

Ok Birim Tailings Storage Facility Project

Environmental and Social Impact Assessment

Chapter 14

Environmental and social management, monitoring and reporting



14. ENVIRONMENTAL AND SOCIAL MANAGEMENT, MONITORING AND REPORTING

This chapter presents the environmental and social management, monitoring and reporting framework for all processes and activities under Ok Tedi Mining Limited's (OTML) control (referred to as OTML Operations) in Papua New Guinea (PNG), including the proposed Ok Birim Tailings Storage Facility (TSF) Project (the project).

14.1 ENVIRONMENT MANAGEMENT PLAN

OTML has an operational environmental management plan (EMP) that documents plans for managing its environmental commitments for its operations in PNG. This satisfies the requirement under condition 91 of Environment Permit EP-L3(636) that an EMP is submitted to the Director of the Conservation and Environment Protection Authority (CEPA) within 12 months of the commencement of the *Ok Tedi Environment Management Act 2019* (OTEMA).

The EMP provides an overview of the structure through which OTML establishes and assesses its commitments, objectives, plans and procedures, achieves compliance with its obligations, and demonstrates improved performance.

OTML manages its environmental commitments through its Integrated Management System (IMS) that generally aligns with risk-based systems for Occupational Health, and Safety (OHSAS18001) and Environmental (ISO14001:2015) management.

The EMP applies to environmental management of all processes and activities under OTML's control within PNG, including management of contractors, suppliers and service providers.

The EMP describes the main components of the IMS and describes what they are, how they fit together, who is responsible, and where they can be found. It also provides an overview of the environmental monitoring program that OTML is committed to undertaking.

14.2 INTEGRATED MANAGEMENT SYSTEM

OTML has developed an IMS to effectively manage the occupational health, safety, environmental and social aspects of activities associated with its operations. The ISO14001 and OHSAS18001 standards specify the minimum requirements for an organisation with respect to policies, the identification and management of environmental, safety and health aspects/risks, compliance with legal and other requirements, and continuous improvement of environmental, safety and health performance.

OTML is in the process of updating the IMS to incorporate social performance aspects. This is being done to align the IMS with international standards such as the *Equator Principles* and *International Finance Corporation Performance Standards* as well as The Copper Mark. Section 14.4 provides further detail about this integration.

The main types of documents in the IMS are:

- **Policy statements.** High level documents which state the rules and values of the organisation.
- **Standards.** Each component of the IMS is described by a ‘Standard’ document that describes the standard to which OTML will operate in order to achieve its targets and objectives. Table 14.1 lists how OTML manages the requirements of ISO14001 and OHSAS18001.
- **Manuals, plans, and guidelines.** Created for significant aspects where required to provide further details as to how that aspect is managed.
- **Procedures, safe work plans, job safety and environmental analyses, and work instructions.** Lower-level documents that describe the specific actions or requirements for subtasks that will need to be undertaken to achieve the outcomes required by a standard or a plan.

Risk and legal compliance priorities were used in determining which standards and plans were developed for OTML. A risk review in March 2026 has also informed OTML’s approach to strengthening the IMS and identification and management of environmental and social risks.

Table 14.1 IMS components and related OTML standards

ISO14001 System components	Relevant OTML standard	Standard number	Description
Context of the organisation			
Understanding the organisation and its context. Understanding the needs and expectations of interested parties. Determining the scope of the environmental management system.	Program Commitment and Leadership	OTML-IMS-STD-1.01	The context of the organisation and the scope of the IMS
Leadership			
Leadership and commitment	Program Commitment and Leadership	OTML-IMS-STD-1.01	The requirements for leadership and commitment within the organisation.
Policy	Program Commitment and Leadership	OTML-IMS-STD-1.01	<p>To align with ISO14001, OTML is required to define, document and communicate environmental policies that are appropriate to the nature, scale and impacts of its activities, commits it to complying with legal requirements, and provides a framework for setting and reviewing objectives and targets.</p> <p>The OTML Environment Policy states the direction the company wishes to take on environmental matters and communicates OTML’s goals and principles to all levels of the organisation as well as to the public and other stakeholders.</p> <p>The policy applies to all OTML operations, including those of its contractors, suppliers and service providers.</p> <p>The policy is displayed on notice boards in the workplace, manager’s offices, contractor’s offices, and on the site intranet.</p> <p>The policy is updated by management as required taking cognisance of changing circumstances, risks and objectives.</p>

