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1 PURPOSE

The purpose of this Mine Safety Management System Manual is to provide an overview of those components of the entire Murrin Murrin Operations (MMO) Health and Safety Management System (H&SMS) which address a Mine Safety Management System (MSMS) as required by the WHS (Mines) Regulations 2022. This MSMS Manual follows the guidance format for an MSMS provided in the DMIRS Code of Practice.

The H&SMS provides a framework for the safe execution of operational activities including continuous improvement in both H&S and H&SMS performance, the rate and extent of which is determined by MMO management in the context of Glencore, economic and legal requirements.

The H&SMS addresses four key risk areas for MMO:

- Occupational safety;
- Occupational health;
- Risk management; and
- Process safety.

The implementation, maintenance and improvement of the H&SMS will enable MMO to:

- Improve overall H&S performance;
- Integrate the H&SMS with other systems and core functions;
- Provide a comprehensive framework for the management of process safety;
- Assist MMO with meeting its legal obligations;
- Contribute to effective risk management; and
- Enable MMO to achieve the intent of its Health and Safety Policy.

In addition to following the DMIRS Code of Practice for an MSMS, the requirements of the following have been taken into account within the overall MMO H&SMS:

- WHS Act 2020 for Western Australia
- WHS (Mines) Regulations 2022 for Western Australia
- International Council on Mining and Metals (ICCM) Sustainable Development Framework;
- Centre for Chemical Process Safety (CCPS) – Guidelines for Risk Based Process Safety;
- NOHSC 1014:2002 Control of Major Hazard Facilities;
- Glencore's SafeWork program (branded as SafeNickel within the Nickel Assets Division); and
- ISO 45001.

2 HEALTH AND SAFETY POLICY

Statement of Intent

Minara Resources Pty Ltd and Murrin Murrin Operations Pty Ltd (MMO) are wholly owned subsidiaries of Glencore plc.

MMO operates the Murrin Murrin Nickel Cobalt Project located in the north-eastern Goldfields region of Western Australia, with the activities of mining, processing and refining at the core of our business.

We believe in achieving and maintaining a health and safety conscious culture amongst employees and are committed to leadership in health and safety via the implementation of a world class health and safety management system.

Strategies

Strategies and commitments to achieve the intent of the MMO Health and Safety (H&S) Policy are:

- Ensure the safety and wellbeing of employees, contractors, visitors and stakeholders via the provision of safe and healthy working conditions and the implementation of an effective and world-class health and safety management system based on the framework of ISO 45001.
- Comply with all applicable legislation, regulations, government approvals, licence conditions, standards and codes of practice.
- Set objectives and monitor, measure, report, review and continually improve MMO's H&S management system in order to eliminate hazards and reduce risks, thereby preventing work-related injury and illness.
- Document, implement, maintain and communicate the policy to all employees, contractors and other stakeholders.
- Promote H&S awareness amongst employees and contractors through consultation, participation and by providing an ongoing education program to foster a H&S conscientious workforce.
- Provide an effective system of rehabilitation and return to work for injured employees.
- Select business partners with a similar vision and commitment as ours.
- Demonstrate H&S accountability by effectively and openly communicating with all stakeholders including community groups, shareholders, employees, and government authorities.

Responsibilities

All MMO employees and contractors are responsible for the application of the MMO Health and Safety Policy. Regular audits will review the effectiveness of the MMO Health and Safety Policy, which will be updated periodically as required.

[redacted]

Adrian Herbert
General Manager
26 June 2023

3 MINE SAFETY MANAGEMENT SYSTEM STRUCTURE & FRAMEWORK

3.1 MSMS STRUCTURE

The MMO Mine Safety Management System is structured to align with the relevant regulations that govern MMO's mining activities and with Glencore policies, standards and guidelines.

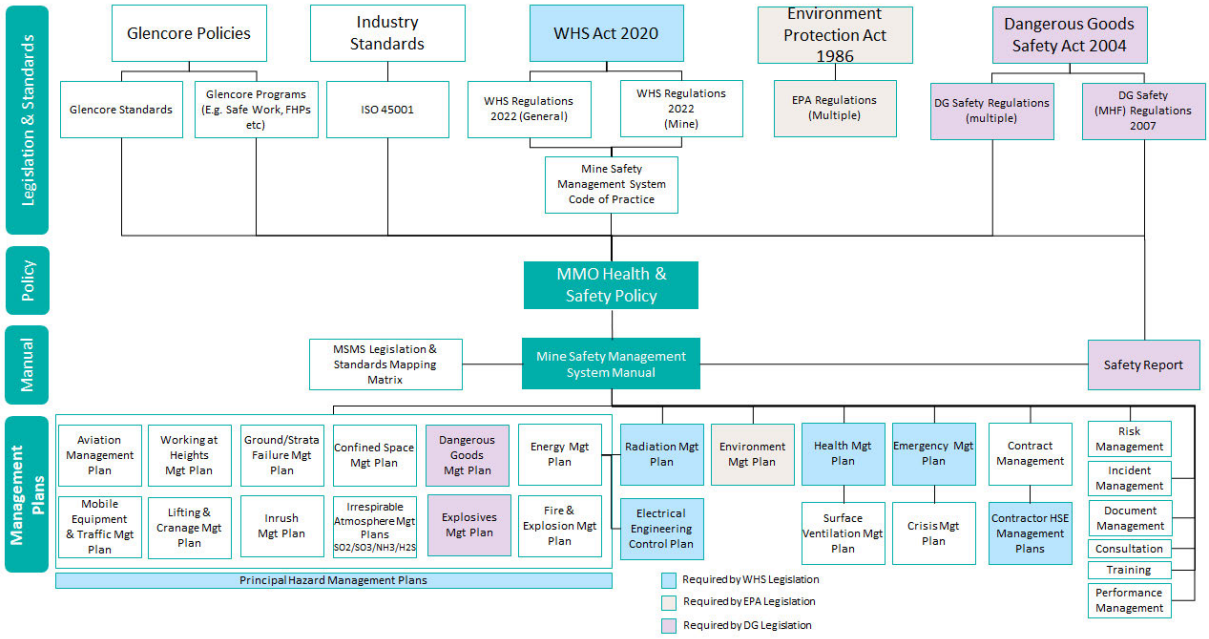

Figure 1: Mine Safety Management System Structure

The primary documents that govern MMO's Mine Safety Management System are:
1) 0000-85-MN-0013-002 Mine Safety Management System Manual
2) 0000-46-PLN-020-001 Safety Report
3) Principal Hazard Management Plans
4) Principal Control, Legislative & Other Management Plans
5) Contractor HSE Management Plans

Refer to Section 8. for information on the Management Plans and sub-elements of the Mine Safety Management System.

3.2 MANAGEMENT SYSTEM FRAMEWORK

The H&SMS framework is aligned to ISO 45001 (Figure 2) uses a structured process that takes experience and learnings from one cycle and uses it to adjust and improve performance during the next. The system focuses on people and processes by linking the H&S Policy and business strategies with set expectations in order to achieve continuous improvement in overall H&S and H&SMS performance.

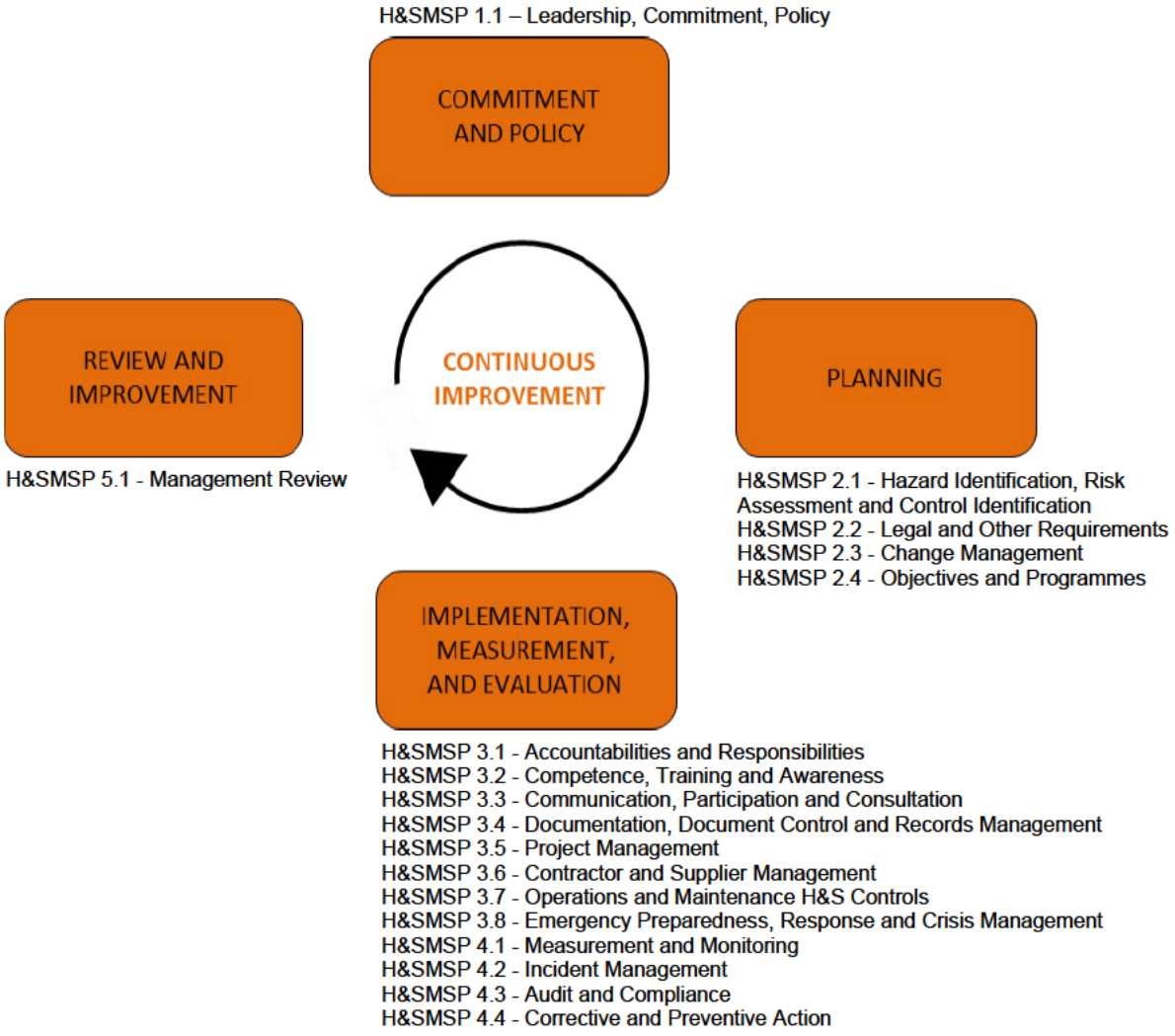

Figure 2: H&S Management System Framework

The H&SMS incorporates the following five principles which also reflect the Deming Cycle (Figure 3) for continuous improvement (Plan, Do, Check and Act):

- Commitment and Policy;
- Planning;
- Implementation and Operation;
- Measurement and Evaluation; and
- Review and Improvement.

