

Health / Safety / Environment

Compliance Standards Manual



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PURPOSE

The purpose of these OceanaGold (OGC) Health, Safety and Environment (HSE) Compliance Standards is to provide all OGC Business Units with a clear understanding of the Company's expectations in relation to the management of HSE during the conduct of our business activities.

In particular the HSE Compliance Standards will:

- Formalise HSE Policy development and planning processes;
- Improve consistency in HSE management and performance;
- Improve health, safety and environmental risks and hazards management;
- Increase corporate HSE capacity and memory; and
- Drive compliance to HSE statutory and other obligations.

SCOPE

The requirements outlined within this document apply to all aspects of our business including exploration, mining, processing and project development activities (Pre-Feasibility, Feasibility and Project Execution) at all geographical locations.

The requirements apply to all OGC personnel as well as all Contractors and Business Partners operating within OGC Business Units.

Not all the information contained within these HSE Compliance Standards will be relevant to all Business Units or activities. In these instances the Business units must ensure that all relevant and applicable sections are identified and applied.

The HSE Compliance Standards are structured to provide requirements for Management Systems as well as Performance in specific fields of Health, Safety and Environment.

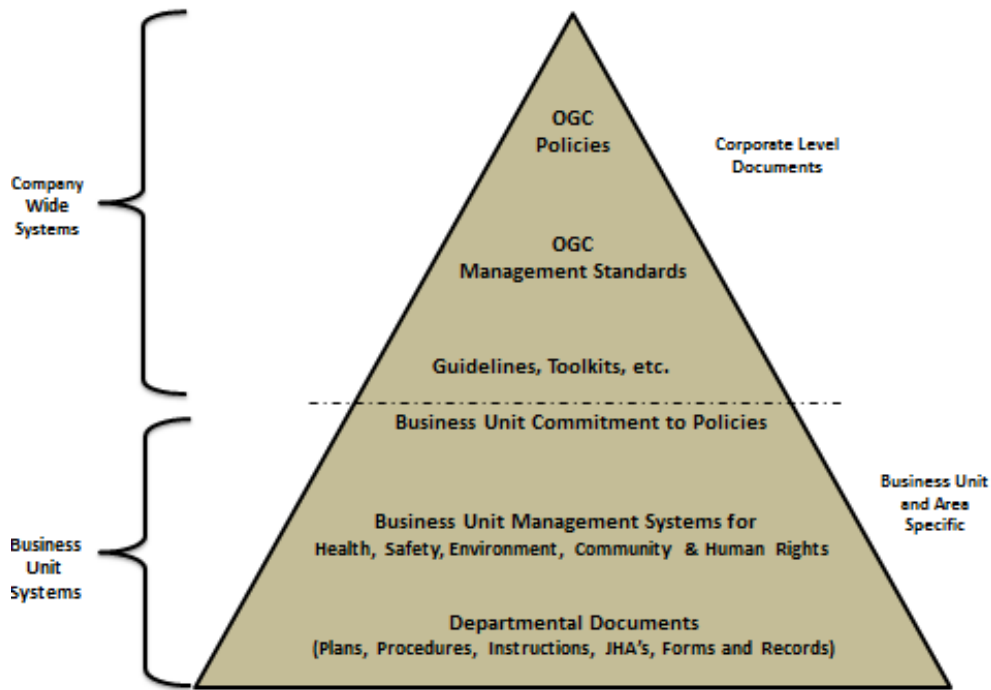
APPLICATION

The OGC HSE Compliance Standards establish the minimum requirements to meet OGC Corporate expectations for the management of Health, Safety and Environmental aspects of our Business activities. As such they shall be used by all Business Units to benchmark their systems, processes and activities.

These Standards shall provide the basis for auditing and assessing each Business Units HSE management system and processes.

Guidelines, toolkits and templates may be developed by OGC Corporate to support the Standards where additional detail is required.

These Standards sit as a high level governance document as shown in the OGC hierarchy of documents structure summarised below. They are mandatory for all OGC Business Units and are provided in support of the OGC Health and Safety and Environment Policies.



REVISION AND AMENDMENTS

The HSE Compliance Standards are to be reviewed every two years as a minimum.

If any employee or external party identify that information within these Standards is no longer valid or has been superseded, or if there are any other genuine needs to revise these Standards then the suggested revision shall be presented to the Group Manager HSE for consideration.

The Chief Executive Officer (CEO) of OGC is responsible for authorising any update and release of these HSE Compliance Standards subject to formal review and recommendation by the Executive Committee (EXCO).

HSE Management System Standards

1	POLICY AND COMMITMENTS	8
1.1	HSE Policies and Commitments	8
2	PLANNING	9
2.1	Planning Hazard Identification and Control	9
2.2	Legal and Other Requirements	12
2.3	HSE Objectives and Targets	13
2.4	HSE Management and Improvement Plans	14
3	IMPLEMENTATION AND OPERATIONAL CONTROL	15
3.1	Resource, Roles and Accountability	15
3.2	Training, Competency and Awareness	16
3.3	Communication and Consultation	17
3.4	Document and Data Control	19
3.5	Operational Risk Management	20
3.6	Management of Change	22
3.7	Contractor Management	24
3.8	Behaviours	26
4	EMERGENCY MANAGEMENT	27
4.1	Crisis and Emergency Preparedness and Response	27
4.2	First Aid and Medical Support	29
5	MEASUREMENT AND EVALUATION	31
5.1	Performance Measurement and Monitoring	31
5.2	Incident Reporting and Investigation	33
5.3	Classification and Statistics	34
5.4	Internal and External Audits	35
5.5	Inspections	36
5.6	Preventative and Corrective Actions	37
5.7	Record Management	38
6	REVIEW	39
6.1	Management Review	39

HSE Operational Performance Standards

7	HEALTH	41
	7.1 Medical Assessments and Role Capability	41
	7.2 Fitness for Work	42
	7.3 Workplace Occupational Health Monitoring	43
	7.4 Business Travel Health Risk Management	45
	7.5 Manual Handling and Vibration	46
	7.6 Health and Wellbeing	47
	7.7 Food and Water Quality.....	48
8	SAFETY	49
	8.1 Ground Control	49
	8.2 Inundation and Inrush.....	51
	8.3 Mobile Equipment and Traffic Management.....	52
	8.4 Tips, Ponds and Voids.....	54
	8.5 Air Quality	55
	8.6 Fire and Explosion.....	56
	8.7 Explosives.....	58
	8.8 Tyre and Rim Management.....	60
	8.9 Hazardous Materials and Chemical Substances	61
	8.10 Electrical Safety.....	63
	8.11 Energy Isolation.....	65
	8.12 Lifting and Crane Works	67
	8.13 Working at Heights	69
	8.14 Confined Space	71
	8.15 Machine and Equipment Guarding.....	75
	8.16 Tree Felling.....	76
	8.17 Extreme Weather.....	77
	8.18 Hot Work (Welding, Cutting and Gouging)	78
	8.19 Permits to Work	79
	8.20 Remote or Isolated Workers.....	81
	8.21 Compressed Gases and Pressure Vessels.....	82
	8.22 Personal Protective Equipment (PPE)	84
	8.23 Aviation	85

9	ENVIRONMENT	87
9.1	Air Quality	87
9.2	Energy and Greenhouse Gas Emissions	88
9.3	Used Hydrocarbons	89
9.4	Biodiversity and Natural Environments	90
9.5	Water Management	91
9.6	Environmental Noise and Vibration	93
9.7	Visual Appearance	94
9.8	Archaeology and Cultural Heritage	95
9.9	General Waste	96
9.10	Hazardous Waste	97
9.11	Waste Rock	98
9.12	Tailings Management	99
9.13	Rehabilitation	100
9.14	Closure Planning	101

HSE Management System Standards

The Management System Standards reflect the requirements of ISO14001, ISO 4801 and OHSAS 18001. This structure will support Business Units where they seek Management System Accreditation and provides a strong framework for embedding Health, Safety and Environment into how we do business on a continual improvement basis.

The Management System Standards detail the systems, processes, structures and documentation required at each Business Unit to meet the minimum requirements for an appropriately structured and documented management system.

The Management System Standards will drive a common HSE Management approach across OGC.

1 POLICY AND COMMITMENTS

1.1 HSE Policies and Commitments

Purpose

To clearly state the OGC's HSE philosophy and commitment to improving health, safety and environmental management systems and performance and to ensure that the company's HSE Policies are underpinned by a Statement of HSE Commitment relevant to and communicated by each Business Unit.

Minimum Standard

- 1.1.1** The CEO is accountable for developing and communicating the OGC Health and Safety and Environmental (HSE) Policies and holding management accountable for implementing the Policies.
- 1.1.2** The OGC (HSE) Policies shall:
- include a commitment to continual improvement of HSE management systems and performance;
 - include a commitment to comply, as a minimum, with the host country's HSE legal obligations and voluntary commitments made by OGC;
 - be documented, implemented and communicated;
 - be available to third parties on request; and
 - be reviewed and endorsed every 2 years by the CEO (as a minimum).
- 1.1.3** Each Business Unit will utilise the OGC Statement of Commitment template to document its Commitment to the OGC Policies.
- 1.1.4** The Business Unit General Manager will endorse the Business Unit's Statement of Commitment and ensure it is displayed alongside the Policies.
- 1.1.5** Business Units shall ensure that Corporate Vision and Values, Policies and Statement of Commitment to the Policies is communicated to all employees and contractors, as well as appropriate third parties.
- 1.1.6** Business Units shall ensure that a local language version of the Corporate Vision and Values, Policies and Statement of Commitment to the Policies is communicated throughout the Site as appropriate.

2 PLANNING

2.1 Planning Hazard Identification and Control

Purpose

To ensure that health, safety and environmental risks are assessed, understood and controlled to reduce operational risks and exposures.

Minimum Standard

- 2.1.1** All Business Units shall develop and maintain a procedure for the identification of hazards and effective management of risk for activities and tasks conducted within the scope of operation.
- 2.1.2** There shall be a system, based on hazard identification and risk assessment, which ensures effective controls are in place to minimise exposure to hazards.
- 2.1.3** Each Business Unit shall develop and maintain a formal HSE operational risk register using the OGC Risk Register template.
- 2.1.4** The Risk Management Process will comply with the intent and overall requirements of the International Standard for Risk Management ISO 31000:2009.
- 2.1.5** The Business Unit HSE risk assessment process will use the OGC Operational Risk Matrix and include the following elements:
- hazard identification;
 - credible worst case consequence;
 - risk ranking;
 - risk control treatments; and
 - monitoring and review of controls.
- 2.1.6** The HSE Risk Register shall contain the following minimum information (not needed to be detailed if the risk register is delivered in a template format):
- location of hazard or hazardous activity;
 - the unwanted event (or aspect for ISO14001);
 - credible worst case (or impact for ISO14001);
 - inherent risk score;
 - residual risk score (with controls in place);
 - causes;
 - controls reflecting the Hierarchy of Controls; and
 - additional controls and improvements required for management of the risk.
- 2.1.7** The Risk Register shall be reviewed annually as a minimum.

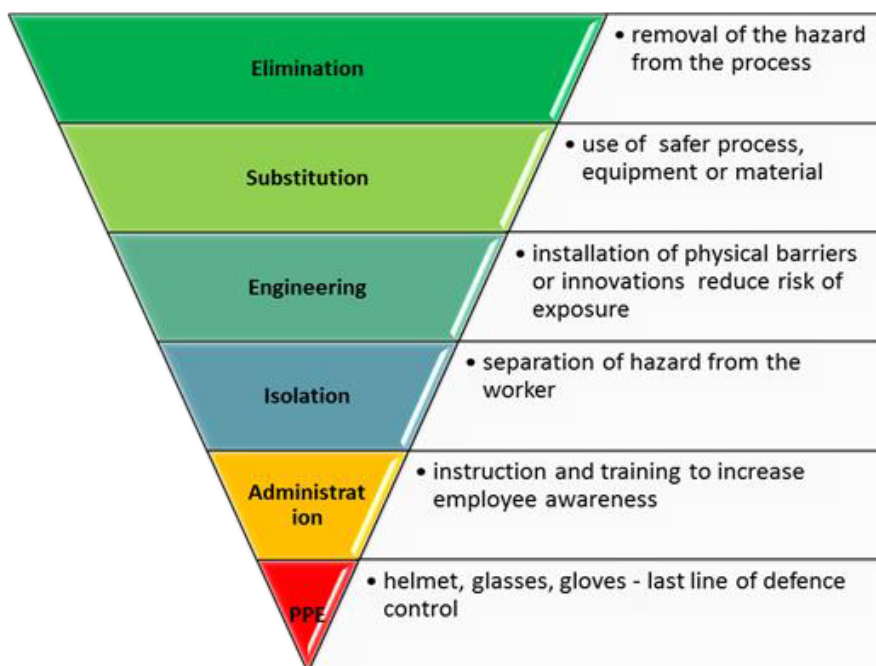
2.1.8 Principal Risk areas at OGC Business Units shall include where applicable:

- Ground Control;
- Inundation and Inrush;
- Mobile Equipment and Traffic Management
- Tips, ponds and voids;
- Air quality;
- Fire and Explosion;
- Explosives;
- Tyre and Rim Management;
- Hazardous Substances;
- Electrical Safety;
- Energy Isolations;
- Lifting and lifting equipment;
- Working at heights;
- Confined space work;
- Machine and equipment guarding;
- Tree felling; and
- Extreme weather.

2.1.9 Where any Principal Risk Area or activity is identified within the Business Unit a Plan shall be developed to describe all systems, processes, procedures and safeguards undertaken to manage and mitigate the risk identified.

2.1.10 Plans to manage Principal Risk areas shall be reviewed annually as a minimum or earlier when events, incidents or changes to design, process and operation initiate a review.

2.1.11 Where risk assessments indicate the need for controls, the following hierarchy of controls must be adopted:



- 2.1.12** A Risk Assessment shall be conducted where a new activity, new process, new equipment, new chemical or any other additional exposure occurs.
- 2.1.13** Employees and contractors at each Business Unit must be trained and competent to conduct task-based risk assessments.
- 2.1.14** The OCG event management database (INX) shall be utilised to identify and track hazard identification, risk controls and manage these activities to closeout.

2.2 Legal and Other Requirements

Purpose

To ensure that a formal process is in place to identify and have access to all up-to-date health, safety and environment requirements (laws, permits, licences, covenants, project approval conditions etc.) pertaining to the activities of the Business Unit, and to assess compliance with those legal requirements.

Minimum Standard

- 2.2.1 All Business Units shall maintain processes for identifying, accessing, monitoring, and updating all relevant international, national, local and provincial statutory obligations and requirements that may be applicable to the Business Unit.
- 2.2.2 At each Business Unit a process shall be maintained to ensure that all HSE regulatory requirements are met, and designated persons are appointed to be responsible for monitoring compliance and reporting.
- 2.2.3 A formal HSE Legal Register shall be collated and maintained for each Business Unit.
- 2.2.4 Once all applicable statutory requirements are identified and accessed, relevant information shall be communicated to Business Unit Department Managers and Superintendents through training sessions and/or management meetings, including providing periodic legal updates.
- 2.2.5 Each Business Unit shall maintain a high level of statutory compliance and where known non-compliances exist, Business Units shall utilise their HSE management systems to achieve full legal compliance.
- 2.2.6 In the event that a Business Unit is unable to comply with the conditions of a permit or licence or it is deemed that the condition is constraining, then discussions shall be promptly held with the relevant regulatory body.
- 2.2.7 All Business Unit permits, licences, covenants and approvals shall be retained in an organised manner so as to be readily accessible.
- 2.2.8 Formal reviews and updates to each Business Unit Legal Register shall be conducted at least annually, or when major changes occur.
- 2.2.9 Each Business Unit shall undertake a biennial audit of their level of statutory compliance with relevant legal obligations.

2.3 HSE Objectives and Targets

Purpose

To ensure that Business Unit planning processes include HSE objectives and targets that are based on identified significant risks and opportunities.

Minimum Standard

2.3.1 OGC Executive Committee (EXCO) shall develop a corporate HSE Strategic Plan (every three years as a minimum) that will be aligned to:

- the Company's Mission, Vision and Values;
- the Company's HSE policies; and
- HSE operational performance issues.

2.3.2 OGC EXCO shall also set annual Corporate HSE objectives, targets and Key performance Indicators (KPIs). Performance against these shall be periodically reviewed by the Chief Operating Officer (COO) or relevant EXCO member and reported to the company Board and other interested parties.

2.3.3 Business Unit HSE achievements will be measured and assessed using lagging and leading targets and performance indicators including but not limited to:

Lagging Indicators

- injury/incident frequency rates;
- employee compensation claims;
- equipment damage costs;
- HSE non-compliances;
- Environmental spills; and
- Stakeholder complaints.

Leading Indicators

- progress against annual HSE Improvement Plans;
- inspections completed;
- audits completed;
- training completed;
- HSE meetings held;
- task observations completed;
- hazards reported; and
- corrective actions completed.

2.4 HSE Management and Improvement Plans

Purpose

That HSE Improvement Plans for each Business Unit will be developed annually, prior to the budget process, to ensure that improvement plans, personnel, resources and completion timeframes are defined to support the completion of HSE objectives and targets.

Minimum Standards

2.4.1 Business Unit HSE Improvement Plans will be developed annually to achieve OGC Corporate HSE strategic objectives and KPI's and will also consider strategies to address:

- Principal HSE risks;
- key audit findings;
- HSE statutory requirements and non-compliances;
- previous year's HSE performance;
- HSE performance improvement initiatives;
- incident statistics / information; and
- specific tasks to be completed.

2.4.2 Business Unit annual HSE Improvement Plans must include:

- targets for lagging and leading performance indicators
- how HSE objectives will be achieved;
- personnel accountable for the overall plan and each listed task;
- completion dates;
- budget and resource requirements; and
- management team endorsement.

2.4.3 Business Unit HSE Improvements Plans will be:

- communicated to relevant employees; and
- reviewed quarterly by each Business Unit General Manager for progress against defined completion timeframes.

3 IMPLEMENTATION AND OPERATIONAL CONTROL

3.1 Resource, Roles and Accountability

Purpose

To ensure that resources, roles and accountability are appropriately allocated for the maintenance and continual improvement of HSE management.

Minimum Standard

- 3.1.1** HSE accountabilities and responsibilities (including applicable legislative requirements) for all roles within OGC including Corporate and Business Units shall be documented within individual position descriptions and role clarity statements provided by OGC Human Resources Departments.
- 3.1.2** The OGC Senior Management Team shall demonstrate commitment to health, safety and environment at all times.
- 3.1.3** The OGC Senior Management Team shall review HSE performance across the organisation and endorse organisational HSE Policies, Objectives, Targets and relevant KPI's, to be cascaded through the Business Units.
- 3.1.4** Specific HSE roles specific to OGC or the Business Unit will be included in organisation charts and shall be available to all employees.
- 3.1.5** Business Units shall provide appropriate staff, technical, organisational and financial resources to enable the effective use, maintenance and continual improvement of HSE Management Systems, to reduce HSE hazards and risks and improve HSE performance.
- 3.1.6** The Business Unit General Manager shall be held accountable for the effective implementation of these OGC HSE Standards, annual HSE Improvement Plans and the HSE performance of the Business Unit.
- 3.1.7** Each Business Unit shall develop, maintain and communicate relevant systems, processes and documentation to ensure all employees understand the HSE responsibilities and accountabilities associated with their roles.
- 3.1.8** Performance against individual HSE responsibilities and accountabilities shall be formally assessed at least annually, against clearly defined individual objectives, agreed targets and relevant KPIs. The annual assessment shall be documented and retained.
- 3.1.9** Any variable financial reward scheme for employees must be designed so that HSE performance and reporting is not compromised in order to maximise the financial reward.
- 3.1.10** Each Business Unit Management Team shall participate in periodic HSE Management System and performance reviews relevant to their Business Unit.

