implement a Risk based **Air Quality Management Plan** that includes consideration for the following requirements:

- Identification of all point source and non-point source forms of air emissions for the mine life cycle, including construction, operations, rehabilitation and closure phases.
- Identifying facilities that will be sources of emissions to the air and ensure these are designed, constructed and operated with appropriate air pollution controls
- Monitoring/inspections programs to verify that air emission controls are operating effectively and provide relevant, traceable data.

Performing

- Implement controls for dust and odour at identified sensitive receptor locations.
- Periodically conduct air quality testing to determine if hazardous air pollutants are being emitted from facilities and to verify that air emission controls are effective, and emissions are not having an adverse effect on human health or the environment.
- Conduct air quality dispersion modelling if there is a Risk of affecting human health or the environment.

Review

- Review and control fugitive dust emissions in accordance with risk assessments.
- Carry out calibration and maintenance for any emissions control and monitoring equipment.

2. Biodiversity

2.1. Scope

Land management and biodiversity conservation to minimise any adverse acute or cumulative impacts.

2.2. Performance Requirements Assets and Projects

Planning

Develop and implement a risk-based **Biodiversity Management Plan** that includes consideration of the following requirements:

- Rare and endangered species.
- Priority conservation status, species and pests.
- Endangered, or priority listed species that could be impacted by onsite activities.
- Key objectives and controls for managing the identified biodiversity risk.
- Baseline flora and fauna surveys and monitoring requirements.
- Biodiversity context mapping.
- Control measures for minimising access, disturbance and/or clearance of land.
- When communities and townships, or accommodation villages, are located in the vicinity of the Asset or Project, where sensitive receptors (residential areas) are identified, develop and implement procedures to:
 - Protect endemic species from disease or unnatural competition due to the introduction of exotic pests and weeds.
 - Prohibit the unauthorised collection of native species by employees or other stakeholders.
- Monitor and authorise hunting or trapping of native or endemic species in accordance with local law.
 - Implement adequate fire controls around key infrastructure and habitat areas.
 - Minimise public access to remote areas and identified sensitive areas.
- Design and construct water storage facilities, diversion structures and containment facilities to restrict fauna access and provide easy egress.

Performing

- Conduct flora and fauna monitoring of the effectiveness of implemented control measures and investigate any adverse biodiversity impacts.
- Maintain water crossing or diversion structures to minimise adverse impacts from erosion and sediment on terrestrial and aquatic ecosystems.
- Investigate, record and report stock and wildlife mortalities resulting from onsite activities.
- Design infrastructure to minimise potential habitat fragmentation.

Review

- Regularly review the Biodiversity Management Plan to ensure its continued effectiveness and applicability to the Asset's or Project's activities.

3. Rehabilitation and Mine Closure

3.1. Scope

Rehabilitation and mine closure including the management of long-term liabilities.

3.2. Performance Requirements Assets and Projects

Planning

Develop and implement a risk based progressive **Rehabilitation and Mine Closure Management Plan** which must include consideration for the following requirements:

- Definition of objectives and success criteria for rehabilitation and closure based on the agreed post-mining land use in consultation with relevant stakeholders.
- Preparation of annual Life of Mine cost estimates for rehabilitation, closure activities, and post-closure monitoring and maintenance to meet post-closure land use objectives.
- Outline of the monitoring program requirements necessary to secure the release of security or financial assurance bonds.
- Inclusion of permit and license monitoring requirements, schedules, procedures, site location maps, and alignment with rehabilitation and closure objectives and success criteria.
- The mitigation measures and opportunities to address social and environmental impacts.
- Community engagement strategy for each planned phase of the mine closure at an appropriate time prior to actual closure.

Performing

- Conduct progressive rehabilitation activities in accordance with LOM and budget planning and operations permits.
- Maintain accurate and comprehensive records of rehabilitation and closure activities for a minimum of ten years post operations ceasing/closure.
- Ensure post closure management and monitoring of impacts and the implementation of closure tasks.
- Ensure annual closure reporting includes:
 - Rehabilitation and closure objectives and criteria.
 - Strategies for the successful rehabilitation and closure of the Asset.
 - As-built surveys for structures and aerial photographs.
- Actual versus estimated costs
- Water management plans.
 - Ongoing activities and related cost estimates.

Review

- Undertake an annual review of the **Rehabilitation and Mine Closure Management Plan**.

4. Resource Efficiency and Emission Reduction

4.1. Scope

Energy accounting and resource efficiency to minimise greenhouse gas emissions.