Figure 3: Deming Cycle

4 MANAGEMENT SYSTEM PROCEDURES

To support the H&SMS framework and each of the five principles, Management System Procedures have been developed and are continually updated as necessary.

The H&S Management System Procedures associated with the MMO H&SMS and each of the five principles are listed below:

Commitment and Policy

- H&SMSP 1.1 Leadership, Commitment and Policy

Planning

- H&SMSP 2.1 Hazard Identification, Risk Assessment and Control Identification
- H&SMSP 2.2 Legal and Other Requirements
- H&SMSP 2.3 Change Management
- H&SMSP 2.4 Objectives and Programmes

Implementation and Operation

- H&SMSP 3.1 Accountabilities and Responsibilities
- H&SMSP 3.2 Competence, Training and Awareness
- H&SMSP 3.3 Communication, Participation and Consultation
- H&SMSP 3.4 Documentation, Document Control and Records Management
- H&SMSP 3.5 Project Management
- H&SMSP 3.6 Contractor and Supplier Management
- H&SMSP 3.7 Operations and Maintenance H&S Controls
- H&SMSP 3.8 Emergency Preparedness, Response and Crisis Management

Measurement and Evaluation

- H&SMSP 4.1 Measurement and Monitoring
- H&SMSP 4.2 Incident Management
- H&SMSP 4.3 Audit and Compliance
- H&SMSP 4.4 Corrective and Preventive Action

Review and Improvement

- H&SMSP 5.1 Management Review

5 INTERACTION WITH SAFENICKEL

The H&SMS also includes SafeNickel, the brand name given by the Nickel Assets Division to the Glencore-wide SafeWork program, a risk-based approach to eliminate fatalities.

The nine essential elements of SafeWork are depicted below:

SafeNickel supports the H&SMS framework and the delivery of continuous improvement in H&S performance through the understanding of high-risk activities, developing controls to manage these risks and verifying that appropriate controls are in place and are effective.

Fatal Hazard Protocols (applicable to MMO)

- Energy Isolation;
- Working at Height;
- Confined Spaces and Irrespirable / Noxious Atmosphere;
- Mobile Equipment;

- Ground / Strata Failure;
- Electrical Safety;
- Emergency Response;
- Lifting and Cranage;
- Fire and Explosion;
- Explosives and Shotfiring;
- Tyre and Rim Management; and
- Inrush and Outburst.

HSEC, HR and Safety Standards (applicable to MMO)

- HSEC and HR Management;
- Health;
- Structural Failure;
- Road Transportation Safety;
- Aviation;
- Forklift Operation;
- Environment;
- Energy and Climate Change;
- Closure Planning;
- Loss of Containment;
- Social Performance;
- Cultural Heritage;
- Responsible Sourcing;
- Product Management;
- Human Rights;
- Security; and
- Tailings Storage Facilities and Dam Management.

Life Saving Behaviours

- ALWAYS come to work drug and alcohol free.
- NEVER move or operate machinery or equipment without the recognised training and authorisation;
- ALWAYS check machinery or equipment is isolated from all energy sources and Tested for Dead before working on it;
- NEVER remove another person's Personal Danger Tag or Padlock;

- NEVER remove, obstruct, bypass or modify a safety device;
- NEVER enter mobile operating equipment zones without clear approval, or areas prohibited by signage, barricading or other approved controls;
- NEVER work or travel under a suspended load or uncontrolled falling object hazard;
- NEVER work at height or within prescribed distances from openings without an approved system of fall protection;
- ALWAYS use or wear critical safety equipment;
- ALWAYS comply with critical procedures;
- ALWAYS safely intervene and report any injury, incident or failure to uphold a Life Saving Behaviour;
- NEVER accept, and ALWAYS report, any behaviour that is violent or abusive.

6 INTRODUCTION TO MMO AND OUR MSMS

6.1 THE PROJECT

MMO is the operator and manager of the Murrin Murrin Nickel Cobalt Project ('project') which is 100% owned by Minara Resources Pty Ltd (Minara). Minara is 100% owned by Glencore plc, one of the world's largest globally diversified natural resource companies.

The project is located in the northeastern Goldfields region of Western Australia. Mining occurs in both the Shire of Leonora and the Shire of Laverton, and the processing plant, accommodation village and airstrip are located approximately halfway between the towns of Leonora and Laverton.

The project was commissioned in 1999 and processes approximately 4.3 million tonnes of nickel laterite ore per year to produce about 45,000 tonnes of nickel and 3,000 tonnes of cobalt per year.

The project consists of:

- Open-cut nickel and cobalt mining
- Calcrete quarrying and milling operations
- 24 hour continuous processing plant and associated ancillary plants (power generation, sulphuric acid plant, hydrogen sulphide plant, water treatment plant)
- Tailings Storage Facilities (TSF), including above ground, evaporation ponds (EP) and inpit disposal
- Heap leach facility
- Water supply borefields
- Landfill
- Wastewater treatment plant
- Supporting infrastructure such as the accommodation village, roads and airstrip.

From the concept and pre-feasibility stages of the project in the 1990's, MMO has adopted a formal H&SMS. This has been based on M-SAFE, AS 4801 and OHSAS 18001 at different times, and in 2021 the H&SMS was aligned with ISO 45001 with a determination to achieve

independent certification to that Standard in order to enhance the reputation of MMO and the confidence of stakeholders.

MMO has undertaken an analysis of the political, economic, social, technological, environmental and legal issues that can affect, positively or negatively, the way health and safety responsibilities are managed and/or the ability to achieve the planned outcomes of the H&SMS.

6.2 WHAT IS A MINE SAFETY MANAGEMENT SYSTEM?

Legislative Requirements
WHS Mines Regulations r. 5C Meaning of mine operator
WHS Mines Regulations r. 7A References to person conducting a business or undertaking includes references to mine operators
WHS Mines Regulations r. 621 Duty to establish and implement mine safety management system
WHS Mines Regulations r. 621A General requirements for mine safety management system

Principles and Requirements of the MSMS Code of Practice
The mine safety management system (MSMS) is the primary means of providing processes and methods to everyone involved at MMO to ensure the safe operation of MMO and all activities performed. It is a framework that brings together MMO's policies, systems, procedures and plans to enable MMO to follow a systematic approach to achieving, improving and monitoring a desired level of health and safety.

MMO (as the mine operator) is responsible for preparing the MSMS, which must be documented, comprehensive and integrated as the overall management system that is in place. The MSMS is designed, established and implemented so that it ensures, so far as is reasonably practicable, that the health and safety of workers and other persons is not put at risk by MMO or by work carried out during operations.

Therefore, the MSMS needs to manage all aspects of risk to health and safety in relation to the operation of MMO and this includes any documented contractor health and safety management plan that has been accepted by MMO. Ultimately, the MSMS is a tool that outlines the health and safety responsibilities of, and provides guidance to, everyone involved at MMO, and assists MMO meet our duty of care.

The MSMS covers the entire project lifecycle at MMO, including planning, design, construction, commissioning, operation, maintenance and closure.

MMO's Documentation to Address Requirements
Entire H&SMS

6.3 WHY IS AN MSMS REQUIRED?

Legislative Requirements
WHS Act s. 19 Primary duty of care
WHS Act s. 20 Duty of persons conducting businesses or undertakings involving management or control of workplaces
WHS Mines Regulations r. 34 Duty to identify hazards
WHS Mines Regulations r. 35 Managing risks to health and safety

WHS Mines Regulations r. 621 Duty to establish and implement mine safety management system

Principles and Requirements of the MSMS Code of Practice

Mining is an industry with a range of hazards and associated risks due to the dynamic and varied nature of the tasks and the environment in which they are carried out. These can range from industry specific hazards, such as principal mining hazards that have the potential to result in multiple fatalities, to other hazards such as moving parts of plant or those common in many work environments, such as lifting heavy objects and slips and trips.

The Work Health and Safety Act 2020 (WHS Act) requires all persons conducting a business or undertaking (PCBU), including MMO as the mine operator, to ensure so far as is reasonably practicable, that the health and safety of workers and other persons is not put at risk from any work carried out as part of the business or undertaking. This means eliminating or minimising risks to health and safety, so far as is reasonably practicable, and includes:

- provision and maintenance of safe and healthy work environment
- provision and maintenance of safe plant and structures
- provision and maintenance of safe systems of work
- safe use, handling and storage of plant, structures and substances
- methods for the identification of, and managing the impact from, psychosocial hazards
- provision of adequate facilities for the welfare of workers at work
- provision of any information, instruction, training and supervision necessary to protect all workers from risks to their health and safety
- monitoring, including proactive control, of workplace conditions and the effects on workers' health.

MMO (as the mine operator) also has duties under the Work Health and Safety (Mines) Regulations 2022 (WHS Mines Regulations) that include establishing and implementing the MSMS before commencing new or additional mining operations. The MSMS is MMO's principal means of ensuring the health and safety of workers and other persons and must be in place before new or additional mining operations commence. The requirement to establish and implement the MSMS also applies to exploration activities.