3.2 Training, Competency and Awareness

Purpose

To ensure all workers (employees and contractors) and visitors at OGC have the appropriate knowledge to conduct their work activities and site visits in a safe and competent manner.

Minimum Standard

- 3.2.1** All new employees and contractors must be provided with an induction appropriate to their needs to ensure an understanding of the site HSE requirements, the hazards they may be exposed to and mandatory rules including emergency response and expected behaviours.
- 3.2.2** Inductions must include:
- OGC Corporate overview and common framework HSE systems and expectations;
 - Business Unit specific HSE information which may include the nature and scale of the Business Unit and expected behaviours and rules; and
 - work area hazard awareness and rules specific to work activity and the work location.
- 3.2.3** All site visitors require a Business Unit visitor's induction so that visitors understand the rules, hazards and emergency procedures specific to each Business Unit and area of visitation. Visitors shall be escorted at all times (outside of designated administration areas) after they have completed their induction.
- 3.2.4** HSE refresher induction training must be undertaken every two years for all employees and contractors.
- 3.2.5** Documented systems are required at each Business Unit to ensure that employees are competent, trained, equipped and where required certified, to complete their work correctly, in accordance with relevant procedures, and that their knowledge has been tested and confirmed.
- 3.2.6** Each Business Unit shall maintain a documented training plan that includes a Training Needs Analysis as well as a schedule of training to meet the requirements of the Training Needs Analysis.
- 3.2.7** Training shall be based on the needs of individual employees to meet their work and HSE competency requirements.
- 3.2.8** Any HSE statutory related training required by the host country must be provided to employees and relevant contractors.
- 3.2.9** All relevant training records must be retained to demonstrate training attendance and successful attainment of competencies.
- 3.2.10** Contractors are required to provide an equivalent standard of HSE training and maintain records of training attainment, content and competency, for timeframes reflected in statutory requirements or as agreed with OGC.

3.3 Communication and Consultation

Purpose

To provide effective opportunities for employees and contractors to participate in discussions and receive feedback and information related to HSE activities and issues that facilitate the improvement of HSE management systems and performance.

Minimum Standard

3.3.1 Communication forums to be utilised across OGC must include:

- pre-shift meetings at the commencement of each shift, attended by all employees and contractors within work groups;
- Business Unit Health and Safety Committee meetings;
- Department level Health and Safety meetings; and
- systematic distribution and discussion of all relevant HSE Alerts or similar communications.

3.3.2 Pre-shift Meetings must include:

- the work groups' safety performance from the previous shift including discussions based on task observations, workplace inspections, hazards and incidents;
- discussion of potential safety issues in the upcoming work schedule;
- any safety incidents relevant to the work team including any hazards or incidents identified from the previous shift ;
- any planned safety improvements or health, safety or environmental focus; and
- safety performance ranking as good, par, or poor.

3.3.3 Information boards shall be provided in Department meeting areas and other suitable locations for the dedicated display of relevant HSE information.

3.3.4 HSE information boards shall be maintained so as to ensure information is current, clear and not obstructed or cluttered.

3.3.5 Business Unit Health and Safety Committee meetings shall be conducted monthly, made up of elected H&S Representatives, the Business Unit General Manager, site HSE Manager and other management representatives by invitation.

3.3.6 The following topics shall be discussed at Business Unit Health and Safety Committee meetings:

- previous minutes of the committee;
- performance and progress against HSE plans;
- injuries, incidents and associated findings for the previous month;
- HSE Alerts and notices; and
- HSE issues raised in the work areas.

3.3.7 Department level HSE meetings shall be conducted monthly and attended by department employees.

3.3.8 The following topics shall be discussed at department HSE meetings:

- previous meeting minutes;
- injuries, incidents and associated findings for the previous month;
- workplace HSE issues including any work procedure issues;
- scheduled and upcoming HSE training;
- non-compliance with statutory obligations and internal HSE requirements; and
- HSE alerts and notices.

3.3.9 Minutes from all HSE meetings shall be retained, communicated to employees and filed.

3.3.10 A HSE committee shall be established at each Business Unit to support line management in creating, implementing and communicating H&S procedures, plans and other relevant information.

Health and Safety Representatives

3.3.11 Unless otherwise directed by host-country legislation each Department or Work Group (shift) within the Department consisting of 15 or more employees shall appoint an H&S Representative.

3.3.12 For Departments or Work Groups with less than 15 employees, an existing H&S Representative will be nominated to represent that group.

3.3.13 Nominations for the H&S Representative shall be determined by Business Unit employees. Site management shall not appoint H&S Representatives.

3.3.14 Appointments shall be acknowledged in writing by the Business Unit General Manager and communicated to the workforce.

3.3.15 A HSE suggestion scheme shall be implemented as part of the responsibilities of the HSE committee.

3.3.16 H&S representatives shall be given the time and resources necessary to perform their duties as Health and Safety Representatives.

3.3.17 H&S representatives shall complete any training that may be required by the host country legislation.

3.3.18 The H&S Representatives shall:

- encourage employees to behave in a safe manner;
- share information related to known risks or hazards;
- participate in the HSE Committee meetings and other safety communication meetings as required;
- assist the workplace communication network at safety meetings and forums;
- assist in the regular HSE workplace and equipment inspections as requested by managers; and
- inspect the workplace once a month and reporting findings and any issues to the relevant Business Unit HSE Manager.

3.4 Document and Data Control

Purpose

To provide a structured and systematic processes that enables documents to be controlled, to provide access to current versions of HSE documentation and to facilitate consistency in document description, layout and control.

Minimum Standard

- 3.4.1** HSE documents are to be formally document controlled at both the Business Unit and corporate levels by nominated personnel. All documents that can be “updated” must be controlled, otherwise they are to be managed and retained as a record.
- 3.4.2** Electronic copies of documents are to be retained utilising company naming convention defined within the OGC information system, which is administered by the Business Unit or corporate Document Controller.
- 3.4.3** Document identification shall comply with all OGC Document Standards including where developed:
- document name;
 - unique identifying number;
 - version;
 - date of issue
 - author, and
 - authoriser.
- 3.4.4** Issue of documents will only occur when the document has been reviewed and approved for implementation and use.
- 3.4.5** When a document is updated and released, the version number must be updated and past electronic versions archived.
- 3.4.6** Hard copy updates shall be managed at the Business Unit level to remove obsolete versions and ensure that only current documents are available for use.
- 3.4.7** The review frequency for each HSE procedure will be determined by the HSE Manager for the Business Unit. Emergency plans and procedures for high risk activities are to be reviewed annually as a minimum.
- 3.4.8** Obsolete hard copy documents are to be removed from circulation, destroyed or archived in line with the relevant Business Unit document control procedure.
- 3.4.9** Document retention in the first instance will be aligned to any host country statutory requirements and secondly will occur as described in the Business Unit document control procedure. As a minimum, documents will be retained for one year.
- 3.4.10** Archived documents shall, where possible, be stored in a fire protected building or room. The documents shall also be protected from weather, dust and vermin etc.

3.5 Operational Risk Management

3.5.1 Task Risk Management

Purpose

To identify the hazards and manage the risks associated with routine and non-routine tasks performed during tasks.

Minimum Standard

- 3.5.1.1** Business Units shall ensure that all work tasks are assessed for risk prior to commencement of the task.
- 3.5.1.2** A personal pre task risk assessment (**Stop and Think**) shall be formally conducted using the OGC **Stop and Think** template prior to commencing tasks.
- 3.5.1.3** The pre-start risk assessment shall identify hazards and controls required to effectively manage the hazards and identifies when a higher level (JHA) risk assessment is required.
- 3.5.1.4** JHA's shall be:
- initiated prior to commencing any non-routine tasks that are not governed by an approved and up-to-date Procedure and are not considered low risk as assessed using the **Stop and Think** template;
 - used at times when a work activity is likely to create health, safety or environmental hazards not normally present;
 - conducted by a team which includes personnel who perform the work, and, if required, personnel who have the relevant technical expertise;
 - conducted, as described within the Business Unit HSE Risk Assessment Procedure;
 - used to contribute to the development of written Procedures; and
 - used only once unless considered suitable for re-use at which point the JHA must be re-evaluated, re-approved and re-issued.
- 3.5.1.5** An approved Procedure shall be developed and used where specific tasks that require a JHA are undertaken on a regular basis (i.e. more than 4 times per year).
- 3.5.1.6** Once utilised, JHA's shall be filed and held as a departmental record for a period of not less than one year (for audit purposes) or for the life of the Procedure to demonstrate the risk assessment conducted to develop the Procedure.
- 3.5.1.7** All personnel undertaking work activities for the Business Units must be provided with knowledge and awareness of task based risk assessment and JHA requirements.
- 3.5.1.8** Procedures will be prepared to ensure that employees understand how to perform work tasks correctly, safely and minimise the risk of injury and environmental impact.
- 3.5.1.9** Procedures must be prepared and reviewed in consultation with those employees usually involved with the work.
- 3.5.1.10** Procedures must be easy to read, understand and be followed and must be document controlled, readily available and followed.
- 3.5.1.11** Employees and contractors are to be advised when new procedures have been created or existing procedures updated and where these can be accessed.

- 3.5.1.12** Employees and contractors must receive on-the-job training in relevant procedures that apply to their work, especially those whose work activity involves significant HSE risk.
- 3.5.1.13** Procedures must be periodically reviewed for accuracy and relevance and after any relevant incidents and process or design changes.
- 3.5.1.14** Procedures must be controlled as per the Company document control and management process.
- 3.5.1.15** Statutory requirements including relevant criteria must be included in all relevant Procedures.

3.5.2 Projects, Development and Expansion Risk Management

Purpose

To define the requirements for the assessment and control of hazards associated with new projects, developments and expansions.

Minimum Standards

- 3.5.2.1** Information will be formally collected and reviewed to develop a clear understanding of the significant HSE issues for any new project, development or expansion.
- 3.5.2.2** The information shall include:
- requirements of Business Unit management, functional groups, statutory authorities and other groups which may impose specific HSE requirements;
 - any applicable host country legislation, codes and standards; and
 - HSE risk exposure limits;
 - A review of the proposal shall include:
 - the location of the project in terms of interaction with other plant, processes and land-use, as well as transport to and from the project;
 - project design to ensure that new facilities meet company and statutory requirements for protecting the health and safety of personnel, property and the environment; and
 - previous hazard studies to confirm that any actions have been completed or have been formally handed over to operations for completion.
- 3.5.2.3** A project specific HSE Risk Register and Assessments shall be prepared and updated to capture all potential hazards and associated risk information. Copies of all hazard study records and reports shall be incorporated into any final project design dossier.

3.6 Management of Change

Purpose

To ensure that proposed permanent, temporary and emergency changes to Business Unit operations are considered, evaluated and authorised and that the risks from all proposed changes are understood and controlled.

Minimum Standard

3.6.1 A formal system must be maintained for formally reviewing and approving proposed changes at each Business Unit. All change requests must clearly identify the:

- current situation;
- purpose of the change;
- expected outcome from the change; and
- process to be used to assess the results of the change.

3.6.2 The Change Management System must incorporate requirements for permanent, temporary and emergency changes to Business Unit operations.

3.6.3 All change requests must include a risk assessment process that includes:

- identification of all risks associated with the proposed change;
- control mechanisms to eliminate or minimise the risks;
- performance standards to be used; and
- any further requirements to be completed, e.g. hazard studies, statutory requirements

3.6.4 All change requests must be evaluated and supported including input from:

- relevant Managers or Superintendents including H S and E;
- an appropriate level of technical expertise; and
- employees likely to be affected by any change.

3.6.5 An authorisation process shall be adopted based on the level of change and risk and shall escalate from Superintendent to Manager to General Manager.

3.6.6 Appropriate information relating to the proposed change shall be communicated and training provided to those affected.

3.6.7 Prior to the hand-over of a physical change for operational use, an acceptance check shall be completed to ensure:

- the changes have been correctly completed in accordance with the authorised change proposal;
- all actions from the review process, including any requested studies have been satisfactorily completed and all outcomes included; and
- the physical change has not introduced any additional unforeseen hazards.

3.6.8 A formal process must be maintained to provide for the subsequent revision of site drawings, operating procedures, maintenance requirements and emergency procedures.

3.6.9 A contingency process is required to cover emergency situations, when proposed changes cannot be subject to the full change approval process. This contingency process must incorporate the approval of the Business Unit General Manager.

3.6.10 Each Business Unit change management process must incorporate relevant changes to:

- plant and equipment (modifications or new installations);
- business processes;
- design and construction;
- programmable electronic system software;
- metallurgical processing;
- mine planning and ground control; and
- standard operating procedures relevant to high-risk work.

3.7 Contractor Management

Purpose

To provide a systematic and consistent approach to the selection, management and monitoring of contractors and to ensure that all contractor employees abide by OGC policies and procedures as well as any host country statutory requirements.

Minimum Standard

- 3.7.1** Business partners, contractors and suppliers of goods and services, shall be encouraged to establish and maintain systems consistent with these OGC HSE Compliance Standards.
- 3.7.2** Each Business Unit shall ensure that a Principals Representative is nominated and responsible for each contractor engaged at that Business Unit.
- 3.7.3** The Principals Representative is responsible for the day-to-day management of designated contractors and their daily work activities.
- 3.7.4** Contractor selection must be completed through a formal pre-qualification process. This must consider relevant licences or registration to operate, details of the products, activities or services, the contractor's own HSE Management System (if applicable) and the contractor's HSE performance history. Contractors are required to provide sufficient documentation to demonstrate the existence and effectiveness of their HSE Management System, or if not present, how the contractor will align with the Business Unit's HSE management system.
- 3.7.5** Written contracts between the Company and third parties shall specifically refer to these OceanaGold HSE Compliance Standards and the need for the contractor to understand, adopt and comply with the requirements of these standards. The contract may include financial penalty for major HSE non-conformance or breaches.
- 3.7.6** Before mobilising to site and commencing work, contractors shall prepare a HSE Management Plan that is directly applicable to their scope of work (i.e. not broad or general plans) and submit this plan to their nominated Principals Representative for formal approval.
- 3.7.7** The HSE Management Plan must include a description of all anticipated HSE risks and the controls that will be implemented by the contractor.
- 3.7.8** Before work commences on any contract, all contractor personnel must be given an appropriate HSE induction.
- 3.7.9** All tools and equipment used by contractors must be inspected prior to use, including safety and emergency equipment, and records of these inspections are required to be retained.
- 3.7.10** Where chemical substances are supplied by the Business Unit, Material Safety Data Sheets (MSDS) shall be supplied to the contractor. Contractors must provide MSDS's to the Business Unit HSE personnel for the approval of all substances they intend using.
- 3.7.11** Periodic contractor meetings shall be held with longer-term or permanent contractors to coordinate activities, discuss HSE performance and any issues, materials movement, staging areas and any other related issues.
- 3.7.12** The Business Unit Principals Representative shall conduct regular monitoring of their designated contractor's HSE performance, in particular to verify how work is being completed with regards to correct HSE practices and compliance.

3.7.13 Contractors shall maintain all records and licences as required by legislation. Contractors shall also maintain records of company HSE meeting attendance and minutes of their own HSE meetings.

3.7.14 The Contractor is also responsible to ensure:

- relevant statutory and Business Unit HSE requirements are met;
- all contractor employees attend the appropriate HSE induction and training prior to commencing work;
- all work is performed in a safe manner and relevant procedures are followed;
- previously unidentified hazards are controlled and brought to the attention of the Supervisor and Business Unit Contactor Representative; and
- all incidents, injuries and non-compliances involving contractors are reported and investigated as appropriate.

3.8 Behaviours

Purpose

To define the correct behaviours expected to be demonstrated by all OGC personnel, contractors and visitors, to support Company values and facilitate high levels of HSE performance.

Minimum Standard

3.8.1 All Business Units shall identify the mandatory critical safety behaviours required to support their activities.

3.8.2 All Business Units shall develop processes to recognise and support safe behaviours and to discourage unsafe behaviours.

Mandatory safe behaviours shall include:

3.8.3 Personnel are always fit for work by:

- managing personal influences including sleep, diet, state altering substances (kava, betel nut, coca leaves, alcohol, drugs) and any other medication; and
- ensure that they are competent and fully trained prior to undertaking the task.

3.8.4 Personnel must never take shortcuts by:

- always checking equipment and completing pre-start requirements;
- if a Procedure /JHA exists, it must be followed; and
- identifying if a better (faster) way to conduct a task, in the absence of completing a JHA to demonstrate there is no increased risk and to also amend the Procedures.

3.8.5 Personnel must **Stop and Think** before each task; and

- consider the HSE hazards associated with each task;
- check that all known risks and hazards are managed;
- ensure they are authorised to undertake the activity.

3.8.6 Personnel must immediately report all incidents, injuries, near misses and hazards, and

- build up the safety capacity and safety memory of the organisation
- improve the management of risks; and
- provide opportunities for corrective and preventative actions.

3.8.7 Personnel must support and encourage safe work behaviour in others and don't allow co-workers to place themselves in danger.

- coach their peers in good HSE practices;
- be involved in HSE initiatives and activities; and
- when observing at risk behaviours or conditions, stop the work and communicate this to their Supervisor.

4 EMERGENCY MANAGEMENT

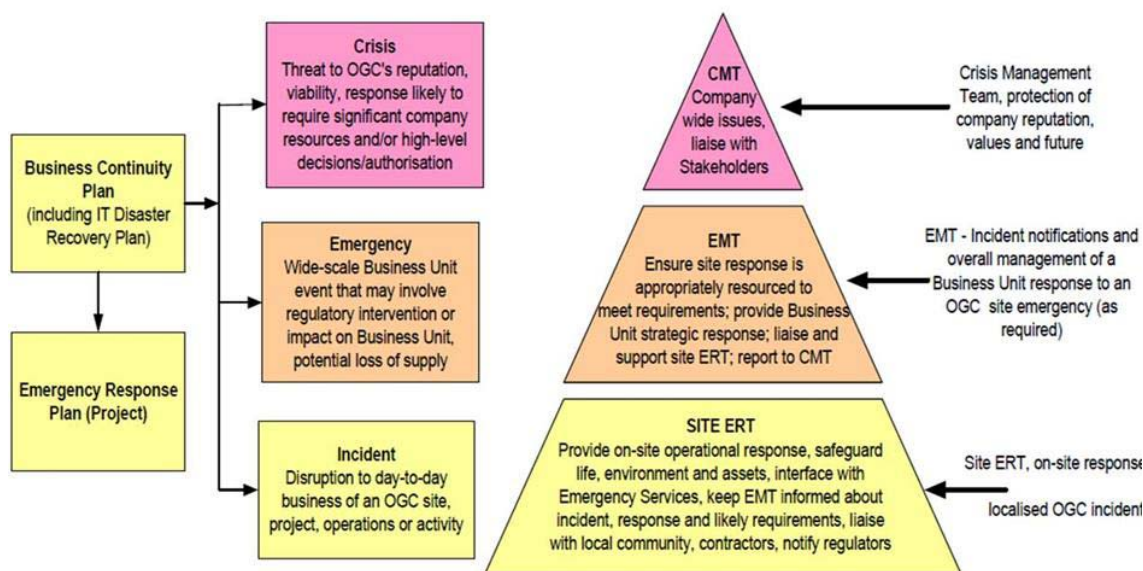
4.1 Crisis and Emergency Preparedness and Response

Purpose

To identify potential HSE emergencies and ensure effective plans, response processes and resources are available to minimise injury, property damage or harm to the environment.