4.2. Performance Requirements Assets

Planning

Develop and implement an **Energy & Greenhouse Gas Management Plan** that includes consideration for the following requirements:

- Integrated requirements with HGO climate change management strategic planning and reporting obligations.
- Current and future sources of greenhouse gas emissions, relevant emission factors and an inventory of greenhouse gas emissions, including sources of direct and indirect emissions.
- Strategies for meeting regulatory and voluntary obligations.
- Process for identifying the factors that control the sources and level of emissions of greenhouse gas emissions.
- Setting lead indicators for energy saving and greenhouse gas emission abatement.
- Ongoing optimum performance of plant and equipment identified in energy saving and greenhouse gas emission abatement strategies.
- Procurement of equipment that considers longer term energy efficiency savings balanced with commercial factors.

Performing

- Ensure that appropriate measures are in place for metering and estimating energy and water use and production and greenhouse gas emissions.
- Maintain an inventory of greenhouse gas emissions, identifying both direct and indirect sources of carbon dioxide equivalent (t CO₂-e) emissions.
- Measure or, where appropriate, estimate energy use, water use, energy production and greenhouse gas emissions.
- Collect monitoring data on at least a quarterly basis.
- Where applicable in alignment with HGO Climate Change initiatives and abatement plans:
 - Use emissions abatement cost curves.
 - Assess emissions trading and offset opportunities.
 - Consider renewable energy technologies.
 - Factor in changes to national policies and measures.
- Consider greenhouse gas commercial considerations in relevant business plans and valuations, new project proposals, due diligence evaluations, capital expenditure and value chain.

Review

- Develop and implement monitoring and inspection/audit programs to verify that plant and equipment identified in energy saving and greenhouse gas emissions abatement considerations are operating effectively to achieve the targeted performance.
- Review the **Energy & Greenhouse Gas Management Plan** annually for alignment to corporate objectives in climate change strategic plans.
- Verify that the information and reporting of resource efficiency and any emissions reduction are accurate and transparent subject to the same scrutiny for financial disclosure.

5. Tailings Storage

5.1. Scope

Long-term impoundment of mine tailings and residues to prevent uncontrolled releases into the environment.

5.2. Performance Requirements Executive Committee

- Establish and maintain a Tailings Storage Facility governance committee and charter for oversight of all HGO tailings storage facilities.
- Report to the Risk & Audit Sub Committee on the tailings storage facility governance aspects of the business.
- Undertake independent governance reviews of the tailings storage facility every 2 years.
- Undertake independent design reviews on all new tailings storage facilities
- Appoint an appropriately qualified, experienced and competent person as the Tailings Storage Facility Supervisor to manage the operation of the tailings storage facilities for tenements under HGO control.
- Approve Tailings storage engineering and construction plans and Tails Storage Operations Management Plans.

Tailings Storage Supervisor

The Tailings Storage Facility Supervisor must ensure the design and construction of any tailings storage facility is completed and reviewed by an independent and qualified person and that an Engineer of Record is appointed to oversee the design, construction and management of the tailings storage facility.

Tailings Storage Design

The tailings storage facility design must take into consideration as a minimum:

- Statutory and regulatory requirements.
- Safety in Design requirements for each tailings storage facility design stage.
- Design must adopt industry-accepted design bases and criteria commensurate with the risk.
- Stability under static and dynamic loading in accordance with relevant engineering design standards.
- Water balance and consideration of seepage rates and groundwater quality impacts.
- The physical and geochemical characteristics of the tailings.
- Requirements to obtain local jurisdiction approval for the closure plan.

5.3. Performance Requirements Assets and Projects

Planning

Develop and implement a risk-based **Tails Storage Operations Management Plan** for each tailings storage facility that includes consideration for the following requirements:

- Specifications on supernatant pond size, to prevent seepage to groundwater.
- Minimum freeboard, as specified by the design and statutory requirements.
- Requirement to undertake an annual tailings storage facility geotechnical stability audit.
- An effective monitoring program to ensure the receiving environment and/or the physical integrity of the facility is not jeopardised (daily, weekly, monthly).
- Detailed monitoring program for the tailings storage facility through to closure.
- Specified trigger action response plans for set events.

Performing

- Maintain minimum freeboard, as specified by design and water balance.
- Manage the supernatant pond in accordance with specifications.
- Maintain final as-built documentation with associated independent QA/QC reports over the life of the tailings storage facility.
- Ensure daily, weekly and monthly monitoring and reporting is completed.