ISO14001 System components	Relevant OTML standard	Standard number	Description
Organisational roles, responsibilities and authorities	Program Commitment and Leadership	OTML-IMS-STD-1.01	
Planning			
Environmental aspects	Risk & Opportunity Management	OTML-IMS-STD-1.02	<p>At OTML, the environmental aspects of the operation and their associated risks and opportunities are identified and assessed on a planned schedule, and as changes occur, in order that control measures for significant risks are planned for and implemented, and the overall risk profile of the organisation is reduced.</p> <p>Risks that are identified through this process are recorded and actions tracked on the site wide enterprise management software. The risk register is used by OTML management team to establish objectives and targets for the operation as part of the annual budgeting and planning cycle.</p>
Compliance obligations	Legal and Other Requirements	OTML-IMS-STD-1.03	This component of the IMS requires that a procedure is established, implemented and maintained so applicable legal requirements are identified and that the organisation has access to this information.
Objectives and planning to achieve them	Objectives and Targets Business and Improvement Plans	OTML-IMS-STD-1.04 OTML-IMS-STD-1.05	<p>Objectives are the broad goals that OTML establishes to achieve improved performance and are the building blocks of the IMS planning process. Targets are the specific and measurable performance requirements with a specific timeframe that facilitate monitoring of progress toward achievement of the objectives. Objectives and targets are established on an annual basis to enable the requirements to be fed into the annual budget planning process.</p> <p>Environmental management plans are then developed to outline how the objectives and targets are to be achieved.</p>
Support			
Resources	Organisation and Responsibility	OTML-IMS-STD-1.07	<p>OTML management is responsible for ensuring the availability of resources to establish, implement, maintain and improve the IMS. Resources include human resources, specialised skills, organisational infrastructure, technology and financial resources.</p> <p>The effectiveness of site environmental management is dependent on the assigning of appropriate accountability and responsibility to relevant and competent, management and personnel along with the allocation of sufficient resources.</p> <p>Specifics of how OTML is addressing this component of the IMS, including specific responsibilities of management and employees.</p>
Competence, awareness	Training Competency & Awareness	OTML-IMS-STD-1.08	<p>In addition to the establishment of responsibility, the effectiveness of the site environmental management is dependent on appropriate and risk-based awareness and training for all personnel and contractors responsible for environmental performance.</p> <p>Procedures at OTML ensure that any person performing a task that has the potential to cause a significant impact is competent on the basis of appropriate education, training or experience.</p>

ISO14001 System components	Relevant OTML standard	Standard number	Description
Communication	Internal Communication & Awareness	OTML-IMS-STD-1.10	Communication includes both internal communication of environmental aspects to employees, and contractors, and external communication from and to the Government, communities, other stakeholders and interested parties.
	External Stakeholder Engagement & Reporting	OTML-IMS-STD-1.11	
Documented information	Document Control & Record Management	OTML-IMS-STD-1.12	An IMS requires the components of the IMS (policies, standards, procedures, plans and records) to be documented and the documents controlled in a manner that employees can always identify and source the correct and current information. OTML has established and is maintaining records to demonstrate conformity to the requirements of the IMS, and the results achieved. Procedures for the identification, storage, protection, retrieval, retention and disposal of records have been developed.
Operation			
Operational planning and control	Standard Operating Procedures	OTML-IMS-STD-1.13	'Operational control' means procedures and methods to ensure that strategies identified in the planning process, especially for aspects that are identified as high environmental risk, are carried out in the operational phase.
	Change Management	OTML-IMS-STD-1.06	
	Contractor Selection & Management	OTML-IMS-STD-1.14	
Emergency preparedness and response	Emergency Preparedness & Incident Management	OTML-IMS-STD-1.16	OTML is required to establish, implement and maintain procedures to identify potential emergency situations and potential incidents and how it will respond to them. OTML is required to respond to actual emergency situations and prevent or mitigate adverse impacts. Emergency preparedness and response procedures are to be periodically reviewed and re-reviewed after any occurrences of emergency situations.
Performance evaluation			
Monitoring, measurement, analysis and evaluation	Monitoring & Measurement	OTML-IMS-STD-1.18	OTML has established, implemented and is maintaining procedures to monitor and measure, on a regular basis, characteristics of its operation that can have a significant impact. The procedures include monitoring performance, applicable operational controls and conformity with OTML's objectives and targets.
	Behaviour & Observation	OTML-IMS-STD-1.09	
Internal audit	Inspections	OTML-IMS-STD-1.17	OTML has implemented a procedure for periodically evaluating compliance with applicable legal and other requirements. OTML is required to conduct internal audits of its management systems at planned intervals to monitor performance and provide the performance information to the management team.
	Audits & Assessments	OTML-IMS-STD-1.21	

ISO14001 System components	Relevant OTML standard	Standard number	Description
Management review	Management Review	OTML-IMS-STD-1.22	Top management are required to review the organisation's IMS at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. Reviews include assessing opportunities for improvement and the need for changes to the IMS, including policies, objectives and targets. The outputs from management reviews include any decisions and actions related to possible changes to policy, objectives, targets and other elements of the IMS, consistent with the commitment to continual improvement.
Improvement			
Nonconformity and corrective action	Incident Reporting & Investigation	OTML-IMS-STD-1.19	OTML has implemented and maintains procedures for dealing with actual and potential non-conformities, such as those identified in the procedures described in the 'Evaluation of Compliance' section above, and for taking corrective and preventative actions.
	Corrective & Preventive Action	OTML-IMS-STD-1.20	
Continual improvement	Management Review	OTML-IMS-STD-1.22	Continual improvement is a requirement of any management system. It is achieved at OTML by full implementation of the IMS and is monitored by management through the management review process referred above and in this standard.