Minimum Standard

4.1.1 OGC crisis and emergency response shall be structured as described in the diagram below:



4.1.2 OGC will develop and periodically review a Crisis Management Plan (CMP). The CMP shall be appropriate to the nature and scale of the Company and shall identify reasonably foreseeable Crisis scenarios.

4.1.3 The CMP shall identify a response team structure and allocate roles appropriate to the reasonably foreseeable crisis events.

4.1.4 A crisis management exercise will be conducted annually and will require activation of the OGC Crisis Management Team (CMT) and a Business Unit Emergency Management Team (EMT).

4.1.5 Each Business Unit shall develop an Emergency Management Plan (EMP) appropriate to the nature, scale and activities of the Business Unit and shall identify reasonably foreseeable emergency scenarios based on a risk assessment of the works and activities undertaken including the location and environment.

4.1.6 EMP's shall include consideration of prevention, preparedness, response and recovery from the identified potential emergency events.

4.1.7 The EMP must identify appropriate triggers to allow notification and activation of the CMP.

4.1.8 Communication of the EMP shall be identified and addressed within the Plan.

- 4.1.9** Business Units shall ensure there is an effective emergency response capacity maintained at all times including the availability of appropriate equipment and competent personnel to support a planned response to the reasonably foreseeable emergency.
- 4.1.10** The response capacity may include the provision of assistance from Local Emergency Service providers where the supplier's capability is assessed as adequate.
- 4.1.11** Where Local Emergency Services are to be utilised the operation will ensure a "first response" ERT capacity exists to manage the incident, prior to arrival of the Local Emergency Service.
- 4.1.12** Emergency response capability and resources shall meet any local regulatory requirements.
- 4.1.13** Each Business Unit will designate single point accountability for emergency response (i.e. team leader) and emergency management planning (i.e. responsible Manager).
- 4.1.14** Emergency response procedures shall be formally developed, documented and implemented.
- 4.1.15** Emergency responders shall be trained and competent to respond to the identified scenarios and roles documented with emergency response procedures and shall include fire response, first aid/triage, Breathing Apparatus, Hazardous Materials, Rope Rescue and Vehicle Extrication.
- 4.1.16** A schedule of emergency training, drills and exercises must be developed to ensure effectiveness of the response teams, emergency plans and communication systems. Records of all drills and exercises must be recorded with improvements identified and followed up.
- 4.1.17** Emergency response equipment shall be properly stored, maintained, inspected and tested according to manufacturer's specifications with records maintained for life of the equipment.
- 4.1.18** Regular testing and audits of the emergency response capability must be scheduled and completed.
- 4.1.19** A desk top emergency response exercise shall be scheduled and conducted annually at each Business Unit.

4.2 First Aid and Medical Support

Purpose

To provide appropriate facilities, equipment and services that ensures prompt and effective treatment of emergency injuries and illnesses involving employees, contractors and visitors.

Minimum Standard

- 4.2.1** Each Business Unit shall ensure there is ready availability and access to emergency first aid, pre-medical care and medical care.
- 4.2.2** The arrangements for the provision of appropriate services, including evacuation of individuals must be documented and based on risk assessments. These services may include Local Emergency Services where their capability is assessed as adequate.
- 4.2.3** Risk assessments shall formally consider and address:
- the potential injuries and health risks;
 - the location of the operation;
 - the availability and capability of local medical support;
 - transport arrangements for emergency evacuation;
 - competency of business unit responders; and
 - provision for the availability of emergency treatment on a 24 hours a day 7 days a week basis.
- 4.2.4** Each Business Unit will appoint someone responsible for the provision of first aid and pre-medical management.
- 4.2.5** The responsible person must ensure that appropriate first aid and pre-medical response capacity is able to be provided at all times within the scope of the EMP.
- 4.2.6** Appropriate medical training commensurate with potential emergency situations identified in the EMP shall be provided to all medical professionals, first aiders and emergency responders.
- 4.2.7** Business Units shall provide and equip a facility suitable for the treatment and recovery of injured and ill employees.
- 4.2.8** Medical equipment must be listed on a register and inspected and maintained to manufacturer's specifications.
- 4.2.9** Medical consumables must be managed and stored appropriately, with use and administration by persons trained in their use and assigned with responsibility to do so.
- 4.2.10** An emergency vehicle, suitable for conveying injured or ill personnel to on and off site medical facilities or "pick-up point" shall be available, where the external ambulance service is inadequate.
- 4.2.11** Where 24 hour professional medical coverage is not provided, after hours medical contact details shall be signposted at strategic locations.
- 4.2.12** Trained and certified first aiders must be available on every shift at a ratio of 1 first aider for every 30 employees. This service ratio is required even where the Business Unit has 24 hour professional medical coverage.

- 4.2.13** Immediate treatment centres such as emergency showers, eye wash stations and first aid packs shall be installed at locations where immediate response requirements have been identified.
- 4.2.14** The locations of immediate treatment centres shall be clearly designated by way of green and white signage and lighting and communicated to employees through induction programs.
- 4.2.15** Medical records shall be retained for all treatments (respecting local privacy laws) and stored appropriately.

5 MEASUREMENT AND EVALUATION

5.1 Performance Measurement and Monitoring

Purpose

To ensure that comprehensive occupational health, safety and environmental monitoring programmes are implemented to evaluate HSE performance and to allow informed decision making for continuous improvement in HSE.

Minimum Standard

- 5.1.1** Monitoring and measurement programs shall be developed and implemented for activities relating to significant HSE risks that could adversely affect employees, the wider community and/or the physical environment. An annual schedule shall be developed for all required programs.
- 5.1.2** Monitoring programmes shall also assess compliance with relevant statutory requirements and licence conditions and identify trends for any relevant lagging and leading indicators.
- 5.1.3** Employees, consultants and contractors who undertake monitoring, or collect samples for analysis will be trained and competent in field monitoring and measurement practices. Training records shall be retained.
- 5.1.4** Analytical sampling and analysis carried out by external laboratories shall be externally and independently certified for the analyses to be performed.
- 5.1.5** Monitoring equipment will be calibrated consistent with the manufacturer's specifications and records of calibrations shall be retained.
- 5.1.6** Monitoring results will have suitable Quality Assurance/Quality Control (QA/QC) checks and be managed and retained by the department that is responsible for collecting the data.
- 5.1.7** Monitoring and measurement data results will be effectively stored, collated, trended, reviewed and interpreted to determine and facilitate any required process improvements.

5.1.8 Business Unit HSE monitoring programs shall include but are not limited to:

Occupational Health

- medical assessments;
- air quality exposures;
- occupational noise surveys; and
- fatigue monitoring.

Safety

- alcohol and drug testing;
- workplace inspections;
- Injuries;
- Hazard and Incident Reporting; and
- Task Observations.

Environment

- ground control monitoring;
- surface and groundwater monitoring;
- geochemical waste rock analysis;
- rehabilitation monitoring;
- tailings dam monitoring;
- waste rock dump runoff monitoring;
- environmental noise surveys; and
- dust sampling.

5.2 Incident Reporting and Investigation

Purpose

To ensure that a formal process is implemented to report, investigate, record and follow-up HSE incidents, injuries and occupational illnesses. This must include the determination of underlying causes and to minimise the potential for the future occurrence of similar events.

Minimum Standard

- 5.2.1** All incidents including, safety, environmental, community, process loss, property damage, injuries, near misses and occupational illnesses that occur within OGC Business Units or during the conduct of OGC duties must be reported by personnel to their immediate supervisor as soon as possible and recorded on an approved Incident Report form.
- 5.2.2** All incidents, injuries, near misses and occupational illnesses shall be assessed within 24 hours for actual consequence and potential risk and corrective and preventative actions planned to reduce the likelihood and potential consequence of the event.
- 5.2.3** All incidents, injuries and occupational illnesses must be reported in accordance with statutory obligations and the OGC HSE Communication Flow Chart.
- 5.2.4** All LTI's and serious near misses must be reported to the COO or relevant EXCO member by the relevant senior manager within 24 hours. All fatalities and serious environmental incidents must be reported immediately.
- 5.2.5** All high potential incidents and incidents that result in recordable injuries shall be formally investigated to determine causal and contributing factors and the appropriate corrective and preventative actions.
- 5.2.6** Incident investigations shall be led by an appropriately trained person and reviewed by Business Unit Management to verify the thoroughness of the investigations, completeness of findings and suitability of the recommended actions.
- 5.2.7** All Business Units shall maintain records of all HSE incidents, including all investigations and associated corrective and preventative actions.

5.3 Classification and Statistics

Purpose

To ensure the correct and consistent classification of incidents, injuries, illnesses and environmental events by all Business Units and to ensure they are accurately recorded.

Minimum Standard

- 5.3.1** All incidents and near-misses must be classified and recorded in accordance with the OGC Incident Classification and Notification/Reporting Guideline.
- 5.3.2** Where applicable, each Business Unit may appoint appropriate personnel (usually HSE Officers) who are accountable for injury classification, recording and reporting.
- 5.3.3** Injuries shall be classified in terms of severity according to the following definitions:
- Lost Time Injury (LTI) - an occupational injury resulting in one or more days away from work. A Fatal Injury (FI) is counted as a lost time injury;
 - Restricted Work Injury (RWI) - an occupational injury that results in an employee being placed on selected or restricted duties and although able to return to work is unable to carry out their usual role for one or more normal working day/s or shift/s;
 - Medical Treated Injury (MTI) - an occupational injury that results in an employee requiring treatment required by medical expertise;
 - Minor Injury (MI) - an occupational injury that requires first aid treatment; and
 - Non Work Related Injury (NWR) - an injury which occurred externally to the workplace but was reviewed and treated in the workplace.
- 5.3.4** Information to be recorded for injury and illness classifications shall be aligned to AS 1885.1:1990 Workplace Injury and Disease Recording Standard in the Workplace.
- 5.3.5** Company and contractor statistics shall be available and reported separately.
- 5.3.6** All Business Units will submit a monthly summary of their HSE performance statistics as required by the COO or relevant EXCO member. This shall include leading and lagging indicators, using the approved OGC Monthly Report Template.
- 5.3.7** Business Units will also maintain a monthly, quarterly and a 12 monthly moving-average statistical profile of Lost Time Injury Frequency Rate (LTIFR), Medically Treated Injury Frequency Rate (MTIFR), Restricted Work Injury Frequency Rate (RWIFR), Total Recordable Injury Frequency Rate (TRIFR) and All Injury Frequency Rate (AIFR).

5.4 Internal and External Audits

Purpose

To evaluate each Business Unit's performance against statutory requirements, OGC HSE Compliance Standards, Plans, Procedures and processes to identify non-compliances and improvement opportunities.

Minimum Standard

5.4.1 Each Business Unit shall schedule and conduct an objective audit of the entire HSE management system at least every two calendar years.

5.4.2 The audit shall cover performance and compliance to the minimum requirements defined within the OGC HSE Compliance Standards.

All audits shall include:

- an agreed and achievable scope;
- a formal opening and closing meeting between the audit team and key Business Unit personnel;
- a thorough review of these OGC HSE Compliance Standards as applicable to and practiced on a Business Unit via;
 - documentation and record reviews;
 - field inspections; and
 - interviews with all levels of employees.
- an audit report provided to the Business Unit and relevant Company management.

5.4.3 Business Units shall ensure that HSE legal compliance audits are conducted periodically to verify the status of legal compliance against applicable statutory requirements. These audits may be completed internally by competent and independent personnel, by external independent auditors or by government representatives.

5.4.4 In addition, Business Units shall conduct their own internal HSE management system audit. These audits shall assess and evaluate the functionality, effectiveness and use of the Business Unit's management systems.

5.4.5 A program of external audits shall be developed and implemented to meet legal compliance requirements and where internal assessments identify the need.

5.4.6 All audit findings must be recorded and progressed using a formal corrective action plan that addresses each non-conformance. These action items must be documented and tracked for completion. The Business Unit General Manager must endorse action plans and commit resources to ensure actions are satisfactorily completed.

5.4.7 Each Business Unit shall develop appropriate audit protocols to evaluate conformance and compliance to their Business Unit Plans.

5.5 Inspections

Purpose

To ensure application of the workplace standards, processes and procedures required at each Business unit.

Minimum Standard

5.5.1 Each Business Unit shall establish a workplace inspection program to check and reinforce adherence to required workplace standards and Business Unit processes and procedures.

5.5.2 The inspection program may include but not be limited to:

- Housekeeping;
- correct use of work permits, JHAs;
- appropriate workplace behaviours;
- equipment condition;
- hazard identification;
- task observations; and
- work and environmental conditions.

5.5.3 Inspections must be carried out by line management to verify that employees are competent, trained, equipped and if required, certified to carry out their work in accordance with statutory and company requirements.

5.5.4 All inspection findings must be actioned using a formal corrective action plan that addresses identified issues.

5.5.5 Agreed corrective and preventative actions must be tracked to completion, closed out and verified as being effective.

5.6 Preventative and Corrective Actions

Purpose

To ensure that HSE management system deficiencies and opportunities identified from incident investigations, audits, assessments, inspections, emergency exercises etc. are recorded, progressed and tracked through to completion.

Minimum Standards

- 5.6.1** Each Business Unit shall develop and maintain a documented process to record, store, track progress and close out HSE related actions.
- 5.6.2** Adequate staff and financial resources and accountabilities shall be assigned to enable effective implementation and completion of corrective and preventative actions.
- 5.6.3** Each Business Unit shall implement a process to review and monitor the progress of completion of all HSE actions on a fortnightly basis.
- 5.6.4** Each Business Unit shall implement a review process to determine the effectiveness of all raised actions, resulting from high potential incidents and those events that involve significant HSE risk.
- 5.6.5** Each Business Unit shall review information from the action management process to identify and analyse trends and/or indicators of recurring deficiencies, including failure to satisfactorily address significant issues within reasonable timeframes.

5.7 Record Management

Purpose

To ensure that processes associated with the HSE management system have the necessary records and information to define, describe and report on the functionality, use and effectiveness of the management system.

Minimum Standards

- 5.7.1** Business Unit HSE records shall be legible, identifiable and traceable. These records are to be maintained and stored in a manner which will facilitate their retrieval and protection from damage.
- 5.7.2** Records retention timeframes for hard-copy and electronic groups of records are to be clearly defined by all Business Units and requirements communicated to all relevant personnel.
- 5.7.3** Critical records, as identified by the Business Unit for continuity, shall be backed up in a secure and safe location.
- 5.7.4** Relevant external documents such as reports, government correspondence etc. are to be held as records.
- 5.7.5** Examples of “critical” records that may be generated and need to be retained include:
- accident/incident investigation reports;
 - occupational hygiene and environmental monitoring data;
 - HSE training records;
 - external consultancy reports;
 - complaints and follow-up actions;
 - internal and external audit reports;
 - meeting and management review minutes;
 - licences and permits;
 - medical records; and
 - donation requests and associated decisions.
- 5.7.6** Effective archival processes are required to be maintained for documents and records which are of importance for both legal and/or knowledge preservation purposes.
- 5.7.7** Electronic records are to be retained in the Company’s information system such that they can be backed up as a routine IT process and safeguarded against loss.
- 5.7.8** Confidential records such as medical records, fatality reports and drug and alcohol test results are to be managed and retained as sensitive documentation with restricted access. Such documents and reports are to be filed with restricted electronic data base access or physically filed under lock and key.

6 REVIEW

6.1 Management Review

Purpose

To ensure that Business Unit HSE management systems and performance are reviewed periodically to ensure they remain effective, widely used, are communicated and drive continuous improvement at each operation.

Minimum Standards

6.1.1 Management reviews of Business Unit HSE performance shall be carried out at a minimum of six monthly intervals. Each Business Unit shall consider the following areas for review:

- status of annual HSE Business Unit Improvement Plans and progress towards meeting defined HSE objectives, targets and KPIs;
- HSE accident and incident trends;
- HSE significant risks and defined controls;
- Important internal and external audit results;
- any relevant communications from external stakeholders;
- feedback on the use, functionality and any required improvement to the HSE management system;
- changing circumstances, including updates to legal and other commitments and any HSE compliance issues; and
- status of incident investigations, corrective and preventative actions.

6.1.2 In addition to the above, at least on an annual basis, all operations must also consider and review the following areas:

- the HSE performance of the operation;
- recommendations for improvement of the HSE management system; and
- follow-up of actions from previous management review meetings.

6.1.3 Relevant outputs (i.e. minutes and actions) from management review shall be made available for communication and consultation.

6.1.4 The Business Unit General Manager, Department Managers and relevant HSE Department personnel shall attend the six monthly and annual HSE Management Review meetings.

6.1.5 Records (i.e. agenda, presentations and minutes) of all management reviews shall be maintained in accordance with OGC HSE Compliance Standard – Records Management.

6.1.6 Corrective action systems shall be used to manage the effective close-out of actions from management reviews.

HSE Operational Performance Standards

The Operational Performance Standards establish the minimum requirements at each Business Unit for the management of specific Health, Safety and Environmental focus areas.

The Operational Performance Standards will drive a consistent approach to the management of each focus area as well as to ensure that the Health, Safety and Environmental performance of each Business Unit (as measured by common performance indicators) is at an acceptable level for OGC.

The Operational Performance Standards include the Principal Hazards identified by the OGC Executive Committee and detail risk assessment and documentation requirements consistent with the requirements of Australian and New Zealand Legislation.

7 HEALTH

7.1 Medical Assessments and Role Capability

Purpose

To assess the health and functional ability of employee's before commencing work, periodically during employment and prior to leaving OGC employment to ensure employees are able to meet the physical requirements of their role and are not negatively impacted by health exposures resulting from their work.

Minimum Standard

- 7.1.1** A medical assessment, based on work area Similar Exposure Groups (SEG's) as identified in OGC guidance materials is required for all employees. Medical assessments shall be conducted:
- Prior to a prospective employee being offered employment;
 - When an existing employee is changing roles and there is a significant difference between the physical requirements and exposures of the former and new role;
 - Where there are known aspects of a role that may affect a person's existing medical condition (for example an asthmatic working in a dusty environment or a role involving repeated lifting movements for a carpal tunnel sufferer);
 - Periodically during the term of employment; and
 - Prior to exit from OGC employment
- 7.1.2** Medical assessments must be ethically and technically sound and carried out by a doctor, occupational health nurse or equivalent suitably qualified professional, as required by host country legislation.
- 7.1.3** Completed medical assessments must be reviewed by a suitably qualified professional and recommendations and role limitations notified to recruitment prior to employment being offered.
- 7.1.4** Medical assessments must be consistent with the role requirements and potential health risks. Details of the work activities and tasks to be undertaken and potential occupational hazards associated with the roles are to be provided to the medical examiner.
- 7.1.5** Employees must undergo a medical re-assessment when returning to work after a prolonged medical absence (greater than 1 month).
- 7.1.6** Employee's individual health and medical information is to be maintained confidentially and securely as required by local Privacy and Professional legislation.