Review

- Arrange for an annual tailings storage facility review for geotechnical stability and design performance by an external qualified and competent Engineer of Record.
- Undertake a dam safety review every 5 years.

6. Waste

6.1. Scope

Waste generation, optimising recycling, and managing hazardous and non-hazardous wastes.

6.2. Performance Requirements Assets and Projects

Planning

Develop and implement a risk-based **Waste Management Plan**, that includes consideration for the following requirements:

- Identification of potential waste streams and their sources in all phases of the mining or exploration cycle.
- Inventory description, characterisation and disposal processes.
- Specifications of on-site hazardous waste disposal facilities.
- Allocation of responsibilities for managing hazardous waste streams.
- Safe storage, safe treatment, proper handling, and emergency procedures for managing waste.
- Monitoring of on-site hazardous and non-hazardous waste management facilities and adjacent groundwater monitoring bore data (up and down gradient.)
- Hazardous and non-hazardous waste minimisation including alternative procurement options.
- Waste management facilities must be designed, constructed, fenced and managed to prevent impacts to ground and surface water quality.
- Ensure that the potential for, and volumes of, contaminated leachate generation, and the estimated leachate impact from landfills, are evaluated and managed and any discharges meet applicable standards.

Performing

- Quantify and characterise waste streams into hazardous or non-hazardous wastes.
- Identify new waste streams and re-evaluate existing waste streams whenever new facilities are constructed or significant changes to existing facilities are made.
- Maintain records for the storage and transportation of all waste streams including types and quantities of waste and waste tracking/ destruction certification.
- Ensure that medical wastes are disposed of offsite or burned in a high temperature incinerator onsite.

Review

- Ensure that sewage treatment systems are operating effectively to OEM guidelines, are receiving no other feeds and meet all applicable permit conditions during operation.
- Audit offsite treatment and disposal facilities prior to their selection, and periodically during use, to verify that the facility is engineered and operated in accordance with licence conditions.

7. Waste Rock and Ore

7.1. Scope

Adverse environmental impacts caused by waste rock and ore, post mining rehabilitation and closure liability.

7.2. Performance Requirements Assets and Projects

Planning

Develop and implement a risk-based **Waste Rock and Ore Management Plan**, that includes consideration for the following requirements:

- Evaluation of acid rock drainage potential of waste rock using a reliable acid-based accounting methodology.
- Physical and geochemical analysis of waste rock and ore and accurate tracking of their placement.
- Comprehensive reconciliation of material balances for ore, waste rock, mineralized waste rock, topsoil, and clay stocks throughout the operational lifecycle.
- Management of problematic material and the process for disposal.
- Progressive rehabilitation process planning.

Waste Rock Facility Design

The design of waste rock, potentially problematic ore and mineral concentrate storage facilities must include the following considerations:

- Must be geotechnically stable during construction, operation and closure.
- Minimise of the generation of contaminants.
- Prevent the release of pollutants from stockpiles to the environment, including surface runoff, toe seepage and infiltration to groundwater.
- Retention basins are sufficiently sized to contain the runoff resulting from maximum reasonable storm event/s depending upon the consequential risk potential of the release.

Solid/Hazardous Waste Disposal

The placement of solid or hazardous waste material within the waste rock disposal area must be based on a comprehensive scientific analysis by a competent person that demonstrates that the structure or the containment will not be compromised during rehabilitation or closure.

Permanent Diversion Structures

Permanent surface water run off diversion structures must be sized, at a minimum, to convey flow from a maximum reasonable storm event. For facilities that are up-gradient of sensitive regions, the size and capacity to convey flow must be increased to handle water diversion commiserate with the potential level of consequential risk.

Performing

- Conduct monitoring and verification that all waste and rock disposal facilities are being constructed to the design criteria.
- Encapsulate, or keep within the mine affected water catchment area any problematic material that has been used in construction.
- Progressively rehabilitate areas of the waste disposal facility when they become available.
- Control surface water run on and run off during construction, operation, rehabilitation, closure and post-closure to ensure slope stability and minimise low-quality seepage, erosion and sedimentation.

Review

- All waste and rock disposal facilities must be inspected following significant rainfall to observe ponding on the surface, slumping on slopes, discoloration or seepage from the toe and effectiveness of the diversion and sediment control.
- Establish and monitor rehabilitation success criteria and objectives to validate agreed closure completion criteria.

8. Water Management

8.1. Scope

Water balances, stormwater, discharges, seasonal preparations and dewatering activities such that human health and the environment are protected.