Although there are specific regulations that outline the prescribed content of the MSMS, these are considered to be the minimum requirements that need to be addressed by the MSMS, and it is recognised the MSMS does not remove MMO's duty to comply with the WHS Mines Regulations.

The MSMS ties all health and safety related policies, plans and processes together into an integrated system to ensure there are no gaps in the management of all health and safety risks, and that all the elements work in a coordinated way.

MMO's Documentation to Address Requirements

Entire H&SMS

6.4 IS AN MSMS REQUIRED FOR ALL MINING OPERATIONS?

Legislative Requirements

WHS Mines Regulations r. 5B Meaning of mining operation
WHS Mines Regulations r. 621 Duty to establish and implement mine safety management system

Principles and Requirements of the MSMS Code of Practice
The MSMS is established and implemented for all mining operations, including exploration operations, whether they are new or existing.

The MSMS reflects the size, nature, and type of mining operation being conducted at MMO, along with the associated risks of the operation. The above factors, along with MMO's location and other issues relating to the context of MMO, has dictated the shape and structure of the MSMS.

As an existing mine, MMO already had management systems in place. The MSMS has been developed as a controlling framework to regulate existing safety management systems that were already in place. Pre-existing systems have been reviewed to ensure that they meet the requirements of the MSMS and have been modified accordingly.

The MSMS applies to MMO's current mining operations.

MMO's Documentation to Address Requirements
Entire H&SMS

7 PREPARATION OF AN MSMS

7.1 DEVELOPING CONTROLS TO MANAGE RISK

Legislative Requirements
WHS Act s. 17 Management of risks
WHS Act s. 18 What is reasonably practicable in ensuring health and safety
WHS Mines Regulations Part 3.1 Managing risks to health and safety
WHS Mines Regulations r. 617 Managing risks to health and safety

Principles and Requirements of the MSMS Code of Practice
At the core of the MSMS are the processes for managing risks, in particular those posed by principal mining hazards, and these have been a key part of preparing the MSMS and controlling risks. The risk management processes comply with the requirements of the WHS Act and WHS Mines Regulations and are deemed adequate to deliver the work health and safety objectives defined by MMO's health and safety policy and planned outcomes there under.

Effective risk management starts with a commitment to health and safety made by the General Manager. It also needs the involvement and cooperation of workers. MMO (as the mine operator) has created a culture where workers are strongly encouraged to actively contribute to health and safety performance improvement activities.

Thought has been given to what could go wrong in our workplace and the possible consequences. Then, all steps have been taken that are reasonably practicable to eliminate or minimise health and safety risks arising from MMO's operations.

The risk management process involves the following steps:
• identifying hazards – find out what could cause harm to health and safety
• assessing risks – understand the nature of the harm that could be caused by the hazard, how serious the harm could be and the likelihood of it happening

• managing risks – so far as is reasonably practicable, eliminate the hazard and associated risk or, minimise the risk through the implementation of effective risk control measures based upon the hierarchy of control
• reviewing – control measures to ensure they are working as planned.

MMO's Documentation to Address Requirements
0000-85-P-013-002 Hazard Identification, Risk Assessment and Control Identification

7.2 LEVEL OF DETAIL REQUIRED IN THE MSMS

Legislative Requirements
WHS Mines Regulations r. 621A General requirements for mine safety management system
WHS Mines Regulations r. 622(2) Level of detail for mine safety management system

Principles and Requirements of the MSMS Code of Practice
The detail on each element of the MSMS depends on the nature and complexity of MMO's operations and the associated risks. As a large site involving mining and refining, we are a relatively complex and high-risk operation, and the detail in our overall H&SMS reflects this.

MMO already had most components of the MSMS as part of our existing safety management system. MMO carried out a gap analysis so that the existing health and safety management systems, plans and other documents were modified where necessary to develop a comprehensive MSMS as required under the WHS Mines Regulations.

Consideration has been given as to how the MSMS will be regularly monitored, reviewed, audited and tested in a structured way to ensure it remains effective. Opportunities for improvement are continually identified (eg. introduction of technology or changes in the workplace or activities) and introduced in a controlled manner.

MMO has also ensured the people involved in preparing the MSMS (as a component of the overall H&SMS) have the relevant competencies, including an appropriate mix of technical and risk management skills. This has involved consulting external subject matter experts.

MMO's Documentation to Address Requirements
Entire H&SMS

7.3 IDENTIFYING HAZARDS

Legislative Requirements
WHS Mines Regulations r. 34 Duty to identify hazards

Principles and Requirements of the MSMS Code of Practice
Identifying hazards has been partly achieved by dividing operations or systems into groups and sub-groups. All possible sources of information have been considered when identifying hazards and developing the MSMS, such as past experience, published information, engineering standards, worker consultation, etc.

During the process of identifying hazards, the following have been taken into account:
• workplaces, work processes, substances, plant and equipment
• how work is organised, managed, carried out and how changes may occur

• job and work design in consideration of management of health and fatigue of workers
• contracting and subcontracting services
• management and supervision
• competencies of persons who manage, supervise and work
• inspection, maintenance and testing of work environment, plant and equipment.

MMO's Documentation to Address Requirements
0000-85-P-013-002 Hazard Identification, Risk Assessment and Control Identification

7.4 RISK ASSESSMENT

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice
A risk assessment involves considering the probability of an unplanned event occurring, as well as the likely consequences.

Hazards are assessed separately and jointly with other hazards where there is a likelihood for some hazards to interact and increase the level of risk.

In assessing risks, MMO considers the:
• nature of the hazard or risk
• likelihood of the hazard or risk causing harm
• possible severity of the harm
• state of knowledge (what the industry knows) about the hazards or risks and how to eliminate or minimise them.

Other matters that are considered in assessing risks include:
• the effect of different operating conditions – normal or abnormal (e.g. shut down and start up, adverse weather and possible misuse of equipment due to human error)
• past incidents and potential emergency situations identified from internal and external sources and experiences
• past, current and planned activities
• the reliability and adequacy of existing technology used to control risk (i.e. engineering controls).

MMO's Documentation to Address Requirements
0000-85-P-013-002 Hazard Identification, Risk Assessment and Control Identification

7.5 MANAGING RISK AND RISK CONTROLS

Legislative Requirements
WHS Mines Regulations r. 35 Managing risks to health and safety
WHS Mines Regulations r. 36 Hierarchy of control measures
WHS Mines Regulations r. 617 Managing risks to health and safety
WHS Mines Regulations r. 618 Review of control measures

Principles and Requirements of the MSMS Code of Practice

Managing risk involves eliminating the risk, so far as is reasonably practicable. If this is not able to be done, the risk must be minimised, so far as is reasonably practicable, by the use of effective controls that are based upon the hierarchy of control.

Some hazards pose such high levels of risk that control measures are prescribed by the WHS Act and WHS Mines Regulations. As a minimum, these prescribed controls are always used at MMO and are supplemented by additional controls to assist in further minimising the risk as required. Emerging hazards are risk assessed and the effectiveness of existing risk assessments and implemented controls are evaluated, with the MSMS being updated to reflect any operational changes.

MMO's arrangements for managing risk must include an ongoing process for the selection and use of suitable methods for hazard identification and risk assessment. The risk management process also establishes the tolerable risk.

A combination of controls may be used to minimise risks at MMO, so far as is practicable, if a single control is not sufficient for the purpose.

When selecting controls, MMO has prioritised the implementation of preventative controls, where practicable. Any controls that minimise or otherwise lessen (mitigate) the consequences of the incident are only secondary to prevention.

Where practicable, a risk must be eliminated. If a risk cannot be eliminated, MMO implements effective risk control measures to minimise risks so far as is reasonably practicable, by:
• substituting, wholly or partly, the hazard that creates a risk with something that gives rise to a lesser risk
• isolating the hazard from any person exposed to it
• implementing engineering controls.

MMO's H&SMS documentation contains reference to relevant design principles, engineering standards and technical standards relied upon for control measures. If a residual risk remains, MMO further minimises the remaining risk by:
• implementing administrative controls
• ensuring personal protective equipment (PPE) is provided and used.

With the implementation of these controls the risk should be, so far as is reasonably practicable, minimised. However, it should not be higher than the established tolerable risk.

When identified deficiencies cannot be easily remedied or risk control measures are disabled or bypassed, short-term risk control measures that provide an equivalent level of risk reduction are implemented.

In assessing risk and selecting effective controls to implement, the reasons for adopting or rejecting controls to manage hazards are documented.

To ensure that the selected controls remain effective, their performance is actively monitored. MMO understands that most incidents occur because one or more existing controls failed (eg. the control is poorly designed, understood, communicated, implemented or maintained). The performance of key controls is regularly monitored to ensure the controls remain effective.

All personnel at MMO are fly-in fly-out and drive-in drive-out workers staying in camp facilities. As a result, additional hazards are present which require effective management and inclusion within the MMO H&SMS.

Trigger Action Response Plans:

There are situations where monitoring has been put in place to detect a slowly deteriorating trend at MMO. A trigger action response plan (TARP) is one risk-management tool used that triggers a planned early response in these instances.

TARPs prevent 'normalisation', ie. accepting slow deterioration as 'normal' because it is not noticeably different from day to day: if there is no planned response in place for these particular hazards, a decision to put a risk control in place may be delayed until the hazard cannot be easily controlled.

TARPs summarise the overall monitoring arrangements and include planned actions ready to implement when certain trigger points are detected by monitoring. At MMO, TARPs are only put in place after a risk assessment has verified the selection of the most effective control measures.

Important factors considered by MMO when developing TARPs are:
• simplicity – triggers should be easily understood and designed for the people that are expected to identify and implement them
• clear linkage – the actions required are linked to, and appropriate to, the trigger that initiates the action
• clear accountability – the actions are assigned to a person who has the authority and is available to take the appropriate actions
• communication – there is clear communication between all affected people
• escalation – there are escalating actions linked to deteriorating conditions (eg. site evacuation at the higher trigger levels).