14.3 ENVIRONMENTAL COMPONENTS OF THE IMS

Figure 14.1 shows a simplified structure of the environmental components of the IMS. This section describes the environmental standards and plans in further detail.

14.3.1 Environmental standards

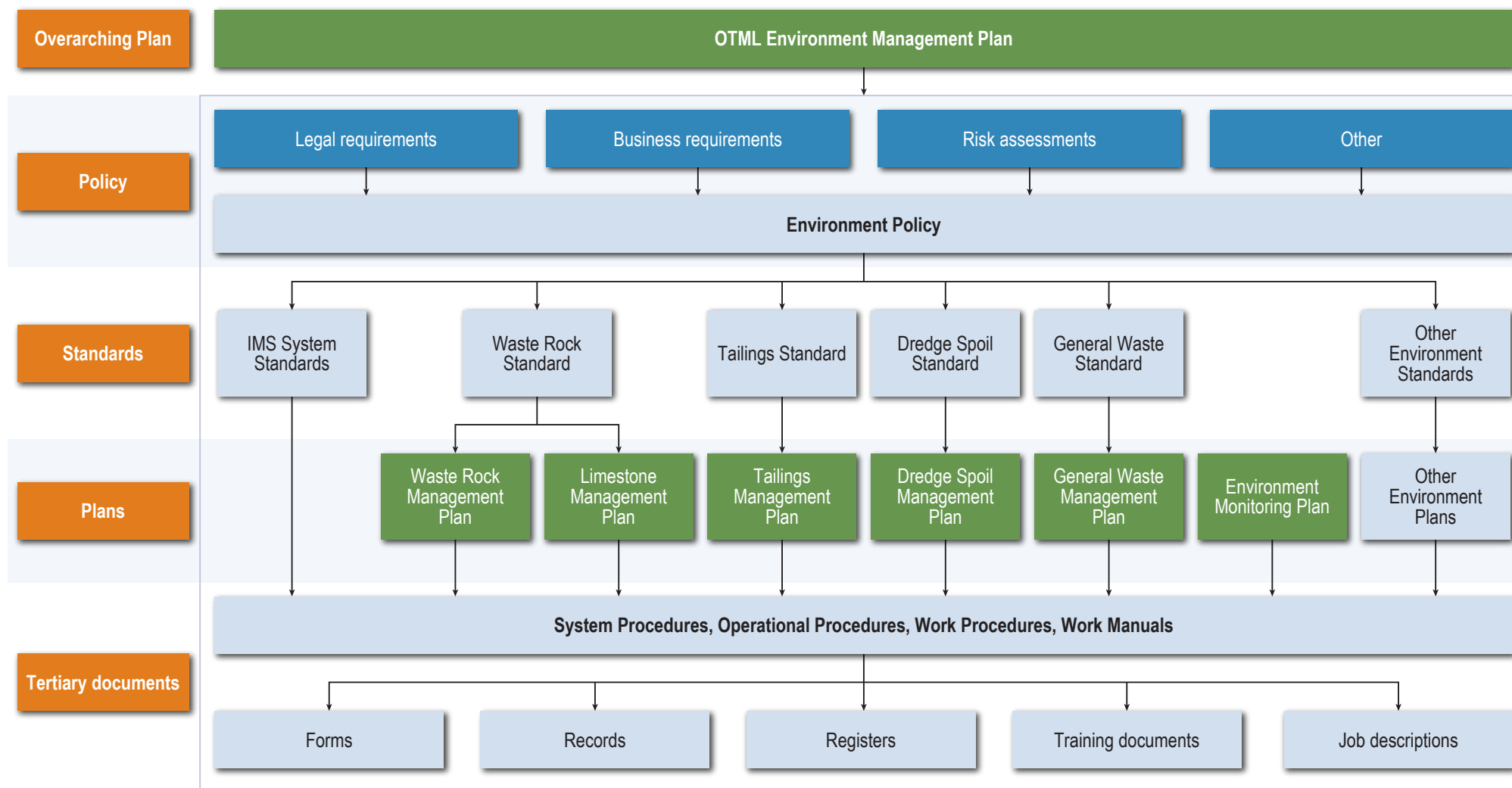
Table 14.2 presents the environmental standards developed and implemented over the years in response to operational requirements at OTML.

Table 14.2 OTML environmental standards

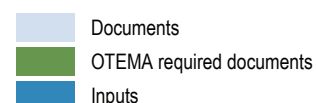
Aspect	Relevant standard	Standard number	Description
Use and storage of hydrocarbons at OTML	Hydrocarbon Management	OTML-IMS-STD-3.01	The purpose of this standard is to set OTML requirements for the management of hydrocarbons to control occurrences of spills, releases, leaks and uncontrolled overflows so that environmental impacts are avoided or minimised.
Procurement, storage, use and disposal of chemicals at OTML	Chemical Management	OTML-IMS-STD-3.03	The purpose of this standard is to set the environmental requirements for the management of chemicals including purchasing, spill prevention, spill response and disposal of obsolete and controlled chemicals such that environmental impacts to flora and fauna on the land, in the water and air are minimised.
Air quality protection and monitoring at OTML	Air Quality Management	OTML-IMS-STD-3.05	The purpose of this standard is to set the minimum requirements for management of point and non-point source air emissions to be protective of human health and the environment.
Environmental and social aspects of procurement at OTML	Procurement	OTML-IMS-STD-3.06	The purpose of this standard is to set OTML requirements for the environmentally and socially responsible procurement of products.