7.2 Fitness for Work

Purpose

To ensure that employees, contractors and visitors to the Company's operations present themselves to work, such that they are capable of safely undertaking their designated activities and are not exposing themselves or others to the potential for injury or harm.

Minimum Standard

- 7.2.1** Procedures documenting the management system requirements for presenting 'Fit for Work' shall be developed, implemented and monitored by Business Units and shall include as a minimum, requirements and processes relating to Alcohol, Drugs including Prescribed Medication, and Fatigue.
- 7.2.2** Fitness for work awareness and educational programmes shall be provided to employees and contractors in induction programs and at least annually through internal communication processes.
- 7.2.3** Unless in contravention to the host country legislation an alcohol and drug testing program shall be implemented and maintained such that random, systematic or targeted (where there is a belief the person may be affected by drugs or alcohol) testing is undertaken on a regular basis.
- 7.2.4** Urine testing for drugs and breath testing for alcohol shall be the methodology used for the testing program and shall comply with AS/NZS 4308:2008. Procedures for specimen collection and the detection and quantitation of drugs of abuse in urine will be subject to any contradictory or local custom requirements.
- 7.2.5** Persons conducting testing shall be trained and competent to the requirements of the country in which they are operating or where there is no requirement default to AS/NZS 4308:2008.
- 7.2.6** The alcohol or illicit drugs level for any person reporting for, or being on duty is 0.00% for Breath Alcohol Content (Zero BAC) and the cut off levels identified in AS/NZS4308 which provide a negative test result.
- 7.2.7** Business Units shall implement procedures to remove persons who return positive results for drug and alcohol testing from their workplace, until formal HR processes are completed.
- 7.2.8** Business Units shall establish fatigue management processes and procedures, including roster cycle and hours of work risk assessments and have a monitoring program in place to identify and manage persons suffering from fatigue.
- 7.2.9** Variations to individual roster cycle and hours of work require a documented risk assessment to determine fatigue and written approval from a Department Manager/General manager.

7.3 Workplace Occupational Health Monitoring

Purpose

To identify and understand workplace health exposure levels to ensure appropriate monitoring and controls are provided for the protection of employee and contractor health. It applies to dust, fibres, mists, gases and fumes (particulates) noise, lighting and vibration where indicated by health risk exposure assessments.

Processes for monitoring shall include air quality, biological monitoring and medical surveillance as identified in relevant legislation international and national standards. See guidance material.

Minimum Standard

- 7.3.1** Each Business shall undertake a health risk exposure assessment for the workplace and include the identified health risks in the Business Unit's risk register. This assessment shall be used to identify workplace health hazards as well as any broader public health issues that may impact employees, their families and the business.
- 7.3.2** A Workplace Health Monitoring and Management Programme shall be developed based on the health risk assessment.
- 7.3.3** The Programme must be designed to record and retain data to demonstrate compliance with host country legislation and/or Company requirements and to protect employees from harmful exposures at the workplace.
- 7.3.4** Procedures for management of the Workplace Health Monitoring and Management Programme shall be developed communicated and maintained detailing the methodology for identifying, assessing, managing and monitoring work place health risks.
- 7.3.5** Procedures for sampling and analysis, including quality control requirements shall be developed, maintained and reviewed regularly.
- 7.3.6** Competent personnel with appropriately calibrated and serviced equipment shall conduct all monitoring, including confined space or post blast clearances.
- 7.3.7** Monitoring and measuring equipment shall be precise, accurate, reliable, and calibrated as required by the manufacturer.
- 7.3.8** A register shall be maintained of all monitoring equipment detailing, equipment type, make, model, date of purchase and supplier. Calibration and maintenance records shall be retained for the life of the equipment.
- 7.3.9** All Business Units shall store, retain and analyse occupational health data in a suitable database that can facilitate trend analysis and reporting of monitoring results.
- 7.3.10** Results from data shall be maintained, regularly reviewed by a competent person and communicated to relevant stakeholders such that:
- Individuals participating in the monitoring program shall be provided their monitoring results in a manner which ensures clear understanding of their risk;
 - Work crews affected by the identified hazard shall receive an overview of monitoring conducted with data presented in a manner that protects individuals; and
 - Management shall have regular reports provided from the monitoring program to identify areas of compliance and concern.

- 7.3.11** Where monitoring data exceeds the Trigger Action Response Plan (TARP) for the nominated Occupational Exposure Level (OEL), an incident report shall be raised and investigated with corrective actions identified aligned to the Business Units incident management processes.
- 7.3.12** Medical surveillance programs (biological monitoring, chest x rays, spirometry) shall be included as part of the monitoring program consistent with employee exposure risks and monitoring results.
- 7.3.13** All Business Units shall implement and maintain a 'No Smoking' Policy across all areas of the operation.

7.4 Business Travel Health Risk Management

Purpose

To ensure that employees, contractors and visitors have an understanding of the health risks associated with expatriate assignments, Business Unit visits, or working in differing locations.

Minimum Standard

- 7.4.1** Personnel who are travelling internationally shall be aware of relevant local (in-country) community health hazards and precautions necessary when arranging travel and ensure relevant advice, immunisations and medications are instituted prior to arrival at the Business Unit location.
- 7.4.2** Risks shall be identified and managed appropriately with medical consultation engaged where risk assessment indicates a requirement.
- 7.4.3** Risks to be considered include:
- Vector borne diseases (Malaria, Dengue Fever);
 - Jet Lag;
 - Typhoid, Cholera, Yellow Fever, Japanese Encephalitis, Rabies, Hepatitis;
 - Altitude sickness;
 - Current health status and medication use;
 - Transport;
 - Food and drinking water availability and choices;
 - Expenses and currencies;
 - Communication and emergency contacts;
 - Travel insurance; and
 - Personal security.
- 7.4.4** Prior to initial travel to any altitude above 3000 m, travellers must be reviewed by a physician and must consider:
- determination of lung function, heart function and absence of significant ischaemic or valvular disease, and epilepsy that may be adversely affected by low oxygen concentrations uncontrolled hypertensive conditions;
 - an Electrocardiograph and Exercise Stress Test shall be performed; and
 - potential for altitude sickness and associated medications and treatments including exercise caution in the first week.
- 7.4.5** Where possible 2 or 3 days must be allowed to begin acclimatisation to altitude before work begins.

7.5 Manual Handling and Vibration

Purpose

To provide a framework for Business Units to develop strategies to assist in the identification, assessment and control of Musculoskeletal Disease by mitigating the risks posed by poor task and equipment design and manual handling practices.

Minimum Standard

- 7.5.1** A documented program shall be in place to identify musculoskeletal risks associated with activities and task required and shall include the design, modification and positioning of work equipment as well as methods of handling equipment and materials.
- 7.5.2** Manual handling and ergonomic risks shall be included in the Business Units risk register and be assessed and controlled to an acceptable level of risk as required in OGC HSE Management System Standards.
- 7.5.3** OGC shall provide guidelines for identification of manual handling and ergonomic risks.
- 7.5.4** Control measures shall be prioritised in accordance with the Hierarchy of Controls. For example, sites shall ensure that alternative or mechanical means are used instead of manual handling practices wherever practicable.
- 7.5.5** Where ongoing risks are identified through screening and management processes a suitably qualified and competent person (e.g. Occupational Therapist, Physiotherapist, Ergonomist) shall provide expertise.
- 7.5.6** Equipment used in manual handling shall be placed on a maintenance schedule and be regularly inspected.
- 7.5.7** Training shall be provided to employees and contractors to ensure awareness of manual handling and ergonomic risks and shall include:
- An overview of manual handling and ergonomics in the Business Unit Induction; and
 - Training specific to an employee's task or activity and equipment used.
- 7.5.8** Records of all training shall be maintained.
- 7.5.9** Where vibration is identified as a risk a vibration monitoring program shall be implemented with quantitative evaluation of vibration to include the following measurement parameters: direction of movement, frequency, intensity and variation with time and duration.

7.6 Health and Wellbeing

Purpose

To improve the general physical, mental and social wellbeing of our workforce and provide appropriate referral to agencies where risks are identified.

Minimum Standards

- 7.6.1** A calendar of health promotion activities shall be developed during annual planning processes and shall consider the key areas identified from illness and injury statistics, common local ailments, and topical issues and shall align with National Health Calendars.
- 7.6.2** Health and Wellbeing promotions shall be aligned to the calendar.
- 7.6.3** Focus topics shall be changed and delivered to the workforce on a monthly basis.
- 7.6.4** Promotion materials shall include activities to accompany the health topic where possible to encourage employee participation.
- 7.6.5** Contractors shall be included in the Health and Wellbeing promotions.
- 7.6.6** Opportunities to include families shall be considered in Health and Wellbeing promotions. (E.g. cooking demonstrations, children's colouring contests and involvement with local schools).
- 7.6.7** Consultation with local health providers shall be conducted where applicable to align local community promotional themes, materials and equipment and support health focus.
- 7.6.8** Health promotion activities shall be measured where possible to evaluate improvement and effectiveness of the programs.
- 7.6.9** Mental Health (stress, anxiety, depression) shall be included in annual health promotional topics.
- 7.6.10** Where significant health issues are identified, referral processes shall be in place to direct health issues to appropriate providers.
- 7.6.11** An Employee Assistance Program shall be established and communicated to assist employees to confidentially manage their own health and social issues.

7.7 Food and Water Quality

Purpose

To protected against the effects of poor quality food and water.

Minimum Standard

- 7.7.1** Where food and water is provided by the Business Unit, formal Procedures shall be established and maintained for:
- purchased of food from reputable sources;
 - transportation and storage at appropriate temperatures including defrosting and freezing;
 - hygienic handling; and
 - cleaning and sanitation practices.
- 7.7.2** Waste is treated in a manner that prevents water and air pollution and is not accessible to pests, rodents or native wildlife.
- 7.7.3** Refrigeration and freezing equipment shall be maintained and checked for accurate temperature control.
- 7.7.4** Business Units must apply for and maintain any required permits/licences where the Business Unit provides drinking water to the community or other stakeholders.
- 7.7.5** Potable water sources are required to be located away from potential sources of contamination and are treated to eliminate disease-producing organisms and are periodically tested to verify water quality.
- 7.7.6** Controls must be in place to prevent process and reticulated water being accidentally connected to potable water lines.
- 7.7.7** Monitoring of potable water quality shall be undertaken to ensure quality complies with World Health Organisation (WHO) Guidelines for drinking-water quality.
- 7.7.8** Lead based fittings or pipes must not be used for drinking water distribution or for repairs.
- 7.7.9** Inspection and audit programs are in place to ensure compliance to the Procedures.
- 7.7.10** Non compliances with food and water management plans shall be reported, recorded and investigated as required by the HSE Management System Standard.

8 SAFETY

8.1 Ground Control

Purpose

To eliminate or reduce the risk of fatalities, injuries and property damage as a result of ground stability failure.

Minimum Standard

- 8.1.1** Risk assessments shall be conducted to identify the risk exposure associated with Ground conditions and their potential failure effects.
- 8.1.2** A Ground Control Management Plan must be developed and describe all systems processes, procedures, operational controls and safeguards undertaken to manage any Significant Risks identified in the ground condition risk assessment.
- 8.1.3** The General Manager of the operation shall review and authorise the Ground Control Management Plan and will be accountable for its implementation and ongoing effectiveness.
- 8.1.4** Qualified, competent and experienced people shall be involved in the design, planning and implementation of any Plan.
- 8.1.5** The geotechnical team, operations management and relevant operators shall meet regularly to discuss and monitor ground stability, control and mine planning.
- 8.1.6** Ground condition changes or controls shall be communicated during shift change meetings.
- 8.1.7** Continued geotechnical analysis and assessment shall be an integral part of the mine design process.
- 8.1.8** A geotechnical risk assessment shall be undertaken when altering any ground control system.
- 8.1.9** A formal process is required to demonstrate that ground security and stability is regularly inspected and assessed.
- 8.1.10** Formal systems and related processes shall be implemented to:
- ensure the internal reporting of rock falls, ground slips or wall collapse or other unsafe or hazardous conditions;
 - review and assess ground control procedures and processes for managing loose rocks, berm catch capacity, blast damage and mine design;
 - ensure ground control awareness training is completed by employees involved with pit or underground mining activity;
 - regularly inspect and maintain in proper working condition, all plant and equipment used for mine development and ground control monitoring;
 - inspect the workplace, particularly mining faces, prior to and during work activities; and
 - high risk areas are highlighted on all work plans prior to issue.

- 8.1.11** Where work is to be completed under high walls, a risk assessment shall be conducted by trained, competent persons to identify potential hazards and implement appropriate control measures.
- 8.1.12** Barricades must be used to protect persons from falling or being struck by falling objects.
- 8.1.13** All ground control hazards must be reported, investigated and actions taken and closed out, as appropriate.

8.2 Inundation and Inrush

Purpose

To eliminate or reduce the risk of fatalities, injuries and property damage as a result of sudden and unplanned entry into workings of a mining operation of liquid, gas, rock or other materials or substances.

Minimum Standard

8.2.1 Risk assessments shall be conducted to identify the risk exposure associated with inundation and inrush and shall require participation of persons qualified to identify potential for inrush and inundation ensuring current and historical data is considered and shall include:

- Each potential source of inrush (i.e. active or disused nearby mine workings, natural and man-made water bodies, backfill operations, underground cavities, highly permeable aquifers, bore holes, faults or other geological weaknesses)
- Potential sources of inundation including extreme weather, overflow or failure of levies and dam structures, failure or blocking of flow channels
- Nature and magnitude of all potential sources of inrush and maximum flow rates
- Location, design and construction of dams, lagoons, tailing dams, and any other bodies of water or materials that have the potential to become uncontained and enter the mine
- Foreseeable worst case scenario for each potential source of inrush
- Potential for an accumulation of water, rock, gas or other materials or substances that could liquefy or flow into other workings or locations
- Proposed mining systems which could create inundation and inrush hazards (i.e. paste and hydraulic fill operations, sealing of waste areas that may contain irrespirable atmospheres or flammable gases, water storage underground)
- Location of other workings and the strength of the ground between workings
- Inrush control zones between mine working and each identified potential source of inrush

8.2.2 A Plan must be developed to describe all system processes, procedures, operational controls, monitoring programs and safeguards undertaken to manage and monitor risks cognisant of the legal requirements and industry standards for managing inrush and inundation potential.

8.2.3 Qualified, competent and experienced people shall be involved in the design, planning and implementation of activities that may create potential for inrush and inundation with formal processes documented to demonstrate the risk management process.

8.2.4 The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.

8.3 Mobile Equipment and Traffic Management

Purpose

To eliminate the risk of injury and property damage, by ensuring mobile equipment is maintained in good operating condition, and ensuring that drivers or operators are competent. This Standard applies to all contractor, leased and OGC mining vehicles.

Minimum Standard

8.3.1 Each Business Unit shall undertake risk assessments to identify the risk exposure associated with Mobile Equipment and Traffic Interaction.

8.3.2 A Plan must be developed and will describe all systems processes, procedures, operational controls and safeguards undertaken to manage any significant risks identified with Mobile Equipment and Traffic Risk Assessments.

8.3.3 The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.

8.3.4 The Plan shall include:

- road designs and plans including standards for roadway construction such as camber, grade, surface condition and signage requirements;
- traffic flow and traffic rules including right of way, speed limits, designated parking, turning bays and other park up areas, vehicle following distances and parking distances from heavy mobile equipment;
- requirements for the segregation of people and equipment;
- requirements for the segregation of light vehicles and heavy equipment;
- communication protocols including radio channels, horn signals and emergency reporting;
- specific procedures to manage breakdown and equipment recovery, power-line contact, night operations, hot seat change-over and dust control; and
- operator training, assessment and competency requirements.

8.3.5 All mobile equipment must be recorded on a register and be included in a formal preventative maintenance program.

8.3.6 Mobile mining equipment shall have the following safety specifications:

- roll-over protection for load haul dump machines and falling object protection for excavators and all underground mobile equipment;
- audible horn and reversing alarm;
- battery isolators to support effective lock out and isolation;
- identification numbers clearly displayed and visible during night and day operations (high vis or reflective) and from all directions;
- a seat and seat belts for all personnel travelling in a moving vehicle;
- fire suppression system for all mobile equipment deemed high risk;
- fail to safe brakes;
- a portable fire extinguisher; and
- working 2 way radio.

8.3.7 Mobile equipment used on-site will:

- comply with host country legislation/road traffic rules;
- have a pre-start check completed before each shift. The pre-start check-book or pre-start record sheets are to be kept within the cab of the vehicle at all times;
- not be operated by personnel under the influence of alcohol or drugs;
- not be operated by personnel using mobile or cell phones, regardless of whether hands free or not. these can only be used by the driver when the vehicle is stationary and parked in a safe location;
- have fitted seat belts which are worn by the driver and all passengers at all times; and
- not be left idling and unattended unless physical barriers (chocks/v-drains) are in place to prevent uncontrolled movement.

8.3.8 Mobile equipment identified to be defective equipment must be immediately reported and tagged-out to prevent further use.

8.3.9 Light vehicles that are used in proximity to large mobile equipment must have a:

- flashing beacon;
- whip aerial;
- a working 2 way radio when entering any mining area;
- vehicle identification number;
- reflective tape for night work; and
- first aid kit.

8.3.10 Cargo barriers shall be fitted to light vehicles that are designed to carry loads that are in the same compartment as passengers.

8.3.11 Newly purchased light vehicles must have as a minimum, drivers and passengers front air bags and seat belts available for all passengers.

8.3.12 A risk assessment shall be completed to determine if mobile equipment requires additional safety controls or accessories to match the operating environment.

8.3.13 A competency based training system shall be maintained for the operation and maintenance of mobile equipment. All vehicle operators shall be licenced where required.

8.4 Tips, Ponds and Voids

Purpose

To eliminate or reduce the risk of fatalities, injuries and property damage as a result activities at the Business Unit in relation to activities associated with tips, ponds and voids.

Minimum Standard

- 8.4.1** Risk assessments shall be conducted to identify the risk exposure associated with tips, ponds and voids and shall require participation of persons qualified to identify potential for risk commensurate with the type and scale of tipping operations at the Business Unit including consideration of the underlying geotechnical structure at the location of a tip, the properties of the material being tipped, and the creation of any ponds or voids.
- 8.4.2** A Plan must be developed to describe all system processes, procedures, operational controls, monitoring programs and safeguards undertaken to manage and monitor risks cognisant of the legal requirements and industry standards for managing the risks in relation to Tips, Ponds and Voids.
- 8.4.3** Plans should include road design and traffic movement connected with tipping operations as well as the rules relating to the use of tips with.
- 8.4.4** Records shall be maintained of all materials tipped.
- 8.4.5** Qualified, competent and experienced people shall be involved in the assessment, design, planning, operational control and monitoring of activities that could create potential for incidents associated with tipping or the creation of ponds and voids.
- 8.4.6** The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.

8.5 Air Quality

Purpose

To manage the impacts of dust and other airborne contaminants associated with the operation of the mine and associated infrastructure that has potential to adversely impact worker health and wellbeing.