MMO's Documentation to Address Requirements
0000-85-P-013-002 Hazard Identification, Risk Assessment and Control Identification

7.6 CONSULTATION

Legislative Requirements
WHS Act Part 5 Division 2 Consultation with workers
WHS Mines Regulations r. 622(1)(l) Safety role for workers
WHS Mines Regulations r. 625A Consultation requirement for mine safety management system

Principles and Requirements of the MSMS Code of Practice
MMO consults with workers on all relevant matters. This includes the preparation, implementation and review of the overall H&SMS, and all component elements of it such as risk assessments.

Consulting with Workers:

The WHS Act and WHS Mines Regulations prescribe the matters on which MMO (as the mine operator) must consult with workers.

MMO has obligations to consult with workers in relation to:
• the development, implementation and review of the MSMS for the mine (and of the overall H&SMS)
• conducting risk assessments for principal mining hazard management plans
• preparing, testing and reviewing the emergency plans
• the implementation of the workers' safety role
• developing and implementing strategies to protect workers and other persons from any risk to health and safety.

The H&SMS sets out how this safety role for workers will be achieved at MMO, including how workers are given the opportunity to contribute and how to involve contractors and their workers.

MMO's Documentation to Address Requirements
0000-85-P-013-008 Communication, Participation and Consultation

8 MSMS REQUIREMENTS

8.1 INTRODUCTION

Legislative Requirements
WHS Mines Regulations r. 622 Content of mine safety management system

Principles and Requirements of the MSMS Code of Practice
The content of the MSMS (and of the overall H&SMS) addresses the requirements of the WHS Mines Regulations and the risk and hazard controls identified during the risk assessment conducted in accordance with the requirements as outlined in sections 2.3 to 2.6 above.

The MSMS provides a comprehensive and integrated framework for MMO to manage all aspects of known risks to health and safety and includes all applicable elements, listing all controls and including referencing the procedures used to undertake work.

MMO's Documentation to Address Requirements
Entire H&SMS

8.2 CURRENT MINING OPERATIONS

Legislative Requirements
WHS Mines Regulations r. 621A General requirements for mine safety management system
WHS Mines Regulations r. 622(1)(b) Description of the mining operation
WHS Mines Regulations r. 622(2) Level of detail of mine safety management system

Principles and Requirements of the MSMS Code of Practice
The MSMS reflects the current mining operations at MMO, and is continually updated as the mining operations change.

MMO's Documentation to Address Requirements
Entire H&SMS

8.3 HEALTH AND SAFETY POLICY

Legislative Requirements
WHS Mines Regulations r. 622(1)(a) Mine operator's health and safety policy

Principles and Requirements of the MSMS Code of Practice
The Health and Safety Policy is a statement of MMO's commitment and approach to health and safety and includes the broad aims in relation to the safe operation of the mine. It is an authoritative statement setting out matters of principle and the actions that are to be taken to support those matters.

The Health and Safety Policy:
• has objectives for meeting regulatory obligations, maintaining, and where possible, improving health and safety standards
• states the commitment of MMO in achieving the stated goals and objectives and providing the necessary resources
• is documented and communicated to workers and other affected stakeholders.

MMO's Documentation to Address Requirements
0000-85-M-100-001 Health and Safety Policy

8.4 MANAGING RISK BY ADOPTING APPROPRIATE CONTROLS

Legislative Requirements
WHS Mines Regulations r. 36 Hierarchy of control measures

Principles and Requirements of the MSMS Code of Practice
The risk management process, as detailed in section 2 above, guides the appropriate controls that are adopted by MMO. These controls include, but are not limited to:
• steps taken to eliminate hazards in the design of the mine layout and operations
• engineering controls for processes, plant and equipment
• administrative controls in the form of procedures, training and supervision.

MMO's Documentation to Address Requirements
0000-85-P-013-002 Hazard ID, Risk Assessment & Control Identification Procedure
0000-13-P-000-001 Risk Management Procedure – Manual
0000-13-P-000-008 Risk Management Procedure - Minara Risk Register
0000-85-P-005-003 H & S Procedure - Job Safety & Environment Analysis (JSEA)

8.5 SYSTEMS, PLANS AND PROCEDURES

Legislative Requirements
WHS Mines Regulations r. 622(1)(d) Systems, plans and procedures used to control risk to health and safety

Principles and Requirements of the MSMS Code of Practice
This section covers the systems, plans and procedures that are used to control risks to health and safety at MMO. The systems, procedures and plans used to manage the risks posed by hazards are important elements of the MSMS.

MMO has many systems in place that are divided into sub-systems, including those for mining, production, maintenance, training, communication and contractor management. When combined, the systems cover all aspects of the whole mining operation under the MSMS, and MMO has ensured there is consistency between these systems, especially where certain procedures or plans are duplicated across different systems.

MMO has identified all the applicable plans that cover the requirements of the MSMS. These include:
• principal mining hazard management plans
• a health management plan
• an emergency plan
• a radiation management plan

Procedures are developed by analysing an activity into clearly understood steps, conducting a risk assessment and developing a method of carrying out the activity in a safe and desired manner. Procedures provide guidance to everyone who use them and help achieve consistent quality and a safe method of carrying out a task.

While developing procedures, consideration has been given to the following:
• consulting with persons who will use the procedure
• considering all available information, including documents from the designer, manufacturer, supplier and/or constructor of plant and equipment
• using language that is easy to understand.

MMO's Documentation to Address Requirements
0000-85-MN-013-002 Mine Safety Management Manual
0000-85-MN-013-001 Health and Safety Management System Manual
Various Document Numbers Management Plans to address FHPs and Safety Stds
0000-46-R-020-004 Safety Report - Safety Management System Description
0000-85-PLN-007-005 Dangerous Goods Management Plan
3000-72-PLN-000-001 Hazardous Areas Management Plan
0000-85-PLN-007-003 Emergency Management Plan
0000-85-PLN-007-007 Crisis Management Plan
0000-85-PLN-002-004 Health Management Plan
3000-71-PLN-000-001 Radiation Management Plan
0000-13-P-000-003 Glencore Ni: Catastrophic/Severe Hazard & Critical Control Mgt
0000-13-G-000-005 Site Implementation of Critical Control Mgt (CCM)

8.6 PRINCIPAL MINING HAZARD MANAGEMENT PLANS

Legislative Requirements
WHS Mines Regulations r. 612 Meaning of principal mining hazard
WHS Mines Regulations r. 627 Identification of principal mining hazards and conduct of risk assessments
WHS Mines Regulations Schedule 19 Principal mining hazard management plans – matters to be considered

Principles and Requirements of the MSMS Code of Practice
A principal mining hazard (PMH) is an activity, process, procedure, plant, structure, substance, situation or other circumstance relating to the carrying out of mining operations at

MMO that has a reasonable potential to result in multiple fatalities. These may be in a single incident or a series of recurring incidents.

The WHS Mines Regulations list some of the factors that have been considered by MMO in developing principal mining hazard management plans.

The PMHs may change depending upon the work being undertaken. What constitutes a PMH at one point in time may not be relevant later, for example, due to different work practices or the introduction of new technology which removes a hazard.

The management of PMHs is an important component of the MSMS: they require special consideration due to the potential to create incidents with serious consequences.

The risks associated with PMHs are not always obvious and much like the overall hazard, what is a risk today may not be so in the future; alternatively, new risks may be introduced. Therefore, PMHs are identified and assessed both separately and in combination in order to identify any interactions that may flow from one risk to another.

What is a Principal Hazard Management Plan?:

A principal mining hazard management plan (PMHMP) is a document that sets out how MMO manages risks to workers' health and safety associated with the PMH.

MMO has prepared a PMHMP for each PMH that has been identified.

Content of a Principal Mining Hazard Management Plan:

Before preparing PMHMPs, MMO considered how the PMHMP is to be established, implemented and integrated with other plans. MMO has ensured the development (and review as necessary) of the PMHMP is undertaken in consultation with relevant workers and representatives.

Before preparing PMHMPs, MMO also considered:
• the relevant information required
• the size, nature, complexity and location of the operation
• identifying associated factors contributing to a PMH
• available engineering, operational and organisational control measures
• existing plans, procedures and other controls
• any legacy monitoring data
• the intended audience – the PMHMP should be written in plain language that is easy to understand.

PMHMPs adequately:
• identify and describe the hazard
• assess the risks of health and safety to workers from exposure to the hazard
• describe the control measures and implementation required to manage the risks associated with the hazard.

Risk Assessment Methods for an Identified Principal Mining Hazard:

Once a PMH has been identified, MMO applies appropriate risk assessment process(es) to investigate and analyse each PMH identified in a comprehensive and systematic manner before developing the corresponding PMHMP.

A process is deemed to be 'comprehensive' and 'systematic' when it includes all operations, activities, areas or phases of operations and addresses all aspects of the hazard (e.g. likelihood and consequence), and applies the same process at each step.

Some questions considered when selecting a risk assessment process are:
• Is it suitable for the type and complexity of the operation and the nature of all the hazards present?
• Is it workable and not overly complicated for MMO's needs?
• Is it adequate to differentiate between likelihood and consequence?
• Is it able to assist in understanding and selecting the risk control measures?
• Is it capable of assessing cumulative risk and the potential effect of risk reduction measures?
• Does it challenge the assumption that no new knowledge is required about the PMH?
• Does it provide information that can be understood by those exposed to the PMH?
• Does it ensure an appropriate group of workers is consulted about and actively involved in the assessment?
• Is it able to identify and address uncertainties and human factors?
• Is it consistent with MMO's Health and Safety Policy and the MSMS?
• Can it document all methods, results, assumptions and data?
• Can it be used for continuous improvement?

The chosen process should deliver the following outcomes:
• provide knowledge, awareness and understanding of the risk of the PMH and how to prevent incidents for inclusion in the PMHMP
• identify the major factors contributing to risk
• identify, evaluate, define and justify the selection, or rejection, of risk controls
• allow the adequacy of selected controls to be tested
• demonstrate that risk is eliminated or reduced so far as is reasonably practicable
• identify concerns to be addressed where required.