Aspect	Relevant standard	Standard number	Description
Rehabilitation of disturbed areas and closure planning at OTML	Rehabilitation and Closure	OTML-IMS-STD-3.07	The purpose of this standard is to ensure that, during all development and operational phases of a project, OTML has in place a closure plan that accounts for the environmental and socio-economic impacts of the immediate and longer-term post-closure environment.
Environmental aspects of tailing management at OTML	Tailing Management	OTML-IMS-STD-3.08	The purpose of this standard is to set the minimum OTML requirements for management of tailing, dredged sands and the design, construction, operation and decommissioning of any proposed TSFs, considering prevention of uncontrolled releases, closure and rehabilitation.
Waste and sewage management at OTML	Waste Management (including sewerage)	OTML-IMS-STD-3.09	The purpose of this standard is to set OTML requirements for the management of hazardous wastes, non-hazardous wastes and wastewater such that human health and the environment are protected.
Water management and erosion control at OTML	Water and Erosion Management	OTML-IMS-STD-3.11	The purpose of this standard is to set the minimum requirements for management of water during mining and construction activities at OTML to minimise erosion and water contamination to prevent environmental and human health impacts. OTML will comply with discharge standards set out in the PNG Environmental Code of Practice and where that Code is silent, OTML will generally adopt good practice.
Energy management and greenhouse gas minimisation at OTML	Energy and Greenhouse Gas Management	OTML-IMS-STD-3.12	The purpose of this standard is to improve the management of energy and minimise greenhouse emissions generated by OTML operations.
Environmental aspects of transshipping of concentrate at Kiunga and at OTML's silo vessel in Port Moresby Harbour	Transshipping of Concentrate	OTML-IMS-STD-3.13	The purpose of this standard is to set the minimum requirements for the transshipping of concentrate such that the process is protective of human health and the environment.
Waste rock management	Waste Rock Management	OTML-IMS-STD-3.14	The purpose of this standard is to set OTML requirements for the management of waste rock to ensure that mine waste (i.e., waste rock, overburden) are managed in a manner that minimises offsite contamination, and leaves remaining mine features in a condition that brings about the least environmental and financial risk.
Dredge spoil management	Dredge Spoil Management	OTML-IMS-STD-3.15	The purpose of this standard is to set OTML requirements for the management of the Bige dredge spoil stockpiles so as to form geotechnically stable stockpiles with outer covers with sufficiently low acid rock drainage risk that a permanent self-sustaining vegetative cover can be developed to render the stockpiles erosionally stable.

Document Hierarchy



LEGEND



OK TEDI MINING LIMITED

OK BIRIM TAILINGS STORAGE FACILITY PROJECT

FIGURE 14.1

Environment management plan and the integrated management system



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14.3.2 Environmental plans

Environment Permit EP-L3(636) requires OTML to produce a series of plans, including the EMP. Several plans have been developed to address specific issues at the OTML operation that are seen as priority environmental areas based on legal compliance requirements, environmental risk profile, or both. In addition to the EMP, the following plans are a requirement of the permit and have been developed and included within the IMS:

- Limestone Management Plan.
- Waste Rock Management Plan.
- Tailings Management Plan.
- Dredge Spoil Management Plan.
- General Waste Management Plan.

The following suite of plans were implemented by OTML to manage relevant environmental aspects:

- Environment Monitoring Plan.
- Exploration Environment Management Plan.
- Mine Closure Plan.
- Mine Area Rehabilitation Plan.
- Pipeline Integrity Management Plan Pyrite and Copper Concentrate Pipeline.
- Major Incident Management Plan.

The objectives of these plans are summarised below. As requirements for additional plans are identified they will be developed and included in the IMS.

14.3.2.1 Limestone Management Plan

The OTML-IMS-PLAN-3.02 Limestone Management Plan provides a description of the methods used by OTML to ensure that sufficient limestone is available and included in mine plans to satisfy OTML's commitments to:

- Add sufficient limestone to waste rock dump complexes to satisfy a net acid producing potential (NAPP) requirement of less than -150 kg H₂SO₄/t for the waste dump complexes combined on an annual average basis at the end of the calendar year.
- Add sufficient limestone to mill tailing (either as feed to the mill, or after the mill prior to discharge) complexes to satisfy a NAPP requirement in final discharged tailing of less than -30 kg H₂SO₄/t on a quarterly average basis.