8.2. Performance Requirements Assets and Projects

Planning

Develop and implement a risk-based **Water Management Plan** that includes consideration for the following requirements:

- Management of water discharges, extraction, stormwater, and dewatering operations based on Asset/Project-specific discharge criteria, baseline conditions, potential pathways to receptors, and known adverse impacts.
- Integration of internal water resources and specific water balances into Life of Mine (LOM) plans.
- Provisions for water management during operational and rehabilitation phases.
- Segregation of water unaffected by mining and processing activities.
- Safeguard of aquatic, terrestrial, and marine environments in adherence with water discharge limits and the relevant points of compliance.

Stormwater Structures and Conveyance/Transfer Systems

- Design temporary stormwater structures to align with the level of consequential risk associated with failure.
- Design permanent stormwater structures to manage and withstand maximum reasonable storm events.
- For impoundments or conveyance systems upstream of sensitive areas (e.g., populated areas, high-value ecosystems), include additional capacity or protection measures proportional to the consequential risk of failure.
- Ensure all process plant storage tanks and transfer systems have secondary containment designed to capture potential pipeline leaks or failures.

Performing

- Implement erosion and sediment controls before construction begins and maintain them throughout the post-closure monitoring period to manage stormwater, minimise erosion from surface runoff, and treat impacted water from disturbed or areas under rehabilitation.
- Maintain a surface and groundwater monitoring and reporting system.
- Maintain an operational water balance which reflects current operational requirements.
- Continue water quality and quantity monitoring programs to assess surface and groundwater resources, point source and non-point source discharges, and receiving waters affected by discharges.
- Analyse water quality trends at all monitoring locations and use corrective actions to address any identified issues.
- Maintain an alert system to notify of deteriorating water quality trends.

Review

- Conduct verification checks that discharges to surface water or groundwater comply with permit conditions.
- The water balance management strategy must be reviewed annually to reflect changes in operation and supply source/s (with biennial independent review).
- The water management system (including aboveground storage dams) must be reviewed and certified by a suitably qualified and competent person.

9. Climate Change

9.1. Scope

Threat and opportunities from effective climate change planning and management, regulatory compliance and reporting, stakeholder expectations.

9.2. Board and Sub Committee

- Ensure they have a competent level of awareness and understanding of climate-related threats and opportunities to be able to make informed decisions regarding climate change.
- Maintain awareness regarding best practice climate governance and of stakeholder expectations.
- Assess the short, medium and long-term materiality of climate-related risks and opportunities for the organisation.
- Disclose material climate-related risks, opportunities and strategic decisions transparently to stakeholders.

9.3. Executive Committee

Planning

- CEO to appoint an executive with accountability for managing climate change related issues and opportunities.
- Conduct physical and economic transitional risk analysis for short, medium and long term impacts regarding climate change and identify any Material risk threats or opportunities associated.
- Apply this scrutiny to current Assets and future investments, mergers and Projects.
- Assess the level of social expectations and its impact on, and alignment with, the business climate change plans and objectives.
- Determine the level of un-insurable risk associated with Projects and Assets from ineffective climate change management.
- Develop climate mitigation and adaptation actions proportionate to the materiality of climate risk and evolving regulatory requirements.
- Establish clear understanding and knowledge of the carbon footprint of the HGO business.
- Identify value chain partners climate change reporting disclosures required by HGO for its own reporting requirements.
- Include climate change in business strategic planning goals and objectives.
- Identify stakeholders and regulators mandatory reporting requirements for climate change management.

Performing

- Implement climate change mitigation and adaption actions and objectives.
- Include climate change material risks and strategic plans in annual reports and accounts, subject to the same disclosure governance as financial reporting.
- Provide mandatory reports on climate change performance management that accurately reflects business performance to relevant stakeholders and regulators.
- Maintain an awareness of transition risk changes, pending or imminent, due to regulation shift and in emission reduction laws, trade laws and tariffs and prudential regulation.
- Maintain an awareness of the potential impact and opportunities associated with technological developments (in areas such as renewable energy and electric vehicles) and shifts in stakeholder preferences, including investors, insurers, customers and the community.

Review

- Assess the level of climate change mitigation and adaptation effectiveness and appropriateness at relevant intervals.
- Review the business strategic goals and objectives of climate change annually to ensure stakeholder and regulatory alignment and that ongoing value is being realised.
- Ensure climate change commitments and achievements are accurately depicted and reported on in disclosure statements to stakeholders prior to disclosure.