<u>Preparing a Principal Mining Hazard Management Plan:</u>

(Legislative Requirements)
WHS Mines Regulations r. 628 Preparation of principal mining hazard management plan
WHS Mines Regulations r. 629 Review

When preparing a PMHMP, MMO ensures it must:
• provide for the management of all aspects of the risk controls relevant to the PMH
• be set out and expressed in a way that is easily understandable and made readily accessible for management, supervision and workers who use the PMHMP.

With consideration to the above, the PMHMP must:
• describe the nature of the PMH to which the plan relates
• describe how the PMH relates to other hazards at MMO
• describe the analysis methods used in identifying the PMH to which the plan relates
• include a record of the risk assessment conducted in relation to the PMH
• describe the investigation and analysis methods used in determining the control methods to be implemented
• describe all control measures to be implemented to manage risks to health and safety associated with the PMH
• describe the arrangements in place for providing the information, training, instruction and supervision in relation to the nature of the PMH and the control measures implemented

• refer to any design principles, engineering standards and technical standards relied upon by MMO as control measures for the PMH
• set out the reasons for adopting or rejecting all control measures considered.

All PMHMPs form part of the MSMS (and overall H&SMS) for MMO. These plans may be integrated by:
• updating the risk management procedure to include all hazards
• referencing PMHMPs in other relevant procedures
• referencing relevant work instructions, policies and procedures.

MMO (as mine operator) ensures that each PMHMP is reviewed and where necessary revised if deficient or if a risk control measure specified in the plan is revised. If a PMHMP is revised, MMO records the revisions, including any revision of a risk assessment, within the plan.

MMO's Documentation to Address Requirements
Manual
0000-85-MN-013-001 Health and Safety Management System Manual

Principal Hazard Management Plans
7300-85-PLN-200-001 Aviation Management Plan
0000-85-PLN-200-002 Lifting & Cranage Management Plan
0000-85-PLN-007-005 Dangerous Goods Management Plan
3000-72-PLN-000-001 Hazardous Areas Management Plan
0000-85-PLN-200-001 Traffic Management Plan
0000-88-PLN-000-005 MMO Road Transport Management Plan
2000-01-PLN-000-001 Ground Control Management Plan
0000-85-PLN-007-010 Fire and Explosion Management Plan
2000-06-PLN-004-001 Explosives Management Plan
2000-01-PLN-000-002 Inrush Management Plan

8.7 OTHER CONTROL & MANAGEMENT PLANS

i Health Management Plan

Legislative Requirements
WHS Mines Regulations r. 622(1)(d)(v) Health management plan prepared for the mine
WHS Mines Regulations r. 675EA Duty to prepare and implement health management plan

Principles and Requirements of the MSMS Code of Practice
MMO has prepared and implements a health management plan (HMP) which identifies all health hazards that may have an adverse effect on the health of any worker or other person.

The HMP includes a description of the arrangements that are in place for all monitoring, assessment and regular inspection of the working environment at MMO to ensure the health of workers is not adversely affected, and provides details of controls that MMO implements in order to manage the associated risks.

Therefore, the HMP identifies and considers all matters that may have an adverse effect on the health of workers from operations performed at MMO, including, but not limited to:
• heat
• humidity

• contaminants
• any other health hazard such as:
– noise
– chronic exposure to musculoskeletal stressors
– those affecting mental health.

The HMP provides all applicable controls to minimise the exposure, so far as is reasonably practicable, to all identified hazards. A monitoring schedule based on risk has been developed.

MMO ensures that health monitoring is provided to workers if there is a risk of an adverse effect on workers' health due to exposure to a hazard associated with mining or refining operations (if the exposure can be detected). This is described in the HMP.

MMO also ensures that a worker who has experienced adverse health effects from an exposure to a hazard is removed from the hazard.

The HMP considers suitable arrangements for the inclusion of contractors in these processes.

ii Emergency Plan

Legislative Requirements
WHS Mines Regulations r. 43 Duty to prepare, maintain and implement emergency plan
WHS Mines Regulation r. 622(1)(d)(iv) Emergency plan prepared for the mine
WHS Mines Regulations Part 10.2 Division 5 Emergency management – Emergency plan
WHS Mines Regulation Schedule 22 Matters to be included in emergency plan for a mine

Principles and Requirements of the MSMS Code of Practice
MMO has prepared an emergency plan (EP) as an element of the MSMS and has documented it in such a way that is understandable by those who may have to use it. The EP includes information on what has to be done to respond effectively to emergencies.

The EP provides for emergency procedures, including evacuation procedures, notifying emergency services and otherwise responding to an emergency. Emergency procedures make provision for providing medical treatment and assistance.

The EP covers workers or persons working in remote areas. A communications plan for such operations is included.

Emergency procedures are tested and competent people are trained and made responsible for the control of emergency situations. Emergency instructions, including the names and control details of key workers, are made clear and accessible to all personnel who need them.

Because it is possible that MMO may require the services of a primary emergency service or a neighbouring mine to deal with an emergency, MMO additionally consults with and formalises arrangements with those who may take part when a neighbouring mine is dealing with an emergency.

If there is an identified risk to the health and safety of people in the surrounding area from a mining hazard, MMO also consults with the local authority and other stakeholders about the possible impact.

In addition to the EP, MMO:
• provides the resources and equipment listed in the EP (e.g. breathing apparatus, lifting gear, firefighting equipment)
• ensures the resources and workers allocated are adequate for an emergency continuing for more than a single shift
• ensures a copy of the EP is made available to the emergency services that have been consulted with upon request
• tests the EP at intervals no more than 12 months
• reviews the EP as required.

The EP requires assigning and training competent people to be responsible for the control of emergency situations. Emergency instructions, including the names and control details of key people, must be clear and accessible to the people who need them.

Withdrawal Procedures and Conditions:

(Legislative Requirements)
WHS Mines Regulations r. 622(1)(h) Procedures and conditions for persons to be withdrawn

There may be occasions where a full emergency response is not necessary, but workers or others may need to be evacuated or withdrawn due to imminent danger.

Therefore, the EP includes the procedures and conditions under which people are to be withdrawn.

Withdrawal to a place of safety may also be needed as a precautionary measure if it is warranted due to a health and safety risk.

Risk management processes are used to identify and assess scenarios likely to trigger the need for a withdrawal of people.

The withdrawal conditions include:
• trigger for withdrawal
• actions to be taken when the trigger is activated
• communication of the withdrawal
• route and method of withdrawal, including the assembly points after the withdrawal
• checking the withdrawal has been carried out
• re-entry procedure.

The purpose of the withdrawal is to take planned action before the need for an emergency response. Limited activities may have to continue in the affected areas, therefore where limited operations are provided, the withdrawal conditions specify the activities that may be performed and under what circumstances they may be performed.

iii Radiation Management

Legislative Requirements
WHS Mines Regulations r. 622(1)(d)(ii) Radiation management plan for the mine

WHS Mines Regulations r. 641N Radiation management plan

Principles and Requirements of the MSMS Code of Practice
MMO has developed a radiation management plan (RMP) due to the activity concentration of naturally occurring radionuclides in MMO's activities.

The content of the RMP is aligned with the Australian Radiation Protection and Nuclear Safety Agency's Radiation Protection Series No.9: Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing.

MMO's Documentation to Address Requirements
Safety Regulation System (DMIRS portal)
0000-85-PLN-002-004 Health Management Plan
0000-85-PLN-002-001 Noise Control Plan
0000-85-PLN-002-002 Potable Water Management Plan
0000-85-PLN-002-003 Surface Ventilation Management Plan
0000-85-PLN-002-005 Legionella Management Plan
0000-85-P-002-053 Health Surveillance
0000-85-PLN-007-003 Emergency Management Plan
0000-85-PLN-007-007 Crisis Management Plan
0000-85-P-007-045 Evacuation Procedure
0000-85-RE-006-003 MMO Site Dangerous Goods Register
0000-85-P-007-049 Emergency Response Procedures
2000-85-PLN-007-001 Mining Emergency Plan
0000-85-P-007-053 Gas Pipeline Emergency Procedure
0000-85-PLN-007-005 Dangerous Goods Management Plan
3000-71-PLN-000-001 Radiation Management Plan
0000-65-PLN-000-007 Electrical Engineering Control Plan

8.8 MANAGEMENT AND SUPERVISORY STRUCTURE

Legislative Requirements
WHS Mines Regulations r. 622(1)(e) Management and supervisory structure
WHS Mines Regulations Part 10.7A Positions in relation to mines

Principles and Requirements of the MSMS Code of Practice
MMO has documented the management and supervisory structure of those responsible for the health and safety of workers and others. This includes the following information relating to the organisational structure:
• details and responsibilities of those persons appointed to or performing statutory, management or supervisory roles
• competency requirements, certification and assessment records for all positions
• the number of managerial and supervisory roles required
• requirements relating to acting positions
• arrangements for filling temporary and permanent vacancies.

Short absences of people in critical positions or key statutory positions has been addressed, and the planned absence of supervisory, statutory and/or management personnel due to rostering (MMO is a fly-in fly-out operation) has also been considered.

The description of the management structure also includes:

• documentation of the structure such as roles, responsibilities and scheduling for actions in relation to implementing and ongoing operation of the MSMS (and the entire H&SMS)
• how the overall MSMS (and the entire H&SMS) is to be managed to ensure it is functioning and who is responsible for this
• an assessment of technical requirements of the position in the structure against actual competence to determine training requirements for them and any delegates for that role, as well as for succession planning.