Minimum Standard

- 8.5.1** Risk assessments shall be conducted to identify the risk exposure associated with ambient air quality throughout all stages of the mine cycle although in particular during exploration, development, construction and operational activities including underground and surface environment. Risk assessments shall consider fugitive dust from blasting, exposed surfaces such as tailings facilities, stockpiles, waste dumps, haul roads and infrastructure and also gases from combustion of fuels in stationary and mobile equipment.
- 8.5.2** A Plan must be developed to describe all system processes, procedures, operational controls, monitoring programs and safeguards undertaken to manage and monitor risks cognisant of the legal requirements and industry standards for managing dust and other airborne contaminants.
- 8.5.3** Risk assessments and Plans shall consider the following elements of air quality
- Oxygen levels (natural and supplied air)
 - Temperature and humidity of air
 - Types and levels of dust and other contaminants that have potential to be in the air from both natural and introduced sources
 - Exposure times of mine workers exposed to dust and other airborne contaminants
 - Ventilation systems ensuring sufficiency of volume, velocity and quality to remove airborne dust and contaminants and ensure fresh air to all operational areas
 - Exhaust extraction systems to remove airborne dust and contaminants
 - Dust suppression systems
- 8.5.4** Qualified, competent and experienced people shall be involved in the assessment, design, planning, implementation and monitoring of activities that have or may create potential for dust and other airborne contaminants with formal processes documented to demonstrate management processes.
- 8.5.5** The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.

8.6 Fire and Explosion

Purpose

To ensure effective planning processes to mitigate the risks associated with fire and explosion.

Minimum Standard

- 8.6.1** Risk assessments shall be conducted to identify risk exposures associated with fire and explosion in Business Unit activities and shall consider: and shall require participation of appropriately competent persons to identify potential for fire and/or explosion ensuring current and historical data is considered and should include:
- Potential sources of fire and explosion
 - Potential sources of flammable, combustible and explosive materials including gas, dust, fuels, solvents and timber;
 - Potential sources of ignition
 - Potential for propagation of fire or explosion to other parts of the operation
 - Use, presence and storage of flammable and explosive substances
- 8.6.2** A Plan must be developed to describe all system processes, procedures, operational controls, monitoring programs and safeguards undertaken to manage and monitor risks cognisant of the legal requirements and industry standards for fire and explosion risks.
- 8.6.3** Qualified, competent and experienced people shall be involved in the assessments, design, planning, implementation and monitoring of activities that may create potential for fire and/or explosion.
- 8.6.4** The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.
- 8.6.5** Firefighting equipment and resources appropriate for the size of the Business Unit operation, department or activity shall be provided.
- 8.6.6** Firefighting and emergency response personnel shall be appropriately trained and competent.
- 8.6.7** Employees and contractors shall undergo training for:
- basic fire prevention methods;
 - use of basic firefighting equipment; and
 - emergency procedures including communication and evacuation.
- 8.6.8** Fire detection equipment such as fire alarms, heat detectors and smoke detectors shall be installed in locations where a fire risk exists. Fire/emergency alarms shall be distinctly different from other sirens used at the Business Unit.
- 8.6.9** Fire protection equipment such as fire extinguishers, fire doors, fire panels, sprinkler systems, hydrants, fire hose installations, deluge systems, foam injection systems shall be installed in compliance with the host country legislation. Where no such requirement exists, the relevant New Zealand or Australian Standards shall apply.

- 8.6.10** All mobile equipment and light vehicles must be fitted with fire extinguishers commensurate with the volume of flammable liquids that exists.
- 8.6.11** All mobile equipment used within areas deemed a high risk must be fitted with a fixed fire suppression system which is capable of automatic or manual activation.
- 8.6.12** The cylinder component of on-board fire suppression systems on mobile equipment shall be restrained to prevent any uncontrolled motion.
- 8.6.13** Fire detection and protection equipment including back up power supplies shall be regularly inspected to ensure that this equipment is accessible, available, and operable at all times.
- 8.6.14** All fire protection equipment shall be identified with a unique number/description to correspond with its location/cabinet numbers. They will be recorded on a preventative maintenance programme and the inspection findings are to be documented and recorded.
- 8.6.15** All flammable waste products and materials shall be properly disposed of.

8.7 Explosives

Purpose

To minimise the risk associated with the storage, handling and use of explosives.

Minimum Standard

- 8.7.1** The Business Unit shall ensure compliance with host countries statutory requirements regarding the safe transport, storage, handling and use of explosive materials.
- 8.7.2** Risk assessments shall be conducted to identify the risk exposure associated with the security, transportation, storage, handling and use of explosives.
- 8.7.3** A Plan must be developed to describe all systems processes, procedures, controls and safeguards undertaken to manage any significant risks identified in the risk assessment.
- 8.7.4** The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.
- 8.7.5** The Plan will reference operating procedures and contain information regarding:
- purchasing;
 - receipt;
 - transport;
 - storage;
 - security and inventory control;
 - charging / loading;
 - firing / blasting;
 - misfires;
 - re-entry to fired areas;
 - storms and lightning;
 - prevention of sulphide dust explosions; and
 - emergencies.
- 8.7.6** Drill and Blast Plans shall be developed and reviewed by competent persons. Only licenced, trained and competent employees will work with explosives and associated materials during transportation, charging/loading and firing activities.
- 8.7.7** When being transported to or from a magazine or supply point for use, explosives shall be conveyed directly to the workings in an approved and locked container, using an approved vehicle.
- 8.7.8** All places where explosives are permanently or temporarily stored shall be fenced off and appropriate warning signs erected. Signs shall be durable, easily identifiable and positioned off the ground. Standard danger signs shall be used and access to the explosive storage facility shall be restricted to authorised persons.
- 8.7.9** Surface magazines shall be of a construction and in a location which minimises risks of theft, fire, lightning strike and potential impact from the effect of any detonation during storage, including electrical sub-stations or other important installations or equipment.
- 8.7.10** Magazines must have adequate ventilation and must be kept clean and tidy.

- 8.7.11** Explosives and detonators shall be stored in separate magazines or segregated by an appropriate barrier.
- 8.7.12** Magazine keys shall be stored in a secure lock box when not being used. Persons issued with magazine keys shall sign a register as receipt of issue and return.
- 8.7.13** An accurate record of incoming, outgoing and current explosive stock must be maintained in each magazine. Balances of stock must be verified monthly.
- 8.7.14** Theft or loss of explosives must be immediately reported to management and the relevant external authorities.
- 8.7.15** Vehicles and equipment being used for transportation or charging activities shall display appropriate signage.
- 8.7.16** Vehicles used to transport explosives must have a daily pre-start check and regular servicing. Vehicles must be roadworthy, fit for purpose and well maintained at all times.
- 8.7.17** Vehicles shall have all explosive material removed prior to entry to a workshop. No explosives shall be stored in any vehicle parked overnight.
- 8.7.18** There is to be no smoking in the vicinity of explosives.
- 8.7.19** For surface activities a procedure must be established to suspend blasting activities in the event of an electrical storm.

8.8 Tyre and Rim Management

Purpose

To ensure minimum standards are implemented to manage maintenance processes where personnel are working with, or near mobile equipment and light vehicle wheels and rims.

Minimum Standard

8.8.1 Risk assessments shall be conducted to identify the risks associated with tyre and rim maintenance commensurate with the type and scale of vehicles operated and maintained at the Business Unit including:

- Sudden and unexpected ejection of component parts from wheels
- Sudden and unexpected loss of air from tyres
- Explosion of tyres
- Lightning
- Tyre failure
- Falling or moving objects during maintenance

8.8.2 A Plan must be developed to describe all system processes, procedures, operational controls, monitoring programs and safeguards undertaken to manage and monitor risks cognisant of the legal requirements and industry standards for managing the risks in relation to tyre and rim maintenance.

8.8.3 Plans should include maintenance activities both within the workshop and in the field and shall consider:

- Tyre selection and usage hours
- Tyre and rim failure mechanisms
- Handling and fitting of tyres and wheels
- Transport and storage of tyres

8.8.4 Qualified, competent and experienced people shall be involved in the assessment, design, planning, operational control and monitoring of activities that could create potential for incidents associated with tyre and rim maintenance activities.

8.8.5 The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.

8.9 Hazardous Materials and Chemical Substances

Purpose

To implement and maintain systems of work that ensures the effective selection, purchase, transportation, handling, and storage of hazardous substances, compliance with all legislative / licence requirements and to minimise their potential adverse impacts on the environment.

Minimum Standards

- 8.9.1** The Business Unit shall ensure compliance with host countries legislative requirements regarding the safe transport, storage, use, handling and disposal of hazardous materials.
- 8.9.2** Risk assessments shall be conducted to identify the risk exposure associated with the security, transportation, storage and handling of hazardous materials generated and used by the Business Unit activities.
- 8.9.3** A Plan must be developed and will describe all systems processes, procedures, controls and safeguards undertaken to manage risks identified in the risk assessment.
- 8.9.4** The General Manager of the operation shall review and authorise the Plan and will be accountable for and will be accountable for its implementation and ongoing effectiveness.
- 8.9.5** Processes shall be implemented to ensure all substances have been assessed and approved prior to being allowed on site.
- 8.9.6** All substances shall have a current MSDS readily available and within 5 years' currency of issue date.
- 8.9.7** Each Business Unit must maintain a Hazardous Substances Register that provides details of the following:
- the product name;
 - the United Nations code;
 - storage locations, requirements and precautions;
 - summary of maximum inventories;
 - approved disposal methods; and
 - hazardous substance identification as identified by any statutory approval requirement.
- 8.9.8** All personnel handling hazardous substances as part of their work activities shall be trained and competent in the safe use, handling and storage of these substances.
- 8.9.9** Signage must be in place on all storage vessels, containers and tanks that complies with host country legislation or MSDS requirements.
- 8.9.10** Wherever there may be a significant change to the type or volume of chemicals used or stored, the Business Unit must determine the need for any required licence / permit changes. Processes shall be in place to ensure this occurs prior to any modifications being made.
- 8.9.11** Storage tanks and piping must be certified and approved for the conditions of use and be made of a suitable material to be impervious to the chemicals stored in them. They are to be routinely inspected and maintained and situated above ground by preference.

- 8.9.12** Piping and flow lines shall be colour-coded and marked to indicate the contents and direction of flow.
- 8.9.13** Automatic plant control systems shall be in place wherever practicable to eliminate the need for operator intervention. Such controls shall incorporate fail safe systems in the event of emergencies. Where automatic control is not practicable, risk assessment shall be used to identify and implement operational options that reduce the risk to As Low as Reasonably Practicable (ALARP).
- 8.9.14** Stored hazardous substances must be adequately segregated based on:
- Quantity of materials stored;
 - Physical state of the chemicals (solid, liquid or gas);
 - Degree of incompatibility;
 - Manufacturer's instructions; and
 - Known behaviour of the materials.
- 8.9.15** For all new installations, environmentally hazardous chemicals will be stored within low permeability, bunded compounds designed in compliance to AS 1940 – 2004 The Storage and Handling of Flammable and Combustible Liquids.
- 8.9.16** All bunded compounds will be maintained to ensure:
- capability to allow recovery of liquid;
 - chemical resistant to the substances stored;
 - valves, pumps and meters associated with transfer are operable as required;
 - equipment is adequately protected and contained;
 - any potential jetting from any storage vessel or fitting is captured within the bunded area; and
 - incompatible chemicals are physically segregated and do not come into contact with each other.
- 8.9.17** Spill response kits shall be made available and placed in work areas where hydrocarbons and other substances may require containment and clean up.
- 8.9.18** Training must be provided to employees who may need to conduct spill recovery and clean-up.

Radiation

- 8.9.19** Where radiation sources are used by a Business Unit, a Radiation Safety Officer shall be appointed.
- 8.9.20** A register of all radiation sources must be maintained, and an annual audit completed and documented.
- 8.9.21** All radiation sources shall be sign posted and all unused or expired sources securely held in a locked storage facility that meets the host country legislation. These disused radiation gauges shall be removed off site by an approved contractor, at intervals not exceeding 10 years.
- 8.9.22** Radiation sources shall be tested for the presence of leaks on a regular basis using an approved radiation leak detection device.

8.10 Electrical Safety

Purpose

To ensure that all electrical work is effectively controlled and that electrical equipment and installations are well maintained to ensure that hazards and incidents involving electricity are eliminated.

Minimum Standard

- 8.10.1** Risk assessments shall be conducted to identify the risk exposure associated with the establishment, upgrade and maintenance of electrical services and equipment at the Business Unit.
- 8.10.2** A Plan must be developed to describe all systems processes, procedures and safeguards undertaken to manage any significant risks identified in the Risk Assessment.
- 8.10.3** The Plan shall include:
- a system to ensure that single line diagrams, equipment details and ratings, fault current calculations and protection settings are available for electrical installations;
 - defining an appropriate maintenance system, to ensure that electrical installations and equipment remain in a safe working order;
 - a requirement to ensure that all electrical drawings are maintained up-to-date and properly version controlled; and
 - a requirement that all employees and contractors receive electrical hazard awareness training during inductions.
- 8.10.4** The General Manager of the operation shall review and authorise the Plan and will be accountable for and will be accountable for its implementation and ongoing effectiveness.
- 8.10.5** A suitable Electrical Supervisor shall be appointed for the Business Unit and must hold host country electrical qualifications and have not less than three years electrical supervisory experience within the mining or other heavy industry.
- 8.10.6** The Electrical Supervisor shall ensure that the correct installation, maintenance and testing of electrical equipment occurs and is accountable for installed electrical equipment at the mine.
- 8.10.7** No site personnel shall install, maintain or repair electrical equipment or tools unless they are a suitably qualified as an electrician, are competent for the task and have been authorised to conduct the work.
- 8.10.8** Any yard or building used principally for the housing or fixed installation of electrical distribution equipment must be locked and sign-posted so access is restricted to authorised persons only.
- 8.10.9** Signs displaying up-to-date resuscitation instructions must be displayed at switch rooms, motor control centres, main switchboards, workshops, substations and control rooms.
- 8.10.10** Electrical fittings and equipment used in areas which may contain flammable vapours or gas (such as flammable liquid stores and battery recharge rooms) shall be intrinsically safe.

8.10.11 Inspections of all:

- fixed and portable electrical equipment shall be carried out in accordance with regulatory (or AS/NZ Standard or equivalent) requirements;
- portable electrical equipment including residual current devices, leads, tools, welders shall be inspected quarterly;
- stationary or fixed electrical equipment such as computers, refrigerators, televisions and so on shall be inspected at least annually;
- inspected equipment must have a colour coded tag attached to indicate the last and next test dates; and
- electrical equipment that fails inspection tests must be tagged out and returned to a designated location in the store for repair or destruction.

8.10.12 Electrical equipment and cables that are no longer required shall, where practicable, be completely removed from the electrical installation.

8.10.13 Where equipment or cables cannot be removed in full, the remaining part or parts must be left in a manner so that they cannot be inadvertently energised.

8.10.14 Extension leads:

- supplying stationary equipment shall be as short as practicable;
- shall not pose a hazard to pedestrians; and
- be placed such as not to be damaged by vehicles, equipment or machinery.

8.11 Energy Isolation

Purpose

To prevent unplanned and uncontrolled release of energy whilst conduction equipment and machinery service and maintenance.

Minimum Standards

8.11.1 All Business Units shall develop a Plan to manage Energy Isolation. The Plan shall describe site processes for:

- the lockout of equipment and other energy sources;
- the use of locks for personal and equipment isolation;
- the use of personal and isolation tags for identification;
- lockout procedures;
- written isolation procedures for specific tasks or equipment;
- training; and
- inspection and auditing.

8.11.2 The Plan shall apply to all activities involving stored energy, such as construction, commissioning, operation, maintenance, and return to service, emergency plant access, modification or demolition of equipment.

8.11.3 The General Manager of the operation shall review and authorise the Plan and will be accountable for and will be accountable for its implementation and ongoing effectiveness.

8.11.4 Isolation points shall be clearly labelled to identify the circuit or system being isolated.

8.11.5 Isolation shall provide positive protection and be achieved by the use of locking devices or the establishment of a physical barrier or separation.

8.11.6 Groups working under isolation must perform work in accordance with approved Business Unit group lockout procedures.

8.11.7 A Group Lockout Procedure utilised on site must include:

- primary responsibility, which is given to an authorised person to perform the isolation;
- documented isolation procedure for the equipment to be isolated;
- checklist of isolation points checked by 2 people one of who must be trained and competent to conduct isolations;
- isolation locks and tags are attached to all the isolation points;
- keys from group isolation locks shall be secured in a lockbox; and
- individuals shall place their personal locks and personal tags on the lock box or hasp to secure the isolation key(s).

8.11.8 Equipment isolations steps must include:

- Review the proposed work and isolation with the Supervisor or person in charge of the equipment. Obtain written isolation procedure and permit for the equipment –and review these to ensure they are accurate;
- Use normal stop procedures to shut down equipment (e.g. Stop switch / button, close valve / drain down, etc.);
- Operate the isolating device to isolate to zero energy state; and
- Attach isolation lock and isolation tag to the isolation points, completing the information required on tag.
- Test to ensure isolation has been correctly achieved. Methods that could be used include:
 - attempting to start in both local and remote mode;
 - checking pressure;
 - checking flow;
 - valves - attempt to actuate in both manual and remote modes;
 - electrical circuits and circuit breakers - prove dead; and
 - for pressure lines break or lock open vent points between two chained & isolated valves.

8.11.9 Personal locks with personal tags shall be applied by all personnel on the work team before commencing work.

8.11.10 Personal locks and tags shall only be removed when:

- the job is complete or has been reassigned and the individual is no longer working on it;
- at the end of the shift by the individual; and
- the job is incomplete but the individual leaves the area.

8.11.11 Individuals are not to leave the job with a personal lock / tag in place. Business Units must define requirements in a relevant procedure to address this shall it occur.

8.11.12 No vehicle, machine, equipment or process is to be operated when any tag or lock (personal, equipment or other) is attached to an associated isolation device.

8.11.13 Tags and their method of attachment shall be made of materials which can withstand the environmental conditions of the workplace.

8.11.14 The site isolation system and procedures shall be inspected and audited regularly to identify any non-compliances or opportunities for improvement to the system.

8.11.15 All employees and contractors expected to operate within the Isolation Program must undergo competency based training and field assessment. Records of this training must be retained.

8.12 Lifting and Crane Works

Purpose

To protect people and property from injury and damage caused by falling objects or uncontrolled movement of suspended loads.

Minimum Standard

- 8.12.1** Risk assessments shall be conducted to identify the risk exposure associated with lifting and crane activities undertaken at the Business Unit.
- 8.12.2** A Plan must be developed to describe all systems processes, procedures and safeguards undertaken to manage the risks identified in the Risk Assessment.
- 8.12.3** The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.
- 8.12.4** The Plan will reference relevant site operating procedures and include information regarding:
- work area barricading and restricted access;
 - lifting plan requirements;
 - accountabilities;
 - inspection and maintenance procedures; and
 - competency requirements;
- 8.12.5** A register of all lifting equipment (including cranes) available on site must be maintained. Lifting equipment must be subject to regular inspections and testing by a competent person and the findings recorded in the register.
- 8.12.6** All cranes and lifting equipment shall be identifiable with a unique identification number.
- 8.12.7** Preventative maintenance shall be regularly conducted on cranes and lifting equipment in accordance with a formal preventative maintenance schedule, based on the manufacturers recommendations.
- 8.12.8** All lifting equipment shall be inspected at defined intervals and prior to each use for evidence of damage or excessive wear and tear, to verify that it is fit to use. This equipment must be tagged to identify its completed and scheduled inspection date and suitability for use.
- 8.12.9** Faulty lifting gear must not be used and non-repairable lifting gear, including shackles, hooks and slings must be removed from circulation and destroyed.