14.3.2.2 Waste Rock Management Plan

The OTML-IMS-PLAN-3.03 Waste Rock Management Plan provides a description of the methods used by OTML to ensure that the waste rock dumps satisfy the permit conditions that:

- The northern and southern waste rock dump complexes satisfy a NAPP requirement of less than -150 kg H₂SO₄/t for the waste dump complexes combined on an annual average basis at the end of the calendar year.
- Waste rock discharge does not exceed 70 million m³/annum.

14.3.2.3 Tailing Management Plan

The OTML-IMS-PLAN-3.04 Tailing Management Plan has been developed to provide a description of the methods used by OTML to manage riverine tailing discharge to control environmental risk associated with sulfide oxidation. This plan will be updated to reflect the on-land disposal of tailings.

14.3.2.4 Dredge Spoil Management Plan

The OTML-IMS-PLAN-3.05 Dredge Spoil Management Plan has been developed to:

- Describe the processes whereby OTML manages the Bige dredge spoil stockpiles to form geotechnically stable stockpiles with outer covers with sufficiently low acid rock drainage risk that a permanent and self-sustaining vegetative cover can be developed to render the stockpiles erosionally stable.
- Describe how pyrite concentrate (PCon) is stored at Bige to ensure that the environmental risk is minimised in the long term.

14.3.2.5 General Waste Management Plan

The OTML-IMS-PLAN-3.06 General Waste Management Plan has been developed to detail the methods and procedures that will be carried out to ensure that general wastes are managed in a manner that minimises their environmental and human health impact

14.3.2.6 Environment Monitoring Plan

The OTML-IMS-PLAN-3.07 Environment Monitoring Plan has been developed to document OTML's strategy for environmental monitoring including those mandated by Environment Permit EP-L3(636). The permit guides the current environmental monitoring requirements for OTML Operations. The Environment Monitoring Plan identifies the range of environmental monitoring programs implemented and specific procedures for monitoring activities. The project will have its own specific environmental monitoring requirements described in the construction environmental and social management plan (CESMP).

14.3.2.7 Exploration Environment Management Plan

The OTML Exploration Team manages its environmental aspects at each exploration site and at its facilities on site by implementing and regularly updating the OTML Exploration Environment Management Plan.

14.3.2.8 Mine Closure Plan and Mine Area Rehabilitation Plan

Condition 102 of Environment Permit EP-L3(636) states that OTML's mine closure and rehabilitation requirements are those laid out in the Ok Tedi Mine Closure and Decommissioning Code. The Code mandates the development of a mine closure plan and an associated mine area rehabilitation plan. OTML regularly updates its Mine Closure Plan and Mine Area Rehabilitation Plan as required by the code to reflect changing areas of impact and ongoing rehabilitation success.

The document relevant to ongoing OTML operations is the Mine Area Rehabilitation Plan.

14.3.2.9 Pipeline Integrity Management Plan Pyrite and Copper Concentrate Pipeline

Condition 31 (d) of Environment Permit EP-L3(636) requires that OTML describes 'routine environmental management and safeguards, contingency plans and emergency response for the PCon pipeline to Bige'.

Pipeline management is one of the major risk areas for the OTML operations and as such a Pipeline Integrity Management Plan has been developed, implemented and is regularly audited against and updated. The

relevant document is the OTML- PRO-OPS-0622-168 Pipeline Integrity Management Plan Pyrite & Copper Concentrate Pipeline.

14.3.2.10 Major Incident Management Plan/Incident Management Plans

Emergency readiness and response is an important aspect of the OTML operation to reduce the impact of unplanned events. As such OTML has developed a major incident management team plan and a suite of incident management team plans. These have been developed, workshopped, implemented and are continually improved. The relevant documents are:

- OTML Major Incident Management Plan IMS-1.11-P01.
- OTML Kiunga Incident Management Plan IMS-1.11-P01.
- OTML Bige Incident Management Plan IMS-1.11-P01.
- OTML Tabubil Incident Management Plan IMS-1.11-P01.
- OTML Mining Incident Management Plan IMS-1.11-P01.
- OTML Processing Incident Management Plan IMS-1.11-P01.

14.4 SOCIAL COMPONENTS OF THE IMS

OTML's social management system consists of Community Relations and Sustainability programs and economic programs through the Ok Tedi Development Foundation and the Community Mine Continuation Agreement (CMCA) implementation; it is not yet a 'system' per se. OTML is in the process of developing a series of social plans and standards as part of its updates to the IMS and development of an integrated ESMS. The plans and standards will follow the same format and structure as OTML's existing operational documents.

14.4.1 Description of social standards

OTML is developing a range social standards in response to operational requirements and to support the implementation of the social aspects of the IMS. Key existing documents that support the social, community and worker stakeholder engagement process are the IMS Standard 1.10 Internal Communications and Awareness, IMS Standard 1.11 External Stakeholder Engagement and Reporting, Community and Relations Manual, Community Level Stakeholder Complaint and Grievance Mechanism and Stakeholder Engagement Management reports.