Supervision & Statutory Supervision:

(Legislative Requirements)
WHS Mines Regulations r. 630 Communication on change of supervisors
WHS Mines Regulations r. 622(1)(k) Arrangements for supervision
WHS Mines Regulations Part 10.7A Positions in relation to mines

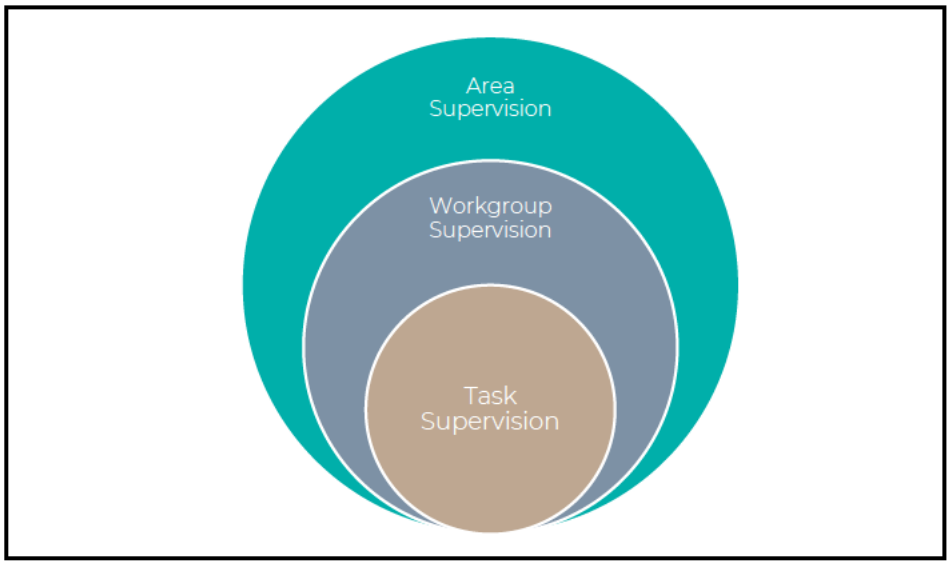

Fig 4: Types of Supervision

All supervisors have a task supervision and workgroup supervision responsibility. Task supervision is essential to check that work instructions and procedures are being followed and tasks are being completed safely.
Workgroup supervision is essential to ensure that personnel are being allocated work commensurate with their knowledge, skills and experience.
Statutory Supervisors have an additional area supervision responsibility to ensure as far as reasonably practicable their appointed place is safe for workers and others.

Arrangements have been made for direct and indirect supervision. The number of supervisors required and supervisory oversight needed has been based on factors including the level of risk, the number of workers and work groups, and the size of the work area.

Statutory Supervision

MMO complies with the WHS Mines Regulations which specify that the following areas at a mine must be supervised by a statutory supervisor:
• a quarry
• a processing plant
• a workshop

• a laboratory.

MMO has also identified, based on a risk assessment, other areas to be controlled by a statutory supervisor in order to reduce the risks to health and safety associated with the activities of MMO.

The Designated Statutory Areas for MMO are:
Processing Plant:

- **Refinery A** – includes 3500, 3600, 3800 & substation, Permit hut, 3610, 3900,
- **Refinery B** – includes 3700, 5200, 5900, & Amsul sheds
- **Ore Leach** - includes 3100, 3110, 3200, 3300, 3400, ore leach tailings pipeline and CCD containment ponds & heap leach, Calcrete Mill
- **Utilities** – includes 4100, 4300, 4400, Caustic Import, 5100, 5700, Sulphur stockpile, process water and raw water dams.
- **H2 & O2 Plant** – includes 5400 & 5500
- **Laboratory**
- **Refinery Workshop**
- **Ore Leach Workshop**
- **Utilities Workshop**
- **Central Works & Contractor Workshops**

Mining:

- **Mining Operations** -includes Murrin North, Murrin South & Murrin East, including the inpit tailings.
- **Calcrete Mining**
- **Calcrete Crushing**
- **Tailings & Water** – includes Borefields, Tailings paddock dam & evaporation ponds, & Tailings Pipelines
- **Explosives Magazines**
- **Batch Plant** - includes explosives batchplant and storage yards (operated by contractor)
- **Mobile Equipment Maintenance Operations Workshops** (operated by contractor)
- **Drilling Workshop** (operated by contractor)
- **Haulage Workshop** (operated by contractor)

The following are not considered statutory areas:

- Administration buildings
- Warehouse
- Project Offices
- Village & Airport.

The statutory areas are mapped out in 0000-24-MAP-000-001 MMO Designated Statutory Areas

The Site Senior Executive may designate additional statutory areas due to risk such as during shutdown where a high volume of activities requires smaller statutory areas of control. These additional areas will be communicated either through Safety Bulletins, or through Shutdown plan documents.

During normal operations, the designated statutory supervisor on site for each area is as follows:

PLANT STATUTORY AREAS	Plant Primary Statutory Supervisor	MINING STATUTORY AREAS	Mining Primary Statutory Supervisor
Refinery A	Production Supervisor – Refinery A	**Mining Operations**	Supervisor - Mining Operations
Refinery B	Production Supervisor – Refinery B	**Calcrete Mining**	Coordinator – Mine Projects
Ore Leach	Production Supervisor – Ore Leach	**Calcrete Crushing**	Leading Hand - Calcrete Crushing
Utilities	Production Supervisor - Utilities	**Tails & Water**	Coordinator – Tailings & Water
Central Works & Contractor Workshops	Maintenance Supervisor – Central Works	**Explosive Magazines**	Supervisor – Drill & Blast
Refinery Workshop	Maintenance Supervisor - Refinery	**Batch Plant**	Orica Supervisor
Ore Leach Workshop	Maintenance Supervisor – Ore Leach	**Mobile Equipment Maintenance Operations Workshop**	Westrac Supervisor
Utilities Workshop	Maintenance Supervisor – Utilities (dayshift); Production Supervisor - Utilities (nightshift)	**Drilling Workshop**	Wallis Supervisor
Laboratory	Senior Chemist	**Haulage Workshop**	Aurizon / Campbells Transport Supervisor
H2 & O2 Plant	BOC Supervisor		

During major shutdowns of production statutory areas, the primary statutory supervisor on shift will be the relevant shutdown maintenance supervisor allocated to that area as per the shutdown plan.

Managers for the statutory areas are to ensure that sufficient statutory supervisors are appointed to ensure there is an appropriate statutory supervisor available on shift while the area is operating. In the event that a statutory area does not have an appropriate supervisor available on shift dedicated to the area, a risk assessment is to be performed to assess whether a statutory supervisor can cover more than one statutory area and controls must be put in place to minimise risks to personnel.

Statutory Supervisor Eligibility Requirements for an Appropriate Person
To be eligible to be a Statutory Supervisor for an appointed place at MMO, a person must:

- have at least 2 years experience as a supervisor or worker in a similar industry;

- have completed the approved regulatory WHS risk units;
- have passed the regulatory legislation exam for statutory supervisors;
- have completed the MMO statutory supervisor information session;
- be nominated by the Manager of the relevant Department or PCBU in charge of the appointed area as a competent person having the relevant knowledge, skills and experience to perform the role of statutory supervisor;

As per Part 11.4 Transitional and Savings Provisions of the Mines Regulations, during the transitional period it is not mandatory to have completed the approved WHS Risk Units and Legislative Exam, however the statutory supervisor must meet the requirements of a competent person at MMO which includes the following as a minimum for statutory supervisors:

- have completed the Statutory Responsibilities for Mining Supervisors (SRMS) training;
- have completed the MMO Statutory Supervisor Information Session;
- have at least 2 years' experience as a supervisor or worker in a similar industry;
- be nominated by the Manager of the relevant Department or PCBU in charge of the appointed area as a competent person having the relevant knowledge, skills and experience to perform the role of statutory supervisor;
- be appointed by the site senior executive in writing by Letter of Appointment, and accept the appointment in writing by signing the Letter of Appointment;
- be registered on the MMO Register of Statutory & Non-Statutory Positions.

Personnel who meet the MMO eligibility criteria or Transitional provisions must meet the following before acting as a statutory supervisor:

- be appointed by the Site Senior Executive via a Letter of appointment, and sign acceptance of the Letter of appointment;
- be registered on the MMO Register of Statutory & Non-Statutory Positions.

MMO's Documentation to Address Requirements
Organisation Charts (Site Management/each Department)
0000-24-RE-000-001 Register - Competent Persons Register
Workflow/EMT Contacts for Today
Position Descriptions
Statutory Responsibilities Course
0000-24-MAP-000-001 MMO Designated Statutory Areas

8.9 CONTROLS INVOLVING MONITORING

Legislative Requirements
WHS Mines Regulations r. 213 Maintenance and inspection of plant
WHS Mines Regulations Part 10.2, Division 3, Subdivision 2 Air quality and monitoring
WHS Mines Regulations r. 631B(2)(g) Monitoring of geotechnical structures

Principles and Requirements of the MSMS Code of Practice

Some of the mandatory controls under the WHS Mines Regulations involve monitoring. The WHS Mines Regulations require MMO to carry out monitoring in relation to, among other things:
• air quality
• ground movement
• plant and machinery.

Through our risk management processes, MMO has identified the need to carry out monitoring. For example, monitoring is used to manage the risks associated with:
• excessive noise
• vibration
• poor visibility
• confined working conditions
• exposure to hazardous chemicals or radiation
• worker fatigue
• consumption of alcohol by workers.

While carrying out monitoring, MMO has considered the following factors, as applicable:
• How will the correct monitoring intervals be determined?
• Are parameters and limitations known and how can they be checked?
• How can MMO verify the effectiveness of the controls?
• What level of maintenance is required to keep the controls effective and are these maintenance requirements planned or scheduled to occur?
• What are the consequences if the controls fail? (e.g. is an automatic shut off triggered?)
• What training/re-training and assessment of competency is required for workers and others?
• How often do the controls need reviewing?

<u>Health Monitoring:</u>

(Legislative Requirements)
WHS Mines Regulations r. 58 Audiometric testing
WHS Mines Regulations Part 3.2, Division 2 General working environment
WHS Mines Regulations Part 7.1, Division 6 Health monitoring
WHS Mines Regulations Part 8.5, Division 1 Health monitoring
WHS Mines Regulations Part 10.3, Division 2 Health monitoring

MMO provides health monitoring to workers where there is an identified risk of an adverse effect on the worker's health because of exposure to a hazard associated with MMO's operations.