- 8.12.10** Site procedures, a formal permit and/or the use of an approved formalised lift study shall be used for:
- overlapping crane lift radius;
 - two crane lifts;
 - lifting in proximity of live electrical lines;
 - lifting in severe weather such as lightning storms and strong winds;
 - lifting over water;
 - lifting people in a work cage.
- 8.12.11** All electrical cranes shall be capable of being de-energised and positively locked.
- 8.12.12** Electrical overhead travelling and portable cranes shall have overload protection.
- 8.12.13** Cranes shall have a physical locking system that disables and isolates its free-fall capability.
- 8.12.14** Crane cabins (where installed) shall either be air-conditioned or heated in accordance with environmental conditions.
- 8.12.15** Vehicle mounted cranes shall have sufficient engineering and physical controls to prevent the operator from being crushed during any lift related incident.
- 8.12.16** Crane and lifting equipment operating manuals and load charts shall be readily available to employees in the host country language.
- 8.12.17** The safe working load (SWL) or working load limit (WLL) shall be clearly identified and marked on all cranes and all lifting equipment and shall not be exceeded.
- 8.12.18** All crane hooks shall be fitted with a positive locking safety catch.
- 8.12.19** No lifting from a mobile crane shall be carried out without outriggers (where fitted) being deployed and locked.
- 8.12.20** Written approval from the department manager must be obtained prior to lifting personnel in a work cage and this permission must be held in writing by the Crane Operator. A JHA is required to secure this approval.
- 8.12.21** The lifting of personnel with cranes shall only be carried out using inspected and approved workbaskets or cages suitable for the task. Cranes used for this purpose shall have limit trip switches installed.
- 8.12.22** Lifting equipment which has been used for towing or pulling must be identified so that it can be tagged as 'not approved for lifting'.
- 8.12.23** Only trained and competent personnel shall be involved in the planning, supervision and conduct of lifts, or the operation of cranes or hoists.
- 8.12.24** A competency based training programme for relevant contractors, employees and supervisors shall be maintained.
- 8.12.25** Crane operators and crew shall communicate in a common language and use industry standard and agreed crane signals.
- 8.12.26** Control methods shall be in place to prevent personnel working or being under suspended loads.

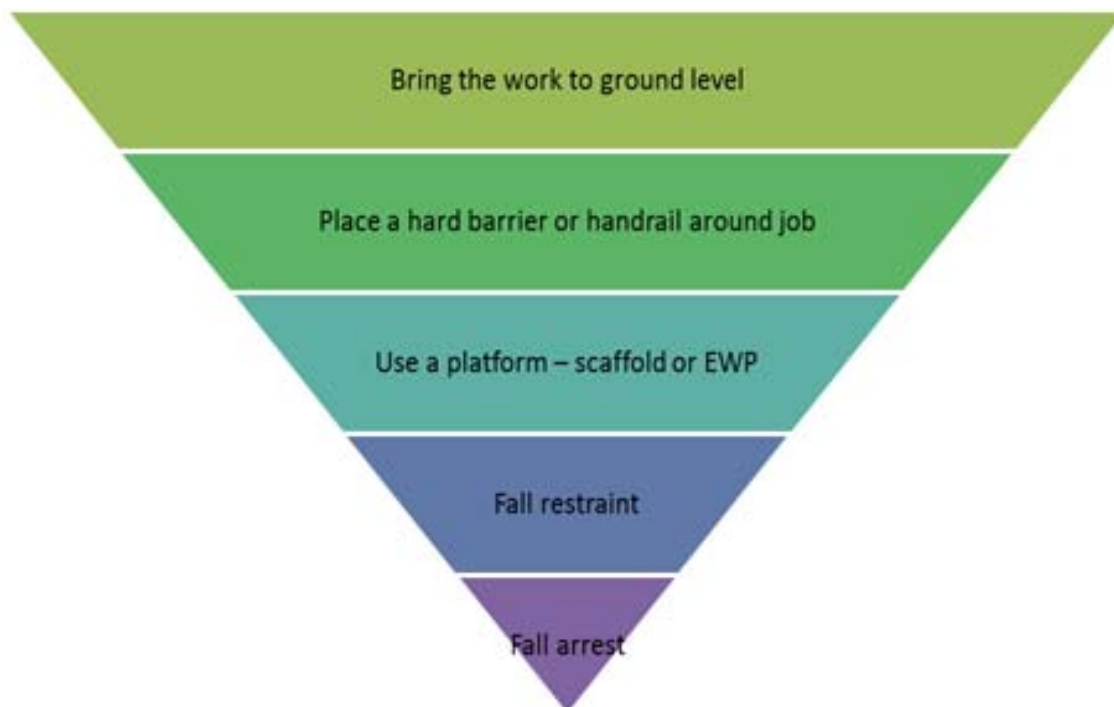
8.13 Working at Heights

Purpose

To ensure that personnel are protected from falling or from being struck by falling objects.

Minimum Standards

- 8.13.1** Risk assessments shall be conducted to identify the risk exposure associated with the working at height activities undertaken at the Business Unit.
- 8.13.2** A Plan must be developed to describe all systems processes, procedures and safeguards undertaken to manage work conducted where personnel are working within 3 metres of an unprotected edge, where they are able to fall a distance of 2 metres or greater.
- 8.13.3** A Working at Height Permit shall be implemented to support procedures where personnel are working within 3 metres of an unprotected edge or where they are able to fall a distance of 2 metres or greater.
- 8.13.4** The General Manager of the operation shall review and authorise the Plan and is accountable for its implementation and ongoing effectiveness.
- 8.13.5** Where there is potential to fall more than 2 metres, systems of work shall be implemented to manage the potential for falls based on the Hierarchy of Control for Fall Prevention below.



- 8.13.6** Employees working on a work platform or basket shall wear a full body harness attached by a lanyard to a suitable approved anchor point.
- 8.13.7** Single person anchor points shall be capable of withstanding a minimum of 15kN.
- 8.13.8** Persons conducting work at height must be trained in fall prevention strategies and relevant procedures and, be deemed competent to conduct the assigned task and associated equipment. Dual lanyards must be used when an employee is required to detach and re-attach whilst working at height.
- 8.13.9** All working at heights equipment must be rated and visually inspected prior to use.
- 8.13.10** Hard hats must be secured (typically by the wearing of a chin strap) when working at heights.
- 8.13.11** Tools must be transported, used and secured in a manner to prevent falling to another level.
- 8.13.12** Barricading and warning signs must be placed at lower levels identifying and restricting access to hazards which may be associated by the work above.
- 8.13.13** Systems must be established and periodically tested to enable a rapid and effective rescue at height, to avoid suspension trauma.

8.14 Confined Space

Purpose

To ensure the health and safety of employees and contractors who are required to undertake work within a confined space.

Minimum Standard

- 8.14.1** Risk assessments shall be conducted to identify the risks associated with work activities within confined spaces undertaken at the Business Unit.
- 8.14.2** A Plan must be developed to describe all systems processes, procedures and safeguards undertaken to manage the Confined Space risks identified in the Risk Assessment.
- 8.14.3** The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.
- 8.14.4** The Plan shall include:
- Confined Space Entry (CSE) permit preparation and issuing;
 - Reference to the site CSE isolation procedure;
 - Atmospheric monitoring requirements;
 - Training and competency requirements;
 - CSE Rescue Plan development and emergency rescue capability.
- 8.14.5** Each Business Unit shall develop and maintain a register of confined spaces. Where appropriate each confined space will be assigned a unique identifying number and clearly identified on a Site Plan. All confined spaces on site shall be clearly labelled, requiring entry by permit only.
- 8.14.6** Where practicable the need for work to be performed inside a confined space shall be eliminated.
- 8.14.7** A Job Hazard Analysis, CSE Isolation Procedure, CSE Permit, and CSE Rescue Plan are required for all confined space activity.
- 8.14.8** A Job Hazard Analysis shall be undertaken for each identified confined space activity before entry and shall:
- consider the tasks to be performed in the space;
 - identify control measures such as isolation procedures, material isolation such as double block and bleed, venting, purging and ventilation;
 - identify and document the hazards that may be confronted during entry and rescue;
 - consider emergency response procedures; and
 - provide for hazard assessments on new equipment or equipment where conditions change.

- 8.14.9** The JHA shall be completed and signed-off by all employees involved in the activity, including the sentry.
- 8.14.10** The completed JHA shall be located in hard copy at the entrance to the confined space during the work.
- 8.14.11** A CSE Permit Issuer, Atmospheric Tester and Sentry shall be appointed for each confined space entry.
- 8.14.12** The CSE Permit Issuer is responsible to:
- raise and complete the CSE Permit;
 - ensure all control measures identified on the JHA and the CSE Permit are in place; and
 - review the job, hazards, control measures and the associated documentation with the CSE permit holder.
- 8.14.13** Before any confined space is entered, the internal atmosphere must be tested to determine whether a hazardous atmosphere may exist due to:
- oxygen deficiency or excess;
 - contaminants such as hydrogen sulphide or carbon monoxide; and
 - extremes of temperature.
- 8.14.14** If a hazardous atmosphere is detected control measures shall be implemented and retesting undertaken prior to re-entry. Entry must not occur until a safe atmosphere has been monitored and verified. Where available, real time monitoring equipment shall be set to alarm to detect a hazardous atmosphere.
- 8.14.15** The CSE Permit shall include details of all the following:
- atmospheric testing results;
 - ventilation requirements;
 - frequency of atmospheric re-testing or monitoring; and
 - control measures that are to be implemented to minimise risk.
- 8.14.16** CSE Permits are to be reviewed:
- at the beginning of a shift; and
 - whenever there is a change of the person responsible for the direct control of the work in the confined space.
- 8.14.17** CSE Permits are to be renewed whenever there is;
- a significant change in risk (e.g. atmosphere or work to be performed);
 - expiry of the CSE Permit, Permit to Work or atmospheric testing period; and
 - fire or Business Unit alarms or evacuation occurs.

- 8.14.18** CSE Permits shall be held on file in the department for a minimum of one year for audit purposes.
- 8.14.19** All stored energy associated with the confined space shall be isolated prior to any person entering a confined space.
- Isolations are to be performed as per Business Unit isolation standards and procedures;
 - Radioactive gauges inside and in proximity of the confined space shall be effectively isolated by closing, locking and tagging the shutter. Verify this using an appropriate radiation survey meter;
 - Disconnect, drop or blind, blank off, feed and discharge lines to the space; and
 - Where these methods cannot be practically achieved, then a double block and bleed, or other location specific procedures must be used to achieve positive isolation.
- 8.14.20** Where necessary, ventilation within the confined space shall be provided by natural, forced air or mechanical means to establish and maintain a safe atmosphere and be continually monitored while the space is occupied.
- 8.14.21** No pressure vessels or compressed or liquefied gas is to be taken into a confined space.
- 8.14.22** Double insulated or residual current device protected electrical tools, and low current low voltage with a maximum of 24 volt maximum lighting system shall be used in damp or metallic confined spaces. Primary and emergency lighting shall be provided to enable work to proceed safely and to facilitate any emergency exit.
- 8.14.23** Where more than one entry to the confined space exists, all other entry points shall be sign posted and barricaded in a manner that prevents involuntary entry but allows for emergency egress.
- 8.14.24** An emergency response and rescue capability shall be maintained, allowing for trained and competent responders to be available for any confined space emergency.
- 8.14.25** A CSE Permit Acceptor shall be appointed at the beginning of each shift and will be responsible for directly controlling the work for the entire shift.
- 8.14.26** The CSE Permit Acceptor shall ensure:
- that all control measures identified on the JHA and the CSE Permit are implemented prior to any person entering the confined space;
 - all persons requiring to enter the confined space have been advised of and understand the requirements of the JHA and the CSE Permit prior to entry. All personnel have signed onto the JHA;
 - all persons who signed the CSE Permit during the course of the work have signed off before any associated equipment is returned to service;
 - a visual check of the space is performed to confirm that all persons are clear and that all tools and equipment have been removed prior to any associated equipment being returned to service;
 - that an emergency response rescue plan for the space is in place; and
 - atmospheric testing and ventilation is undertaken and requirements are implemented in accordance with the control measures.

8.14.27 The (outside) Sentry shall;

- have no other task other than to monitor the confined space activity and to raise the alarm if need be;
- be positioned outside the confined space entry point at all times while personnel are within the space;
- be in continuous communication with any person inside the space;
- be able, if practical, to observe those personnel working inside the space; and
- be trained, assessed and deemed competent to operate and monitor any other safety plant and equipment identified as a control measure (e.g. ventilation equipment) and to initiate emergency response procedures if required.

8.14.28 CSE Entrants shall;

- ensure there is a current, valid CSE Permit issued by an authorised person;
- read, understand and sign the CSE Permit and JHA prior to entry; and
- sign on and off the CSE Permit each time they enter and exit the confined space;

8.14.29 Personnel who undertake CSE work, CSE Permit Issuer, CSE Permit Acceptor, CSE Sentry, confined space emergency rescue members and CSE atmospheric testers shall be trained, assessed and deemed competent for their particular tasks. Records of training and competency shall be retained.

8.15 Machine and Equipment Guarding

Purpose

To prevent accidental contact with moving parts of machinery and equipment in order to prevent injury or harm.

Minimum Standard

- 8.15.1** Equipment guarding requirements and audit processes must be detailed in Business Unit Maintenance Management Plans.
- 8.15.2** As a minimum, guarding shall be installed and maintained to ensure it:
- blocks physical access during machine and equipment operation;
 - does not affect the efficient operation of the machine or equipment;
 - is a permanent part of the machine without weakening the structure;
 - cannot be removed without the use of tools; and
 - does not create an additional safety hazard.
- 8.15.3** All conveyor drives and tail-ends must be appropriately guarded.
- 8.15.4** All v-drives, chain-drives, shaft-ends, key-ways, couplings, clutches and similar moving machinery parts must be guarded to eliminate deliberate or accidental contact.
- 8.15.5** Lubrication tubing shall extend through the guard or guards must be redesigned to allow access but prevent contact with moving components.
- 8.15.6** Any electrical enclosure which can be opened without the use of tools shall be made lockable.
- 8.15.7** Machine and equipment guarding shall form part of each Business Unit's routine inspection and audit process.
- 8.15.8** Fail safe switches must be fitted on all manually operated hand tools, to ensure that the tool cannot keep operating without being held.
- 8.15.9** Guards shall be replaced prior to equipment being put back into operation.
- 8.15.10** No guarding shall be modified or altered except through the application of a risk-based change management process.
- 8.15.11** Guards shall not be removed without appropriate isolation being performed.

8.16 Tree Felling

Purpose

To prevent injury or harm during tree felling and lopping activities.

Minimum Standard

- 8.16.1** Risk assessments shall be conducted to identify the risk exposure associated with tree felling and lopping undertaken as part of the Business Unit activities.
- 8.16.2** Where this principal risk area exists within the Business Unit a Plan shall be developed to describe all systems processes, procedures and safeguards undertaken to manage any risks identified in the Risk Assessment.
- 8.16.3** The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.
- 8.16.4** The Plan will reference operating procedures and information regarding:
- required training and competency;
 - permitting;
 - equipment register, standards and maintenance; and
 - PPE requirements.

8.17 Extreme Weather

Purpose

To prevent injury or harm from potential extreme weather conditions encountered while undertaking Business Unit activities.

Minimum Standard

- 8.17.1** Risk assessments shall be conducted to identify the risk exposure associated with probable extreme climatic events where Business Unit activities are undertaken.
- 8.17.2** Where this principal risk area exists within the Business Unit a Plan must be developed to describe all systems processes, procedures and safeguards undertaken to manage any risks identified in the Risk Assessment.
- 8.17.3** The General Manager of the operation shall review and authorise the Plan and will be accountable for its implementation and ongoing effectiveness.
- 8.17.4** The Plan will reference operating procedures and information regarding:
- weather tracking and warning;
 - requirements specific to lightning and thunderstorms;
 - Trigger Action Response Plans;
 - facility and equipment storm rating and design requirements;
 - PPE provisions; and
 - Induction, training and awareness programs.

8.18 Hot Work (Welding, Cutting and Gouging)

Purpose

To establish a safe working environment and systems of work in order to minimise the potential for injury or unplanned fire from hot work activities.

Minimum Standard

8.18.1 Hot Work shall be undertaken at fixed, designated Hot Work stations (such as workshops) whenever reasonably practicable.

8.18.2 Hot Work stations will have:

- no contactable combustible or flammable material within a radius of 10 metres;
- a welding screen or other suitable partitions to protect other people who are working or visiting the area or walking past; and
- adequate ventilation so that wherever possible fumes are not drawn through an employee's immediate breathing zone.

8.18.3 All Hot Work not conducted at a designated hot work station shall require a Hot Work Permit.

8.18.4 Personnel undertaking and directly supervising Hot Work must wear the following PPE:

- appropriate eye protection at all times. In the absence of local regulations, filter lenses to protect eyes during welding operations are to comply with New Zealand and Australian Standard (AS/NZ1338 Part 1) or other relevant International Standards;
- full length clothing without trap zones for hot metal (open pockets and loose fitting folds);
- face shield;
- respiratory protection as required;
- leather gloves; and
- leather spats for all cutting and gouging or as otherwise identified in the JHA.

8.18.5 Personnel required to use welding and cutting equipment and Hot Work Permits must be trained and assessed as competent.

8.18.6 A fire watch shall be observed for the work area and all adjacent areas to which sparks and heat might spread as determined by risk assessment under the hot work permit.

8.18.7 All hot work equipment shall be tested and tagged by an appropriately licenced electrical worker. These tests shall be performed prior to initial introduction to service and on a quarterly basis thereafter.

8.19 Permits to Work

Purpose

To allow work activities of known high potential hazard and to ensure that specific risk reduction and safety precautions are included in the work plan.

Minimum Standard

8.19.1 Work Permits are required for all of the following:

- electrical or equipment isolations;
- confined space work;
- surface excavations (greater than 100 mm);
- working at heights (greater than 2 m);
- work performed near x-ray or radioactive sources;
- high voltage work or working in proximity to high voltage (less than 5 m);
- hot work (excluding hot work conducted in workshops);
- vegetation clearing; and
- commissioning plant or equipment.

8.19.2 Work Permits shall:

- be approved for use prior to commencing the task;
- clearly define the work to be completed under the Work Permit;
- show on the permit the duration of the work.

8.19.3 Work Permits must have a maximum working duration not exceeding twenty four hours (24) unless prior approval is obtained from the relevant department manager.

8.19.4 A JHA shall be undertaken for each permit activity and shall:

- consider the tasks to be performed;
- identify and document the hazards;
- identify control measures;
- consider emergency response procedures; and
- provide for hazard assessments on new equipment or equipment where conditions change.

8.19.5 The JHA shall be completed with and signed-off by all employees involved in the activity.

8.19.6 The completed JHA shall be attached in hard copy to the Work Permit.

8.19.7 The Work Permit Issuer is responsible to:

- raise, complete and authorise the Work Permit;
- ensure all control measures identified on the JHA and the Work Permit are in place;
- review the job, hazards, control measures and the associated documentation with the work permit acceptor;
- inspect the work area to ensure that the task has been completed and the area/equipment is safe to be returned to normal operations; and
- cancel/close the Permit.