In addition, OTML has a number of human resources and occupational health and safety policies and procedures that address labour and working conditions and provide for compliance with the PNG legislation for workers, contractors and suppliers. These include Staff Terms and Conditions documents (for all grades and arrangements), Golden Rules – Workplace, Golden Rules – Social Behaviour, Fitness for Work Policy, Safety and Occupational Health Policy, 3 Year Strategic Safety Plan, Diversity and Inclusion Policy, Anti-Discrimination and Harassment Policy and the Health Services Management Standard.

These standards, plans and policies will continue to be reviewed and updated as part of the IMS update in progress.

14.4.2 Social plans

The social plans will be aimed at limiting adverse social impacts of OTML operations and maximising benefits to stakeholders. Specific plans that will be developed include:

- Community Development Plan.
- Community Health and Safety Plan.
- Cultural Heritage Management Plan.
- Social Monitoring Plan.

While outside the scope of a typical environmental and social impact assessment (ESIA) in PNG and not regulated under OTEMA, these plans will be developed by OTML because of their importance in managing the social risks and impacts of the project.

14.5 RISK MANAGEMENT FRAMEWORK

Based on the principles of AS/NZS ISO31000:2009, Risk Management, Principles and Guidelines, OTML is developing an enterprise risk management system to guide the company through the identification of significant hazards and risks across its operations and from external sources that can impact on its business, stakeholders and the environment. Through this, economic, environmental and social risks are integrated into business planning and decision-making processes.

The integrated risk management system comprises the following key elements (OTML 2023a):

- Structured risk identification process, including contractor-related risks.
- Systematic analysis of risks using a numeric matrix methodology to minimise subjectivity.
- Defined evaluation of risks.
- Risk treatment profile with specific options for control or elimination.
- Electronic system for action planning and progress tracking.
- Continuous monitoring, review and improvement processes.
- Risk communication strategy to embed a strong risk management culture within the workforce.

At the enterprise level, OTML maintains a consolidated risk register reviewed regularly by senior management and the Board against risk mitigation action plans as part of its annual strategic business planning. The precautionary principle is applied where information is limited to assist in the development of appropriate management plans (OTML 2023a).

OTML continues to strengthen the integration of risk management within all operational departments and project activities, including for environmental and social management. Each department maintains a comprehensive risk register and control action plan. Where possible, continuous improvement is achieved through incident investigations, strategic and performance reviews, internal risk audits and lessons learned aimed at preventing or reducing the likelihood and severity of recurrence (OTML 2023a).

OTML maintains an environment risk register, which is a live document maintained by the OTML Environment Department. The need for a full update and review of the register is recognised and a review and update process commenced in early 2026. OTML undertakes internal reviews annually and engages an external consultant to facilitate an independent review every three years, with the most recent risk workshop held in February 2026.

Figure 14.2 presents the key steps of the risk management process applied for the environment risk register. Information in this risk register is used to undertake bow-tie analysis for key aspects such as riverine operations and closure, increased copper levels in sediment, and unplanned releases of hydrocarbons and other hazardous materials (including PCon and product concentrate). In March 2026, this was expanded to include aspects such as human rights and climate change to align with international standards.

14.6 REPORTING

As well as some reporting requirements covered in management plans under OTEMA, the following reports are prepared by OTML for external environmental review.

14.6.1 Incident and non-compliance reporting and investigation

Under Condition 53 of Environment Permit EP-L3(636), OTML must provide an annual summary of environmental incidents recorded in the company's environmental management system in the Annual Environmental Report. Incidents shall be reported based on the severity rating of the incident as defined within the environmental management system.

Under Condition 54 of Environment Permit EP-L3(636), OTML must notify the Director within 24 hours of any significant environmental incident (as defined in the EMP) that occurs in relation to the carrying out of works or discharge of wastes into the environment from the premises.

For the purposes of the EMP and Environment Permit EP-L3(636), an incident is classified as significant if it is assessed actual level 3 consequence for Environmental, Reputational or Compliance impact as described in OTML IMS Consequence Table (refer *OTML-IMS-STD-1.03 Risk and Opportunity Management Guideline*).

Non-compliances with permit conditions will also be treated as 'environmental incidents' and managed under the OTML IMS Standard OTML-IMS-STD-1.19 Incident Reporting and Investigation.

14.6.2 Quarterly reporting

Quarterly reporting is required under conditions 19, 22, 36 and 51 of Environment Permit EP-L3(636). The following plans detail how OTML complies with these requirements:

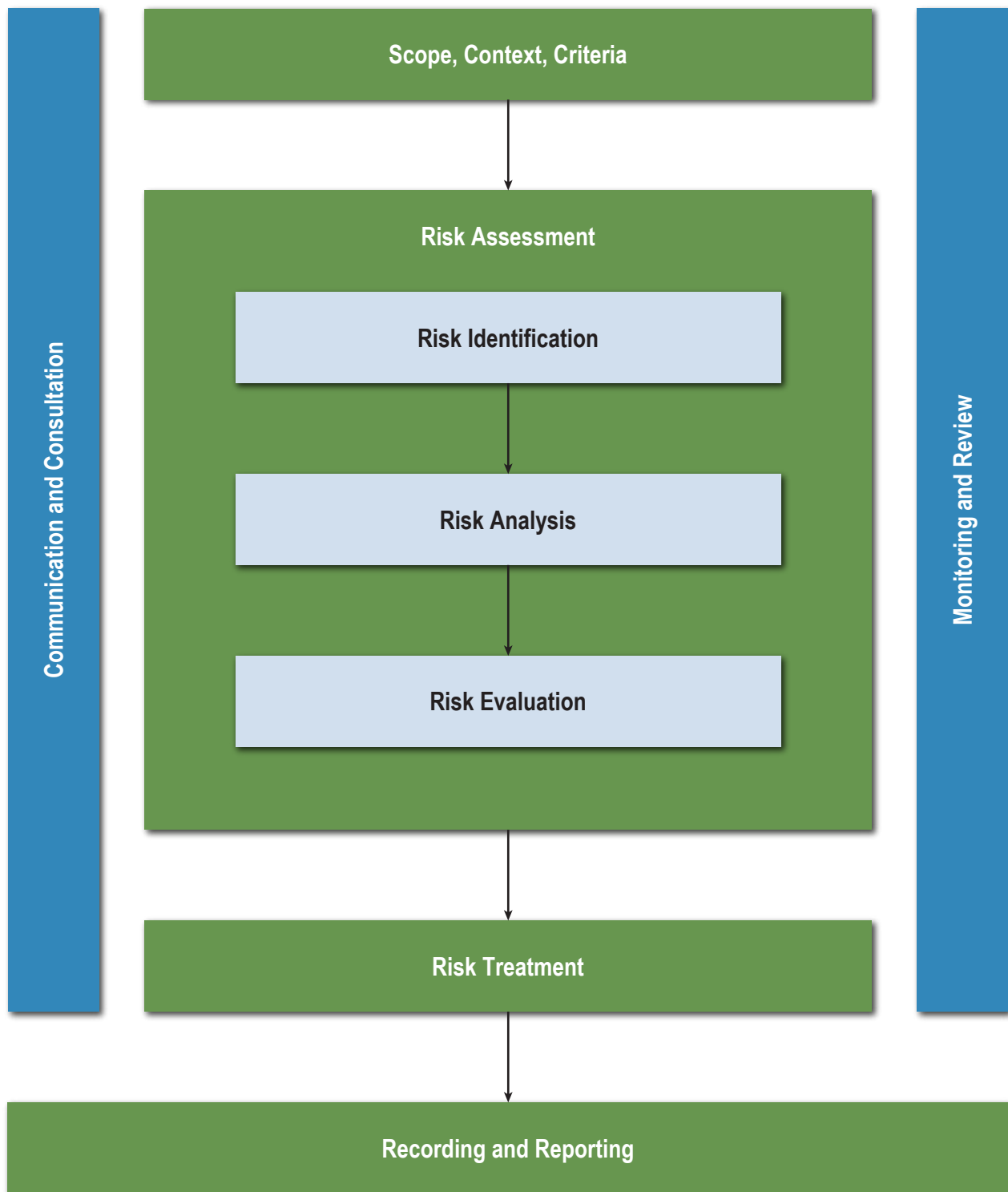
- OTML-IMS-PLAN-3.02 Limestone Management Plan.
- OTML-IMS-PLAN-3.03 Waste Rock Management Plan.
- OTML-IMS-PLAN-3.04 Tailing Management Plan.
- OTML-IMS-PLAN-3.05 Dredge Spoil Management Plan.

14.6.3 Annual environmental report

OTML remits an Annual Environmental Report to CEPA and the Mineral Resources Authority presenting:

- The results of monitoring requirements under the Dredge Spoil Management Plan (condition 48).
- The results of the monitoring program in Table 1 of the permit (condition 50).
- A summary of environmental incidents recorded in the company's environmental management system (condition 53).
- A report on environmental incident statistics, audit performance and action close-outs (condition 58) for the reporting period (calendar year).

Risk Management Process (ISO 31000 - 2018)



SOURCE
RMI, 2023



OK TEDI MINING LIMITED
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FIGURE 14.2
OTML risk management process



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14.6.4 Annual review

OTML prepares an annual review each year to publicly communicate its progress on economic, safety and occupational health, environmental and social aspects of the operation. This report is made available on the OTML website (<https://www.oktedi.com/reports/>).

OTML is also developing a Sustainability Report for FY25, which is intended to align OTML's reporting practices with current industry practice and provide a detailed overview of OTML's sustainability performance.

The *Global Reporting Initiative's G4 reporting guidelines* (GRI 2013) are used to guide the disclosure of non-financial material information.

14.7 PROJECT APPLICATION

OTML will operate the project as an extension of its current operations. OTML will implement the existing EMP and IMS, and relevant management, mitigation, monitoring, and reporting requirements developed for the current operations, including those related to social aspects in progress.