Health monitoring is required to be carried out:
• for identified exposure to hazardous chemicals such as nickel and cobalt
• where health is likely to be affected by MMO's mining and refining operations
• where the regulator may request additional health monitoring be carried out.

Audiometric testing is conducted for those workers frequently required to use PPE to protect them from the risk of hearing loss associated with noise that exceeds the exposure standard for noise.

The MSMS sets out how the requirements for health monitoring will be implemented at MMO. The monitoring is for the possible short and long-term adverse health effects on

workers as applicable. Triggers are established to ensure action is taken if monitoring identifies certain levels of adverse risks.

MMO's Documentation to Address Requirements
0000-90-MN-000-001 Asset Management Manual
0000-85-PLN-002-004 Health Management Plan
0000-85-PLN-002-001 Noise Control Plan
0000-85-P-002-053 Health Surveillance
Safety Regulation System (DMIRS portal)
2000-04-G-001-001 Fibrous Materials Management
2000-01-PLN-000-001 Ground Control Management Plan

8.10 CONSULTATION, REPRESENTATION AND PARTICIPATION

Consultation and Worker Safety Roles:

(Legislative Requirements)
WHS Mines Act Part 5 Consultation, representation and participation
WHS Mines Regulations r. 622(1)(l) Safety role for workers

MMO has developed and implemented processes for consultation with workers in accordance with the requirements of the WHS Act, including:
• if requested, the election of health and safety representatives (HSRs) and the provision of the support required for them to effectively conduct their functions as HSRs
• mechanisms for worker consultation (including the establishment of health and safety committees) and information-sharing meetings (including pre-starts and shift handovers).

MMO also implements measures to consult with workers to draw upon their relevant experience and enable them to contribute to the effective operation of the MSMS including:
• identifying PMHs and other hazards
• providing input on the appropriate risk control measures for PMHs and other hazards, control plans and procedures
• providing input on the MSMS (and the entire H&SMS) and its review.

Consultation, Cooperation and Coordination with and between PCBUs:

(Legislative Requirements)
WHS Act s. 46 Duty to consult with other duty holders
WHS Mines Regulations r. 622(1)(f) Arrangements for consultation, cooperation and coordination between PCBUs

Any individual, company, contractor or partnership that supplies services to MMO, other than as a direct employee, will be a PCBU and has a primary duty of care under the WHS Act as well as other duties and responsibilities under WHS laws.

MMO maintains necessary communication with all PCBUs to ensure their work continues to be coordinated and performed so as not to give rise to any WHS issues, and that each PCBU is able to fulfil their duties under the WHS laws. The frequency and type of communication will depend on the nature of the work being done by the contractor and the associated risk.

Because multiple PCBUs operate at MMO, MMO ensures that arrangements are in place to guide how PCBUs will interact.

Additionally, arrangements to allow for consultation, cooperation and coordination between PCBUs at MMO include:
• scheduled meetings between PCBUs, which MMO facilitates,
• procedures for how issues between PCBUs are to be raised and resolved.

MMO's Documentation to Address Requirements
0000-85-P-013-008 Communication, Participation and Consultation Procedure
0000-85-G-003-001 Pre-Shift Meetings
0000-85-F-003-006 Pre-Shift Meeting Minutes
G-S-GDL-0001 GCOM Program Guideline
0000-85-P-003-002 Election of a Safety and Health Representative
0000-85-P-003-001 Safety and Health Rep. Mentor Training Program
0000-85-P-003-005 Health and Safety Communication Documents
0000-85-M-001-004 Central Safety, Health and Environment Committee Constitution
0000-85-M-001-005 Contractor Quarterly Health & Safety Meeting Constitution

8.11 CONTRACTOR MANAGEMENT

Legislative Requirements
WHS Mines Regs r. 608A Meaning of contractor
WHS Mines Regs r. 608B Regulator may determine who is not contractor
WHS Mines Regs r. 622 (1)(g) Contractor management
WHS Mines Regs r. 625B Duty of mine operator to provide information to contractor
WHS Mines Regs r. 625C Duty of contractor to provide information to mine operator
WHS Mines Regs r. 625D Contractor to be covered health and safety management plan or mine safety management system

Principles and Requirements of the MSMS Code of Practice
MMO includes in the MSMS those control measures that will be used to control risks to health and safety associated with work performed by all contractors.

MMO has documented processes used for assessing health and safety policies and procedures, and arrangements for monitoring and evaluating contractors' compliance with health and safety processes.

A contractor may operate under the MSMS of MMO or under their own health and safety management plan. If a contractor finds their arrangements are consistent with MMO's MSMS, then the contractor must notify MMO in writing of their intent to use the MMO MSMS.

Alternatively, a contractor may operate under their own health and safety management plan if this has been accepted by MMO.

Regardless of whether a contractor operates under the MMO MSMS or under their own health and safety management plan, MMO will assess whether the contractor has the resources and capabilities to effectively do so.

Adopting the MSMS of MMO will not reduce the contractor's duty and obligations under the WHS Act and WHS Mines Regulations.

Further, MMO defines how contractor's work will be overseen and coordinated, including a process for accepting how a sub-contractor of a contractor will carry out work.

The term 'contractor' is defined in the WHS Mines Regulations and does not include a PCBU involving the occasional delivery to or from MMO or where the regulator determines that a person, or a person of a class, is not a contractor.

Contractor Health and Safety Management Plan:

(Legislative Requirements)
WHS Mines Regs r. 625D (1)(a) Contractor to prepare health and safety management plan

Where a contractor requests to operate under its own health and safety management plan, MMO reviews and notifies the contractor in writing whether the plan is adequate and acceptable to MMO prior to the contractor commencing work.

When reviewing a contractor's health and safety management plan, MMO considers:
• how each contractor's plan will be assessed, and against what criteria, to determine areas of consistency and/or differences with MMO's MSMS
• how any differences in plans are resolved so they are integrated and consistent with MMO's MSMS as applicable
• induction of each contractor's workers to MMO, checking licences and requirements for PPE
• procedures to ensure ongoing effective communication and consultation with contractors and their workers
• responsibilities for the day-to-day supervision and inspection of contractor work for risks and implementation of risk controls
• inspecting and auditing contractors according to a schedule of risks to be managed (which may be based on the past performance of a contractor)
• how sub-contractors of a contractor will be managed.

MMO also considers how the contractor's health and safety management plan is to be reviewed and accepted. This is achieved by:
• developing a process for accepting the contractor's health and safety management plan where the contractor has specialised technical processes and expertise that MMO does not possess
• managing differences through formal processes such as scheduled communication meetings, joint workplace inspections and notification procedures to reduce risk
• either accepting the contractor's plan in part or in full. The contractor's plan needs to operate alongside MMO's MSMS to ensure overall risks are controlled, such as when contractors are in separate locations or involved in distinct operations.

The contractor's health and safety management plan is incorporated into the overall MSMS for MMO even where the contractor has prepared it.

MMO's Documentation to Address Requirements
0000-85-P-013-011 Contractor and Supplier Management
0000-89-P-000-002 Contractor Right of Entry Procedure
0000-89-G-000-006 Contractor Performance and Management
0000-85-G-009-003 Contractors HS&E Requirements
0000-89-G-000-004 Contractor Prestart/Mobilisation Tasks
0000-89-G-000-001 Contractor Representatives Management Matrix
0000-89-G-000-002 Contract Process Manual and Checklist

0000-89-F-000-017 Contractor Site Establishment Meeting
MMO Site Contract Representatives
Proforma Agreement for the Supply of Services

8.12 TRAINING AND COMMUNICATION

Information, Training and Instruction:

(Legislative Requirements)
WHS Mines Regulation r. 39 Provision of information, training and instruction
WHS Mines Regulations r. 622(1)(i) Arrangements for provision of information, training and instruction
WHS Mines Regulations Part 10.2, Division 6 Information, training and instructions

MMO has documented the arrangements for the provision of information, training and instructions regarding the nature of the work, the risks associated with the work and the required control measures. This is a critical component of MMO's induction processes.

Training takes into account the make-up of the workforce (e.g. level of education, literacy etc), work responsibilities, complexity of hazards, and severity of risks. The delivery of information, training and instruction allows for:
• the amount of information and training that is delivered to workers over a period of time so that it is readily understood
• the presentation of the information or instructions to best communicate with the reader or learner.

Training is essential to managing health and safety and is documented to ensure consistency, minimise possible gaps, and verify competency was achieved. Having training and verification of competency that includes a documented theoretical and practical assessment component ensures workers are aware of the key safety requirements of each task.

Where there are changes to processes or equipment, the requirements for additional training is assessed as part of the change management process.

Where MMO (as the mine operator) and other PCBUs at MMO both have duties to provide information, training and instruction to certain workers, MMO consults, coordinates and cooperates with those PCBUs. Essential safety information and instruction is also provided to anybody visiting the site.

Under the WHS Mines Regulations, MMO provides workers a summary of the MSMS and, if requested, the relevant documented part of the MSMS that details any revision to the MSMS that is relevant to their work.

If a worker is likely to be exposed to a risk, they are informed of the likely exposure and the right to request to be provided with:
• a summary of each PMHMP if the worker is, or may be exposed to, the risks to which the plan relates
• access to the MSMS and any PMHMP.

Induction Procedures:

(Legislative Requirements)
WHS Mines Regulations r. 622(1)(j) Induction procedures
WHS Mines Regulations r. 675BA Site induction for new workers

Induction procedures for workers ensure that the induction process (general and area-specific) is appropriate to the tasks that the worker will perform. Procedures address:
• how the content of any induction supports the implementation of the MSMS
• how often workers must be refreshed in any part of the induction
• keeping records of induction
• regular review and, if required, the process for revising induction content and procedures.

The initial induction is supplemented by field-demonstrations and practical sessions as applicable to ensure understanding of procedures and the implementation of effective controls.

Communication across Shifts and Rosters:

(Legislative Requirements)
WHS Mines Regulations r. 622(1)(q) Arrangements for effective communication across shifts

The MSMS specifies how health and safety information is communicated across shifts, rosters or at the time of handover between workers, supervisors and other relevant persons.