8.19.8 Work Permits are to be reviewed:

- at the beginning of a shift; and
- whenever there is a change of supervision.

8.19.9 Work Permits are to be renewed whenever there is;

- a significant change in risk;
- expiry of the Permit to Work; and
- interruption to the activity due to fire, Business Unit alarms or evacuation.

8.19.10 Work Permits shall be held on file in the department for a minimum of one year for audit purposes.

8.19.11 A Work Permit Acceptor shall be appointed at the beginning of each shift and will be responsible for directly controlling the work for the entire shift.

8.19.12 The Work Permit Acceptor shall:

- confirm the scope of work and develop the JHA for inclusion in the Work Permit;
- ensure all control measures identified on the JHA and the CSE Permit are implemented prior to commencing work;
- ensure all persons involved in the task have been advised of and understand the requirements of the JHA and the Work Permit prior to commencing work and all personnel have signed on to the JHA;
- sign off the Work Permit at the end of the task and return the Permit to the Work Permit Issuer.

8.20 Remote or Isolated Workers

Purpose

To ensure that employees who may be required to work alone for extended periods of time, or who may be required to work or drive in remote or isolated areas, are able to be located and are provided with additional safety considerations.

Minimum Standard

- 8.20.1** Each department shall conduct a risk assessment of their work areas to identify personnel who may be required to work alone for extended periods of time or who may be required to work or drive in remote/isolated areas.
- 8.20.2** Control measures shall be identified and implemented to minimise the risks where activities are identified as being more hazardous when conducted alone or in remote and isolated areas.
- 8.20.3** At least one employee at an isolated work site must have appropriate advanced first aid skills and equipment.
- 8.20.4** A communication procedure shall be developed and implemented to regularly monitor the safety of the isolated worker or work group – where possible using designated call signs and communication techniques (e.g. for two way radios). Where implemented, there shall be regular testing of the procedure.
- 8.20.5** An applicable emergency response procedure shall be developed and periodically tested for personnel working in remote areas.
- 8.20.6** Resources shall be available and equipment adequately maintained to comply with the communications and emergency procedures.
- 8.20.7** All personnel who may be required to work alone or in an identified remote/ isolated area shall be trained in relevant communication and emergency procedures, basic first aid. They shall also have access to first aid equipment appropriate to their work tasks and the associated risks identified.
- 8.20.8** An annual health assessment shall be scheduled and completed for employees such as geologists and drillers who routinely work in remote areas, to ensure that no adverse medical conditions exist which may place them at elevated risk, taking into account the nature and remoteness of the work involved. All medical information shall be kept confidential.

8.21 Compressed Gases and Pressure Vessels

Purpose

To ensure that the uncontrolled release of pressurised air or gas and / or the potential for catastrophic cylinder failure is managed and controlled so that adverse incidents do not occur.

Minimum Standard

Gas Cylinders:

- 8.21.1 All gas cylinders must be stored upright and secured tightly by a chain or suitable nylon cylinder strap.
- 8.21.2 Gas / cylinder storage areas must be sign posted to caution against smoking and naked lights.
- 8.21.3 Full gas cylinders must be stored in an area clearly marked 'Full' and empty cylinders must be stored in a separate area that must be clearly marked 'Empty'.
- 8.21.4 Cylinders of different gases must be stored in separate racks and periodically inspected.
- 8.21.5 Cylinders must be transported in a purpose built pallet or basket designed to transport upright, protect against falling and impact damage and be fitted with valve covers.
- 8.21.6 In the absence of host country standards, cylinders and associated storage and transport equipment must comply with appropriate New Zealand, Australian or other International Standards.
- 8.21.7 Leaking gas cylinders must be taken out of service immediately they are discovered, and then removed to a well-marked and separate ventilated area. The Supervisor must be informed immediately.
- 8.21.8 Copper hose connections or fittings must not be used with acetylene gas.
- 8.21.9 Flashback arresters must be fitted to all oxygen and acetylene cylinders on the operator's side of each regulator connection or gas discharge of a manifolded cylinder pack.
- 8.21.10 Oxy / acetylene reticulation or ring main systems in workshops shall be inspected regularly and leak tested every 12 months.
- 8.21.11 Oxy / acetylene equipment are to be inspected on a quarterly basis and the results recorded in the appropriate register.

Pressure Vessels:

8.21.12 All boilers and pressure vessels shall be designed, fabricated, installed, maintained and operated in accordance with applicable codes, international standards, government regulations and manufacturers specifications. The following list of minimum design specifications shall be verified prior to use:

- Exterior coatings;
- Pressure relief design parameters;
- Materials of construction specifications;
- Maximum and minimum design load ratings; and
- Operational parameters.

- 8.21.13** The modification of a pressure vessel or boiler is permitted only when modifications are designed, certified, and completed by a competent person(s).
- 8.21.14** No attachments are to be welded or fitted to a pressure vessel unless the necessary written design approvals have been obtained from the manufacturer.
- 8.21.15** Pressure relief valves shall be oriented such that discharge is not directed towards persons.
- 8.21.16** Air receiver tanks shall be equipped with one or more automatic pressure relief valves and accurate pressure gauges to measure the pressure within receiver tanks.
- 8.21.17** All propane tanks shall be equipped with an approved flow regulator.
- 8.21.18** The protective collar on propane tanks shall be visually inspected prior to each use and removed from service when damage (bent, cracked, etc.) is identified.
- 8.21.19** Pressure vessels must be included in a planned inspection and preventative maintenance schedule to detect leaks, cracks, corrosion, and other forms of deterioration and the inspection results documented in a register.
- 8.21.20** Maintenance, inspection and testing of pressurized systems shall meet legislative and manufacturers' requirements and be conducted on an annual basis as part of the scheduled maintenance program.
- 8.21.21** Repairs involving the components of a pressurized system such as compressors, receivers, and piping shall not be attempted until the energy sources have been isolated and the controlled relief of pressure has been verified.
- 8.21.22** The need for posting of hazard warnings proximate to pressurized conveyance piping shall be based on risk assessment.
- 8.21.23** Where shutoff valves are not present, safety chain or other suitable locking devices shall be used at connections where connection failure would create a hazard.

Air Powered Tools:

- 8.21.24** All outlets of compressed air supply lines must be pointed downwards and must be positioned to enable easy coupling of hoses to air powered tools. Tubes and hoses must not be blocked by squeezing or strangling. Use main valve to close air flow.
- 8.21.25** Compressed air intake lines shall be installed such that clean and uncontaminated air enters the compressor.
- 8.21.26** Only correctly rated air hoses, fittings and locking pins may be used on compressed air lines and air powered tools.
- 8.21.27** Pneumatically operated equipment shall be equipped with an air shut off device if there is a hazard of uncontrolled movement when the air supply is activated.
- 8.21.28** Compressed gases must not be used to blow dust or debris off clothing or skin.
- 8.21.29** Compressed air tools shall have an identification number for recording purposes and be inspected quarterly and the results recorded in a register.
- 8.21.30** Compressor discharge pipes shall be inspected no less frequently than once every two years for carbon build-up.

8.22 Personal Protective Equipment (PPE)

Purpose

To ensure that appropriate PPE is provided to protect personnel and reduce the risk of personal injury.

Minimum Standard

- 8.22.1** Business Units shall undertake workplace risk assessments to identify and determine appropriate PPE requirements and personal adornment (jewellery) restrictions.
- 8.22.2** A Procedure must be developed, implemented and maintained for the identification, provision and use of PPE. The key components of this procedure shall include:
- selection of PPE appropriate for the hazards likely to be encountered for specific work tasks;
 - availability and provision of approved PPE including any appropriate re-allocation and an adequate inventory maintained and available;
 - a process to upgrade/authorise new PPE;
 - mandatory PPE requirements for all work areas and tasks within the Business Unit;
 - cleaning and maintenance procedures for any shared PPE: and
 - training for use where appropriate.
- 8.22.3** In the absence of host country standards, all PPE issued and used must comply with the relevant AS/NZ Standards or equivalent international standards.
- 8.22.4** Only PPE authorised under the PPE Procedure shall be purchased and issued.
- 8.22.5** Employees, visitors and contractors must be provided with PPE as identified by the hazards associated with their role or task.
- 8.22.6** A contractor performing a specific task and under the direct supervision of the contracting company is responsible for providing their own PPE.
- 8.22.7** Personnel are responsible for:
- Wearing required PPE at all times in designated areas and for designated tasks;
 - Inspecting, cleaning and maintaining their PPE; and
 - Immediately notifying their Supervisor of any problems encountered with the correct use of the required PPE.
- 8.22.8** Business Units must provide clear visible signage for mandatory PPE requirements at the different areas at each operation.
- 8.22.9** Employees with vision impairment must wear prescription safety glasses that meet the relevant standards or safety 'over glasses' or in some cases, a face shield.
- 8.22.10** Business Units shall provide appropriate hand protection (gloves) for all tasks and all workplace conditions based on the risks identified within the task based risk assessments.

8.23 Aviation

Purpose

To minimize the risk of injury and harm by engaging appropriately qualified Aviation Charter Companies for fixed and rotary wing aircraft.

Minimum Standard

8.23.1 Where applicable, third-party audits shall be conducted of charter companies by approved aviation specialists prior to use by the Business Unit and there after every two years.

8.23.2 There must be two pilots for:

- charter aircraft certified for more than eight passengers; and
- Instrument Flight Rule (IFR) flights.

8.23.3 A pre-flight passenger briefing shall be conducted and shall include:

- information provided in language understood by passengers;
- boarding and disembarking the aircraft;
- location and use of emergency equipment;
- emergency procedures and exits;
- restricted activities and items; and
- flight details.

8.23.4 For Business Units that have an airstrip, a formal Aviation Management Plan must be maintained that describes:

- geographic location and climatic conditions;
- runway surface, dimensions and peripheral areas;
- marking of landing areas;
- obstacles in peripheral areas (Obstacle Limitation Surfaces);
- controlling passenger and vehicle movement on the airstrip or apron;
- limitations on aircraft performance;
- maintenance and inspections of facilities;
- lighting needs for night flying or medical evacuations;
- communications and meteorological equipment required;
- security measures required; and
- emergency response capability.

8.23.5 A risk assessment shall be undertaken for any specialised flying operation. The risk assessment shall include but not be limited to:

- roles and responsibilities of groups and individuals;
- description of the area of operations including an area map showing local hazards;
- crewing and flight and duty times;
- provision and management of ground support for the aircraft operation;
- communications and flight following procedures;
- emergency response including search and rescue procedures;
- airstrips to be used and available within the area of operations; and
- safety management.

- 8.23.6** Communications shall be established between the aircraft and ground and a log shall be maintained to record all conversations and position reports.
- 8.23.7** Aviation emergencies including a Search and Rescue (SAR) plan must be included in the Business Unit ERP.
- 8.23.8** Passengers shall not be carried on aircraft conducting airborne geophysical surveys, pipeline surveys, pastoral surveys, sling loads or winching.
- 8.23.9** Fuel, firearms explosives and animals are not permitted on aircraft.
- 8.23.10** Wherever practicable, fuel supply and handling for aviation operations shall be provided by the charter company or an authorised fuel supply company.
- 8.23.11** Fuel storage areas shall be located so they pose the least hazard to aircraft operations, personnel, the property and with a level of security that is appropriate for the operational area.
- 8.23.12** Where storage is to occur in drums, the drums shall be stored off the ground on their sides with the bungs below the stored liquid level. A stock control system shall be implemented to ensure that the fuel drums are segregated by batch number and filling date and that the oldest stocks are used first.
- 8.23.13** Aircraft refuelling locations shall be clearly marked and located so that maximum safety precautions and distances from other hazards are maintained. Fully operational fire extinguishers shall be provided at aircraft refuelling locations.
- 8.23.14** Each Business Unit shall have written procedures for the supply and storage of fuel (where applicable), and for the refuelling of aircraft. This shall include measures for the control of passengers and other personnel during refuelling operations.
- 8.23.15** During aircraft refuelling, the pilot or other nominated crewmember shall be responsible for ensuring both the safety of the aircraft and the grade and quality of the fuel delivered. Ground personnel involved in fuelling operations shall be trained in the correct procedures for aircraft refuelling. Records of such training shall be retained.
- 8.23.16** Hot refuelling of aircraft shall not be permitted except for helicopter under-slung load operations where minimal fuel loads are required for safe operation. Detailed operating procedures shall be compiled for these tasks.
- 8.23.17** Aviation fuel shall be quality tested before refuelling from drum stocks, tests shall be made on:
- Jet A1 fuel using approved BP/Shell water detector capsules; and
 - aviation gasoline (AVGAS) using approved BP/Shell water detector paste.

9 ENVIRONMENT

9.1 Air Quality

Purpose

To monitor for air quality affected by operational activities and to manage emissions in order to protect employee health, the environment and to comply with relevant regulatory requirements.

Minimum Standard

- 9.1.1** Business Units shall identify point source and diffuse source forms of air emissions for the mine life cycle including construction, operation and closure.
- 9.1.2** Baseline air quality conditions shall be characterised prior to construction of new facilities that may be the source of air emissions.
- 9.1.3** Business Units must apply for and maintain all required permits/licences for point source air emissions and shall operate in compliance with statutory conditions specified. In the absence of host country requirements or guidelines, AS/NZ Standards for ambient air quality shall be applied.
- 9.1.4** Wherever there may be significant changes to air emissions, the Business Unit must determine the requirement for any licence / permit changes. Processes shall be implemented to ensure this occurs prior to any modifications or upgrades being made, including consultation with site environmental personnel and regulatory authorities.
- 9.1.5** Plant and facilities shall be designed, constructed and operated with appropriate air emission controls in order to comply with the host country's applicable laws and regulations.
- 9.1.6** Monitoring, inspection and maintenance programs shall be in place to ensure air emission controls are maintained and operating correctly to comply with statutory requirements.

9.2 Energy and Greenhouse Gas Emissions

Purpose

To monitor, manage and identify opportunities to reduce net Greenhouse Gas emissions (GHG) and to maximise energy use efficiency.

Minimum Standards

- 9.2.1** Business Units shall develop and maintain a GHG and Energy Management Plan, including any targets that may be incorporated into their business plans.
- 9.2.2** The GHG and Energy Management Plan shall identify, quantify and map sources of GHG's and review potential opportunities to improve energy use efficiency and reduce net GHG emissions.
- 9.2.3** The GHG and Energy Management Plan will include an estimated annual inventory of energy consumption and energy waste for the operational phase of the Business Unit.
- 9.2.4** Business Units shall comply with regulatory requirements for reporting energy use and GHG emissions, including emissions from production activities.
- 9.2.5** Energy efficient systems shall be considered and used wherever possible.
- 9.2.6** Business Units are to establish programs in conjunction with maintenance departments to collect any ozone depleting substances that may be used in Business Unit equipment, so they can be returned to an approved collection or recycling facility. Any regulatory requirements must be identified and complied with.

9.3 Used Hydrocarbons

Purpose

To ensure the disposal or reuse of used hydrocarbons meets relevant legislation, standards, permits and licence conditions.

Minimum Standard

- 9.3.1** Business Units must identify and comply with any required permits/licences or applicable regulations regarding the management and disposal of used hydrocarbons.
- 9.3.2** Used oil must be stored in tanks, drums or containers that are in good condition. Any leaks or spills must be dealt with immediately and reported to appropriate governmental authorities where required (typically if the spill enters the receiving environment).
- 9.3.3** Containment and clean-up measures must be taken when a spillage of used oil occurs.
- 9.3.4** Third-party used oil recyclers, processors and transporters utilised by OceanaGold Business Units must comply with all relevant regulatory requirements.
- 9.3.5** Business Units are to conduct audits of used oil, waste grease, oil filter and oil rag processors and recyclers to ensure correct standards of transport, storage and processing are met before they are contracted to receive waste hydrocarbons.
- 9.3.6** Unless the oil in transformers is known to be non PCB any used oil removed from transformers must be tested for polychlorinated biphenyl (PCBs) by an accredited external laboratory.
- 9.3.7** Used oil that could potentially contain lead, PCB, chlorinated solvents or any other potentially harmful contaminant shall not be reused or burnt on-site and shall be sent to a licenced oil processor.
- 9.3.8** Where PCB material (any material containing PCB liquids or PCB solids containing 50 ppm or more PCBs) is discovered a detailed risk assessment and legal reference shall be undertaken to allow safe and legal handling, storage and disposal of the material.
- 9.3.9** Used oil burned as fuel oil for heating or power generation must be used in a properly designed boiler, furnace or an oil-fired space heater that is properly vented to correctly and safely burn the oil.
- 9.3.10** Any oil contaminated material must not be placed in any internal or external landfill if there is free flowing oil visible. Landfill disposal must be in accordance with local regulations.

9.4 Biodiversity and Natural Environments

Purpose

To minimise impact to biodiversity and natural habitats in the areas affected by the Business Unit so that the conservation status of the area is maintained. To ensure monitoring, management and reporting requirements for flora, fauna and habitat meets relevant legislation, permits, licences and community expectations.

Minimum Standards

- 9.4.1 Business Units will develop a Plan for their activities which will address management of land, flora, fauna and habitat.
- 9.4.2 The Plan shall include specific details for the preservation or protection of any flora, fauna or habitat identified in the Environmental Impact Assessment and subsequent permit or Licence conditions.
- 9.4.3 The Plan is to be updated when changes to any part of the operation or activities (either man-made or natural) occur, that has the potential for adverse environmental impact.
- 9.4.4 Business Unit planning activities (mine design, process changes and any alterations) shall consider cost effective options and controls that reduce impact on the natural environment.
- 9.4.5 Sites are required to develop, implement and review control measures to minimize any unnecessary land access, disturbance and / or clearance. These control measures may include a permit system for all land access, disturbance and clearance requiring environmental and community relations inspection and approval. Mature vegetation is to be retained as much as practical.
- 9.4.6 Business Units will develop a program to monitor and evaluate the health of flora and fauna potentially impacted by the operation and mitigate any adverse effects.
- 9.4.7 Monitoring programs will include weed and pest species. Appropriate management practices will be used to control and mitigate the spread of weeds and pest species.
- 9.4.8 All employees and contractors are prohibited from capturing, purchasing or acquiring native wildlife for any purpose except under Licence or Consent requirements.

9.5 Water Management

Purpose

To ensure water abstraction complies with relevant legislation permits, covenants or licences and that there is minimal impact to the quality and quantity of the local water resource.