14.7.1 Management

EMP and IMS requirements will be adapted as required for specific implementation for construction of the project through a project-specific CESMP, which includes project-specific monitoring requirements and incorporates results from project-specific technical studies. The CESMP (Attachment 2) reflects the commitments contained in this ESIA and describes the programs that support their implementation.

Several of the existing plans under the IMS will be updated to reflect operational project requirements, including the change in practice from riverine tailings disposal to use of a terrestrial TSF in the Tailing Management Plan. This will be done prior to the commencement of operations. OTML expects that the review and approval of these plans will be a condition of the amended Environment Permit EP-L3(636), with preparation and approval prior to commencement of operations.

A conceptual TSF closure plan has been developed to guide closure planning aspects, provided in Attachment 3.

14.7.2 Monitoring

The project's monitoring requirements for construction are detailed in the project's CESMP.

Construction monitoring requirements for the project include:

- **Baseline monitoring.** Where OTML's existing monitoring does not provide sufficient data to establish a baseline, further monitoring will be implemented prior to construction. This data will be used to establish a baseline to compare post-construction monitoring with. This may also include pre-construction/pre-clearance surveys.
- **Construction monitoring.** Verifies effective implementation of management measures and compliance with the environment permit and management plans in relation to construction activities.
- **Post-construction monitoring.** Conducted to validate and monitor predicted impacts from construction activities.

Operational monitoring requirements for the project include:

- **Operations monitoring.** Routine monitoring of the operation that aims to enable OTML to identify environmentally significant incidents early.

- **Sentinel monitoring.** Records the passage of environmental contaminants or nuisance at points outside the perimeter of the main project activities. This component of the monitoring system generally aims to record significant unforeseen impacts from discharges of contaminants from the project.
- **Ambient monitoring.** While operations and sentinel monitoring determine if environmentally significant releases have occurred, ambient monitoring determines effects on the receptors within the receiving environment.

Table 14.3 outlines the project's indicative monitoring requirements alongside their proposed frequencies. As detailed design advances for the project, OTML will refine its monitoring programs to align with environment permit conditions, defining specific parameters, locations, frequencies and key performance indicators.

Table 14.3 Summary of monitoring requirements for the project

Aspect	Parameter	Location	Indicative frequency	
			Construction	Operations
Air quality	Dust deposition – sampling for laboratory analysis of metals	At selected sensitive receptors within a 5 km radius of the TSF	Biannually	Biannually
	Total dust deposition, PM _{2.5} , PM ₁₀ and NO _x	At selected sensitive receptors within a 5 km radius of the TSF	Monthly	In response to complaints
Noise and vibration	Noise levels	At selected sensitive receptors within a 5 km radius of the TSF	Monthly	In response to complaints
Groundwater	Groundwater levels	At groundwater monitoring bores near TSF	Quarterly	Quarterly
	Physico-chemical parameters	At groundwater monitoring bores near TSF	Quarterly	Quarterly
	Sampling for laboratory analysis – comprehensive suite of analytes	At groundwater monitoring bores near TSF	Annually	Annually
	Sampling for laboratory analysis – restricted suite of analytes	At groundwater monitoring bores near TSF	Quarterly	Quarterly
Erosion	Condition and functionality of erosion and sediment control structures	All structures	Weekly during disturbance activities	Weekly during disturbance activities
	Evidence of erosion, scour, sediment accumulation	Disturbed areas, exposed batters, stockpiles, spoil areas and drainage discharge points	Weekly until area has stabilised, every 3 months thereafter until rehabilitated	Weekly until area has stabilised, every 3 months thereafter until rehabilitated
	Bank stability, sedimentation and erosion within watercourses and drainage paths	Watercourses, crossings and drainage paths in proximity to project activities	Weekly until area has stabilised, every 3 months thereafter until rehabilitated	Weekly until area has stabilised, every 3 months thereafter until rehabilitated
Physical riverine environment	Surface water quality for ecosystem protection	Existing monitoring locations under the OTEMA permit conditions, with an additional four sites on the Ok Yep and Ok Tedi.	Monthly	Monthly

Aspect	Parameter	Location	Indicative frequency	
			Construction	Operations
	Bioavailable copper monitoring	Existing monitoring locations under the OTEMA permit conditions, with an additional four sites on the Ok Yep and Ok Tedi.	Quarterly	Quarterly
	Drinking water quality	Existing monitoring locations under the OTEMA permit conditions, with an additional four sites on the Ok Yep and Ok Tedi.	Monthly	Monthly
Aquatic ecosystems	Aquatic fauna diversity, biomass and abundance	Selected sites near the TSF and infrastructure	Quarterly	Biannually
	Ecotoxicology (algal and bacterial assays)	Selected sites near the TSF and infrastructure	Quarterly	Annually
Terrestrial biodiversity	Forest condition	Adjacent to TSF and infrastructure	Annually	Annually for the first 5 years of operation, then every 3 years
	Biodiversity – imagery analysis of the project site	Adjacent to TSF and infrastructure	Every two years	Every four years