Minimum Standards

- 9.5.1** All Business Units must develop and implement a Water Management Plan that is appropriate to their activities and location.
- 9.5.2** The Water Management Plan must include:
- a description of processes and activities that have the potential to impact water quality and water use;
 - identification of discharge points;
 - characterisation of runoff;
 - water management structures and infrastructure;
 - monitoring programs as required to meet regulatory requirements, permits and social provisions; and
 - surface and ground water abstraction details.
- 9.5.3** Business Units must apply for and maintain all required permits/licences for any water abstraction or use, any wastewater treatment or discharge facility or construction including drains and for any actual water discharged to the environment or external facilities.
- 9.5.4** Modelling, monitoring, analysis and characterisation of water use and discharge shall be undertaken and regularly reviewed to assess potential and actual impacts to the environment (including potential impacts on surface water or groundwater reserves).
- 9.5.5** Monitoring Procedures shall be developed which include details on volumes of abstraction, use and discharge, sample collection, timing, location, parameters tested, transportation and analysis and ensure the integrity and quality of samples.
- 9.5.6** Monitoring data must be diligently stored and evaluated and any data identified to be non-compliant is to be reported as appropriate.
- 9.5.7** Business Units shall take all reasonable steps to minimise overall water abstraction and use including establishing annual water abstraction and use targets.
- 9.5.8** Where a wastewater treatment plant is owned and operated by the Business Unit, a formal preventive maintenance schedule is required and the plant must be operated by properly trained and competent personnel.
- 9.5.9** Appropriate roles, responsibilities and training shall be developed for employees involved in wastewater generation, treatment, monitoring and reporting.
- 9.5.10** Standard operating procedures are to be developed for routine tasks associated with wastewater generation, treatment, monitoring and reporting.
- 9.5.11** Plans shall be established for the removal of any existing underground storage tanks. If their required use cannot be altered, they shall be upgraded to best current practice and regularly monitored for leakage by pressure testing, at frequencies dependent on the age of the tank(s).

9.6 Environmental Noise and Vibration

Purpose

To ensure that Business Unit activities comply with relevant licences or regulations and that controls exist to minimise the potential for environmental impact and nuisance to the community from noise and vibration.

Minimum Standards

- 9.6.1** All Business Units must develop and implement a Noise, Blast and Vibration management plan appropriate to the activities conducted.
- 9.6.2** The Business Unit will identify and comply with all regulatory requirements regarding noise and vibration.
- 9.6.3** Where applicable, noise and vibration monitoring will be undertaken to identify any adverse effects from the Business Unit impacting on the surrounding environment and communities.
- 9.6.4** Equipment design and purchasing requirements must consider the minimisation of noise and vibration levels.
- 9.6.5** Blasting may only be carried out at specified times during daylight hours to minimise impacts on any local residents.

9.7 Visual Appearance

Purpose

To ensure the visual impacts from the Business Unit activities meet relevant legislation, permits or licences and have a minimal visual impact during operations and post closure.

Minimum Standards

- 9.7.1** Business Units will identify and comply with any regulatory or licence requirements regarding visual amenity of operations.
- 9.7.2** Where practicable all Business Units will undertake progressive rehabilitation and revegetation to minimise the total area of ground disturbance and to reduce the visual impact of the operation.
- 9.7.3** Planned and progressive rehabilitation design shall consider and include (where reasonably possible) the pre-mining landform, biodiversity and natural environment.
- 9.7.4** High standards of housekeeping will be maintained across all Business Unit activities at all times.
- 9.7.5** Lighting impacts from the Business Unit at night (from operations) will be kept to a minimum.

9.8 Archaeology and Cultural Heritage

Purpose

To minimise disturbance to archaeological and culturally significant sites and establish appropriate management and protective measures for identified areas that are consistent with host country requirements and the requests of appropriate heritage custodians and traditional landowners.

Minimum Standards

- 9.8.1** Business Units will identify any requirements regarding the protection of archaeological and cultural sites, in accordance with relevant legislation, permits or agreements.
- 9.8.2** Where applicable, Business Units will undertake an initial survey to identify any significant sites of archaeology or cultural heritage. This may form part of any exploration, development or expansion processes.
- 9.8.3** Where applicable and if required, a Plan will be developed and followed to manage and protect the identified archaeological and/or cultural sites.
- 9.8.4** The Plan must include processes and required actions in the event of accidental discovery. Procedures must exist for the identification, reporting, recording and protection of any previously unidentified sites during exploration, development, expansion and construction work.
- 9.8.5** The Plan must include requirements for communication and consultation with government authorities, heritage custodians and traditional landowners.
- 9.8.6** The relevant content of any Plan shall be communicated to relevant employees and contractors.

9.9 General Waste

Purpose

To manage all Business Unit wastes and their potential impact on the environment by reducing waste, reusing where possible and recycling suitable waste materials in accordance with all relevant legislation, permits or licences.

Minimum Standard

- 9.9.1** The Business Unit will develop and maintain a current inventory and location map of all wastes, identifying their sources, classification and quantities. Analysis of the waste, to confirm contaminants will be undertaken as required.
- 9.9.2** The volume, handling, storage, labelling, inspection, monitoring, reporting and disposal of all waste shall meet all relevant regulatory/licensing requirements. All necessary permits and licences shall be secured, maintained and complied with.
- 9.9.3** Waste handling and storage shall be managed to prevent release to the environment including any wastewater discharges that may be generated.
- 9.9.4** Dust and odour from waste disposal/treatment facilities are to be controlled and the area is to be kept aesthetically acceptable.
- 9.9.5** Storage tanks and containers used to retain waste shall be made from suitable material to be impervious to waste stored in them and marked to identify contents. Incompatible wastes shall be stored separately or protected by physical barriers. Waste storage facilities shall be routinely inspected and maintained.
- 9.9.6** Containers used to transport off-site waste shall comply with relevant legislation, permits or licence requirements. Records shall be retained of all waste shipped for disposal and/or recycling. These records must clearly reflect the type and quantity of waste transported.
- 9.9.7** External waste transport and recycling/disposal facilities used by the Business Unit shall be audited to assess compliance with local requirements.
- 9.9.8** The Business Unit shall undertake periodic waste management reviews to seek opportunities to minimise waste disposal through elimination, source reduction, reuse and recycling strategies.

9.10 Hazardous Waste

Purpose

To ensure that hazardous wastes generated on site are properly identified, collected, segregated, transported, stored and disposed of in accordance with all relevant legislation, permits or licences.

Minimum Standards

9.10.1 In addition to the requirements under Standard 9.9 General Waste the Business Unit shall:

- Identify and comply with all legislation, permits / licence requirements for the management of hazardous wastes;
- The Business Unit shall implement processes to recognise and authorise any potential change to the type or volume of hazardous wastes generated or stored. These processes must include consultation with site environmental personnel and regulatory authorities to determine any required licence or permit modifications;
- Hazardous waste storage facilities shall be centralised and clearly designated, secured and have restricted access to authorised personnel;
- Monitoring will be carried out as required to detect any release or impact from hazardous waste storage. Where detected appropriate reporting and corrective actions will be promptly taken; and
- Emergency response procedures and recovery equipment related to hazardous waste spillage shall be included in the Emergency Management Plan.

9.11 Waste Rock

Purpose

To manage waste rock so as to minimise medium to long-term environmental impact, promote beneficial post-mining land use and to reduce post mining closure liabilities, in compliance with all relevant legislation, permits or licences.

Minimum Standards

- 9.11.1** Waste rock disposal facilities shall be designed and constructed to maximise geotechnical stability and to limit the potential of these facilities to be impacted by water erosion and seepage issues.
- 9.11.2** Design and construction shall include:
- Use of suitable up-gradient surface water diversion channels around waste rock facilities;
 - determination of area baseline conditions prior to placing and design of the waste rock disposal facility;
 - an evaluation of the balance of potentially acid generating (PAG) and non-PAG material and the design controls to isolate PAG material from the environment, shall be identified and developed;
 - physical and geochemical characterisation of all waste rock;
 - determination of any acid rock drainage (ARD) potential using acid-base accounting methodology;
 - engineering and physical control measures to minimise the generation of acid;
 - PAG material shall not be made available or otherwise used for construction purposes;
 - design of waste rock disposal facilities to control surface water run on and run off (minimise low quality seepage, erosion, sedimentation and the potential for geotechnical instability); and
 - provision for progressive rehabilitation.
- 9.11.3** Waste rock disposal facility designs shall be reviewed by a suitably qualified geotechnical engineer.
- 9.11.4** Waste rock disposal facilities shall be constructed and closed in accordance with all relevant legislation, permits or licences.
- 9.11.5** Waste rock disposal facilities shall be inspected following periods of heavy rain to assess any water ponding, seepage or evidence of ARD.
- 9.11.6** When available waste rock disposal facilities shall be progressively re-contoured to the final landform, final erosion controls installed and vegetation shall be established.
- 9.11.7** Waste rock disposal facilities and acid-generating infrastructure shall be closed to meet rehabilitation success criteria and the attainment of the designated post-mining land use.

9.12 Tailings Management

Purpose

To ensure that the potential for mine tailings material to impact the environment is minimised through appropriate construction, monitoring and management standards.

Minimum Standards

9.12.1 Business Units shall manage tailings and Tailings Storage Facilities (TSF's) in compliance with all relevant host country statutory obligations, licences and other requirements.

9.12.2 Tailings shall be physically and geochemically characterised and the data shall be utilised in the design, operation, closure and rehabilitation of the tailings storage facility. Acid Rock Drainage (ARD) potential of tailings shall be determined using a reliable acid-base accounting methodology.

9.12.3 TSF's shall be appropriately engineered and designed by a recognised industry expert.

9.12.4 TSF's shall be constructed such that:

- any exploratory drill holes within the tailing storage facility footprint shall be abandoned and plugged according to industry-accepted standard borehole closure practices prior to construction of the facility. Records of this shall be retained;
- the potential for contamination of groundwater and surface water (where groundwater can express to the surface) is minimised. The design process must assess a range of clay and synthetic liner options that determine seepage rates, seepage water quality and the resulting impact on the beneficial use of groundwater and surface water;
- quality assurance/quality control (QA/QC) monitoring and documentation is undertaken and a final as-built document with associated QA/QC reports approved by an appropriate third party (as selected and approved by the Business Unit); and
- rainfall and runoff is managed to prevent uncontrolled release of the supernatant or tailings material.

9.12.5 A Plan shall be developed, implemented and periodically reviewed/updated to ensure that tailings management practices are conducted in accordance with statutory obligations and to minimise short and long term risks associated with the tailings storage facility.

9.12.6 The Plan shall include:

- the management of process water during the operation including freeboard, and pond size;
- tailings deposition requirements and practice;
- considerations to manage potential dust and other environmental issues;
- consideration to authorize disposal of any waste, other than tailings, in the tailing storage facility such that it will not compromise statutory and licence requirements and closure rehabilitation success;
- inspection and maintenance processes including pipeline and TSF structure; and
- monitoring requirements for groundwater impact, discharge water quality and structural performance (seepage rates, movement).

9.13 Rehabilitation

Purpose

To ensure that physical areas impacted by Business Unit activities have minimal ongoing impacts and are returned to a stable condition with an acceptable visual appearance and for the biodiversity and environment to be compatible with the natural condition of the area, in accordance with all relevant legislation, permits and licences.

Minimum Standards

- 9.13.1** Clear rehabilitation objectives shall be defined by the Business Unit to ensure that rehabilitation work is conducted in consideration of relevant legal, community and stakeholder requirements.
- 9.13.2** An Annual Rehabilitation Plan must be developed and include:
- areas of concurrent rehabilitation proposed for the next 12 months;
 - time-lines when the work will be carried out;
 - methodology used for rehabilitation of the designated areas; and
 - a review of previous rehabilitation including areas and monitoring results.
- 9.13.3** The Annual Rehabilitation Plan shall consider mine production plans, decommissioning and closure plans, site-specific Erosion and Sediment Control requirements and rehabilitation and water monitoring results. Periodic discussions shall be held with both senior exploration staff and mine planning staff to identify areas no longer required and available for rehabilitation.
- 9.13.4** All disturbed areas no longer required for operations shall be made available for rehabilitation. Rehabilitation of these areas is to be undertaken as soon as practicable.
- 9.13.5** Budgets, based on the Annual Rehabilitation Plan, are required to be submitted annually for the next phase of concurrent rehabilitation work. Areas that have been unsuccessfully rehabilitated, as identified through monitoring programs, shall also be included in budget requirements.
- 9.13.6** Temporary rehabilitation must be completed to assist with erosion control where areas may be utilized for long periods or are close to identified sensitive areas.
- 9.13.1** Where available, the identified topsoil layer will be cleared and appropriately stockpiled to maintain viability for use in rehabilitation. The location of these stockpiles is to be recorded and records retained.
- 9.13.2** Contaminated soil shall be removed, disposed of appropriately and backfilled with suitable soil material.
- 9.13.3** Contaminated water shall be treated to be environmentally acceptable or disposed of appropriately.
- 9.13.4** The use of introduced plant species for rehabilitation must be supported by scientifically defensible studies that can demonstrate that the introduction of this species complies with laws and permits and will not impact on the environment.

9.14 Closure Planning

Purpose

To ensure that Business Units develop and maintain a Closure Plan for their activities, that allows the Business Unit to meet all agreed closure, rehabilitation and social commitments including relevant legislation, permits, licences and covenants.

Minimum Standard

- 9.14.1** Business Units will develop a Business Unit Closure Plan, which addresses all relevant medium and long term impacts from ceasing their activities as well as providing a fully scoped and accurate cost for closure.
- 9.14.2** The Business Unit Closure Plan shall include:
- potential social and environmental issues;
 - expected outcomes from the closure and post closure plan;
 - detail of preferred closure and post closure landform and land use options;
 - detail of any alternative closure and post closure landform and land use options with appropriate criteria for selection;
 - details of any further investigation required;
 - detail of internal and external consultation process (community/authorities) in development of the plan before and after closure;
 - reasonable cost estimates of closure and post-closure landform and land use requirements; and
 - a process to regularly review the Plan and estimated costs.
- 9.14.3** The Closure Plan will address surface and groundwater contamination issues. Once complete and after each up-date it will be reviewed by a professional engineer or suitably qualified person.
- 9.14.4** The Closure Plan shall incorporate requirements to address employee redundancy and any local community payments.
- 9.14.5** The Closure Plan and subsequent update will be submitted to the COO or equivalent level direct manager for review and approval.
- 9.14.6** Closure considerations shall form part of the Feasibility and Mine Planning phases.
- 9.14.7** Closure provisioning must be adopted in accordance with corporate requirements, host nation legislation and relevant accounting standards.

GLOSSARY OF TERMS

Acid Rock Drainage (ARD)	Acidity water with a pH <5.0, laden with iron, sulphate and other metals, that forms under natural conditions when geologic strata containing pyrite are exposed to the atmosphere or oxidising environments.
Aspects	Activities or products that can interact with the environment causing adverse impacts.
Australian/New Zealand Standard (AS/NZ Standard)	Standards developed by independent organisations but recognised by the relevant government as reference documents to assist management of a hazard. These are accessible via the OGC intranet.
As Low As Reasonably Practicable (ALARP)	A term used to describe the level of controls required to reduce risk to an acceptable level, cognisant of costs of implementation.
Business Unit	A site where an activity is being conducted and has a designated General Manager and/or cost centre and described within INX flow charts. Examples include Macraes, Reefton, Didipio, NZ Exploration and specific project development sites.
Chief Executive Officer (CEO)	The senior corporate officer responsible for managing the organisation and is accountable to the Board of Directors.
Chief Operating Officer (COO)	A senior corporate officer reporting to the CEO and is responsible for the daily operating of the company.
Competent	Having appropriate skills, knowledge and experience
Corporate Standards	A set of documents supporting the Policies that defines minimum standards of compliance around key risk areas to which Business Units must attain. Standards are Corporate documents only.
Crisis Management (CM)	Process to manage at the Corporate level significant events which threaten the organisation.
Crisis Management Plan (CMP)	A document that details the structured processes and responsibilities for managing a crisis.
Crisis Management Team (CMT)	Personnel identified to manage a crisis event.
Emergency Management (EM)	Process to manage, at the Business Unit level incidents and injuries or other harm threatening the organisation.
Emergency Management Plan (EMP)	A document describing the structured processes and responsibilities to manage an emergency situation at the Business Unit and escalation to Corporate Crisis Management Team.
Emergency Management Team (EMT)	Personnel identified to manage the Business Unit emergency event
Executive Committee (EXCO)	A committee of executive managers who develop and implement the strategic direction of the company on behalf of the OGC Board, and who lead the day to day management of the Corporation.
Hazard	An energy source with potential to cause harm.
Hierarchy of Control (HAC)	A structured and hierarchical process of risk treatments to reduce risk to acceptable levels
Impact	Any change to the environment, whether adverse or beneficial resulting from an organisations environmental aspects.
International Standards (ISO)	Standards developed by independent international organisations recognised globally as reference documents to assist management. These are accessible via the OGC intranet.
INX	Event management software to record, maintain, track and monitor organisational events including incidents, injuries, production loss, property damage, audits, emergency drills etc.

Job Hazard Analysis (JHA)	A task based risk assessment to identify hazards, assess risks and implement effective controls to conduct work in a safe manner.
Key Performance Indicators (KPI's)	Focus areas for measuring performance of a Business Unit.
Lagging Indicators	A measure that uses organisational statistics to record past safety performance. Examples include number of lost time injuries, property damage events, number of significant incidents.
Leading Indicators	A measure of performance that uses proactive criteria for with the intention of conducting activities to prevent incident occurrence. This could include conducting training, conducting task observations, hazard identification, corrective action closeout etc.
Lost Time Injury (LTI)	A work related injury that prevents an employee returning to work on the day after an injury occurred as indicated by a doctor.
Material Safety Data Sheets (MSDS)	A product information sheet that provides personnel with information to safely manage a chemical. It identifies health, safety, environmental and emergency management information.
Medical Treated Injury (MTI)	A work related injury that requires treatment by medical expertise.
Minor Injury (MI)	A work related injury that requires a first aid treatment
Non Work Related Injury (NWR)	An injury which has occurred external to the workplace but has been reviewed and treated in the workplace.
Objectives and Targets	A set of measurable activities to achieve in an allotted timeframe.
OceanaGold Corporation (OGC)	The Corporate body with ultimate accountability for the Business Units and headed by the CEO.
Occupational Exposure Limit (OEL)	An upper limit on the acceptable concentration of a hazardous substance in the workplace air for a particular material or class of materials.
Plan	A suite of documents collected to demonstrate effective management of an activity at the Business Unit. The Plans may include risk assessments, procedures, TARP's, audits etc. Dependent on local legislation and Corporate Standards, the Plans may require specific naming conventions and inclusions.
Personal Protective Equipment (PPE)	Protective equipment provided to wearer's to protect from a hazard in the workplace.
Policy	A high level document that states the intent of the organisation. Policies will only be developed at Corporate level.
Procedures	A document that provide direction to support Corporate Standards and Policies and describes the
Restricted Work Injury (RWI)	A work related injury that results in an employee being unable to perform his normal duties as indicated by a doctor.
Risk	The potential for a hazard to eventuate into an incident and is assessed on likelihood and consequence.
Similar Exposure Group (SEG)	A grouping of employees into common exposure profiles to workplace agents.
Tailings Storage Facility (TSF)	An engineered dam and dyke system used as a settling basis and storage container for the collection and treatment of water, heavy metals and chemicals from mining process plants.
Trigger Action Response Plan (TARP)	A document detailing key parameters of risk related activities that alert a specific and managed response to prevent further harm and escalation of the event.

Statement of Commitment	A document which is signed by the General Manager of the Business Unit to demonstrate the commitment of the Business Unit to the Policies.
Vision and Values	High level documents developed by Corporate to provide guidance on the direction, actions and behaviours of the organisation.
Work Instructions	Documented methods to complete work which identify safe, efficient, and effective methods for completing a task.
Work Permit	A structured system of work used at a Business Unit to control work activities identified as high risk.