Because MMO operates continuously, MMO arranges for the exchange of information between shifts and with other relevant people. This includes how recording or reporting of such information is documented. Similar information should be communicated at the time of changeover of rostered crews.

At handover, the statutory supervisor provides a documented report to the incoming statutory supervisor.

MMO's Documentation to Address Requirements
0000-76-SYS-000-001 Training Management Plan
0000-76-SYS-000-002 Production Training Management Plan
0000-76-P-000-003 Site Inductions
0000-76-P-000-007 Verification of Competence Procedure
0000-30AIG-000-001 Production Area Induction (Walk-Around) Guide Script
0000-85-P-013-008 Communication, Participation and Consultation Procedure
0000-85-G-003-001 Pre-Shift Meetings
0000-85-F-003-006 Pre-Shift Meeting Minutes
G-S-GDL-0001 GCOM Program Guideline

8.13 NOTIFIABLE AND REPORTABLE INCIDENTS, RESPONSE AND INVESTIGATION

Legislative Requirements
WHS Act s. 35 What is a notifiable incident
WHS Act s. 38 Duty to notify of notifiable incidents
WHS Mines Regulations r. 622(1)(m) Procedures for responding to, and investigating notifiable incidents and reportable incidents
WHS Mines Regulations r. 675V Duty to notify regulator of reportable incidents
WHS Mines Regulations r. 675X Duty to notify mine operator of incidents

Principles and Requirements of the MSMS Code of Practice
MMO has procedures for notifiable and reportable incident reporting, response and investigation to address the following:
• what incidents are notifiable or reportable
• serious illness and adverse health effects that are notifiable or reportable
• how the regulator is immediately notified in the event of a reportable or notifiable incident and what details are needed for the notification
• how a written notification is provided to the regulator, if requested, and how it is to be retained
• actions that may be necessary as a result of the incident (e.g. preserving the site, isolating the areas and ceasing work if required)
• notification of the incident to HSRs
• in the instance of an inspector attending, assistance to be provided to the inspector and responses to directions from them.

MMO has developed a procedure that documents the process used to investigate any incidents, serious illnesses or adverse health effects. The basic elements of the procedure is to:
• engage with workers and HSRs to assist with conducting the investigation
• identify factors that contributed to the incident
• identify necessary corrective action(s) to prevent it or a more serious incident happening again
• implement or modify controls to at least further minimise the risks
• review and, if required, revise the MSMS as necessary.

All incidents, including near misses, serious illnesses and adverse health effects are investigated. Such investigations are carried out by persons competent in the matter being investigated. Where corrective actions are required to prevent a similar or a more serious incident in the future, these are documented in the results of the investigation.

Where possible, workers who were affected by the incident are involved in the investigation.

The MSMS sets out in detail the procedures used in the event of a notifiable incident occurring.

MMO's Documentation to Address Requirements
0000-85-G-004-005 Notifiable and Reportable Incident Flowchart
0000-85-F-004-007 Notifiable Incident Report
WHS Notifiable & Reportable Incidents Flowchart
0000-85-P-013-015 Incident Management
0000-46-TEM-013-001 Operations Incident Notification Report

8.14 DOCUMENT AND RECORDS MANAGEMENT

Legislative Requirements
WHS Mines Regulations r. 622(1)(n) Procedures for records management
WHS Mines Regulations Part 10.7 Mine record

Principles and Requirements of the MSMS Code of Practice

The MSMS sets out how documents, including the mine record, are kept as well as arrangements for the management of those records and documents to ensure compliance with the various duties under WHS legislation applicable to MMO. This includes consideration of whether records are to be stored electronically or in hard copy; what arrangements need to be in place to limit access to personal information such as health records; and how access to other documents is provided.

MMO has developed procedures for the management of all records needed to comply with the WHS Act and WHS Mines Regulations. These procedures address matters including:
• all records that the WHS laws require MMO to have, including details of how long they have to be kept
• where records are to be kept so that they are available as required by legislation
• the provision of records to the regulator as provided for under legislation
• the auditing and reviewing of records management as part of requirements for the MSMS
• where and how the mine record is to be maintained
• how people can access the mine record.

Procedures to manage documents ensure that access to MSMS documentation is 'controlled'. This means:
• only the current version is available and any supporting documentation or data is up-to-date
• versions are identified and dated for periodic review
• documents are approved for use by an appropriate, authorised person
• documents are accessible and kept in good condition so that their integrity is assured
• obsolete documents are removed and archived for reference and to satisfy legal requirements.

However, MMO ensures that document control does not restrict access to information necessary for implementing the MSMS.

MMO's Documentation to Address Requirements
0000-75-SYS-001-001 Site Document and Records Control Procedure
0000-00-M-000-011 Document Retention Policy

8.15 MANAGING CHANGE

Legislative Requirements
WHS Mines Regulations r. 622(1)(c)(v) Arrangements for managing change

Principles and Requirements of the MSMS Code of Practice
The MSMS (and the entire H&SMS) is designed to be used by MMO as the primary means of discharging our duty towards ensuring the health and safety of workers and other persons. As this duty is an ongoing duty, it is implicit that the MSMS is designed to address the management of change within the mining and refining operations.

There are two types of change that are considered and included in the MSMS:
• introduced change
• reactive change.

These changes can be gradual or sudden and include a change in operations, conditions, systems, environment or resources. Both types of change involve similar issues, and MMO addresses these changes by:

• managing the introduction of changes rather than just responding to issues
• monitoring conditions to look for any change in hazards or risks.

Managing change involves implementing methods to identify material changes in working conditions, systems of work and resources that may pose a risk to workers. It also includes considering changes to controls: MMO understands that serious and fatal accidents can occur when conditions change as a task is being completed, but where these changed conditions are not adequately identified and controlled.

Methods of identifying and managing changes include:
• consultation with people involved in the work
• assessment of the scope of change included in the approval process for plans or procedures
• assessment of the scope of change included in the approval process for assigning people
• ensuring all workers do a field risk assessment before starting work on a task, particularly identifying any changed conditions before work starts
• procedures/practices requiring risk identification for any changed conditions to ensure they are controlled adequately.

MMO's Documentation to Address Requirements
0000-90-P-000-020 Management of Change (MOC) Procedure
0000-90-P-000-034 Maintenance Continuous Improvement Change Management Procedure
0000-46-S-020-113 MHF Performance Standard - Change Management
0000-13-S-000-001 Risk Management Standard - Management of Change
0000-25-P-000-005 Process Change Request (PCR) Procedure
2000-08-P-000-001 Change Management Procedure

8.16 MSMS PERFORMANCE MANAGEMENT

Legislative Requirements
WHS Mines Regulations r. 623 Performance standards and audit

Principles and Requirements of the MSMS Code of Practice
The MMO MSMS needs to be maintained current through a review process. To assist with this process, the MSMS includes details on the following:
• the performance standards for measuring the effectiveness of all aspects of the MSMS that:
– are sufficiently detailed to show how MMO ensures the effectiveness of the MSMS
– include the steps to be taken to continually improve the MSMS
• the way in which the performance standards are to be met by MMO
• a system for auditing the effectiveness of the MSMS against the performance standards, including the methods, frequency and results of the audit process.

Further, MMO plans for the continual improvement of the MSMS in response to changes in conditions, requirements and expectations.

MMO's Documentation to Address Requirements
0000-85-P-013-005 Objectives and Programmes Procedure
0000-85-P-013-016 Audit and Compliance Procedure
0000-85-P-013-017 Corrective and Preventive Action Procedure
0000-85-P-013-018 Management Review Procedure

8.17 RESOURCES FOR THE MSMS

Legislative Requirements
WHS Mines Regulations r. 622(1)(r) Resources for effective implementation and use of mine safety management system

Principles and Requirements of the MSMS Code of Practice
MMO demonstrates in the MSMS that adequate resources are applied to the development, effective implementation, use, maintenance and improvement of the MSMS.

Resources include adequate financial resources and an adequate number of people with appropriate skills, time and level of authority.

MMO's Documentation to Address Requirements
0000-85-P-013-001 Leadership, Commitment and Policy Procedure
0000-85-P-013-006 Accountabilities and Responsibilities Procedure
Health & Safety Department Organisation Chart

9 IMPLEMENTING THE MSMS

9.1 INTRODUCTION

Legislative Requirements
WHS Mines Regulations r. 621(2) Mine operator to implement mine safety management system

Principles and Requirements of the MSMS Code of Practice
The objective of successfully implementing an holistic H&SMS at MMO is the systematic and coordinated management of hazards: identifying them, assessing associated risks, selecting suitable and effective control measures, applying those control measures, maintaining the controls, and regularly reviewing their effectiveness is essential in ensuring an effective health and safety system at MMO.

The obligation of MMO to consult with workers and Health and Safety Representatives also applies to implementing the H&SMS.

MMO's Documentation to Address Requirements
Entire H&SMS

9.2 HOW TO IMPLEMENT THE MSMS

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice
In order to implement the H&SMS, MMO ensures that what is set out in the H&SMS is followed in practice. Managers, Superintendents, Supervisors and those responsible for the implementation of the H&SMS are an integral part of the management system at MMO, and they form an integral part of the general management process of the H&SMS.

MMO has developed strategies to assist with implementation of the H&SMS, including the following:
• the H&SMS is an integral part of other integrated management systems and practices
• adequate resources are provided for implementation of the H&SMS
• senior management lead and ensure that others follow, understand and implement what the H&SMS requires
• if there are issues or difficulties in implementing the H&SMS, this is brought to the attention of senior management for action.

MMO's Documentation to Address Requirements
0000-85-P-013-001 Leadership, Commitment and Policy
0000-85-P-013-006 Accountabilities and Responsibilities
0000-85-P-013-018 Management Review

9.3 MONITORING IMPLEMENTATION OF THE MSMS

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice
Monitoring of operations is necessary to ensure that what is planned in the H&SMS is implemented in practice, and this includes designating specific duties to workers. Feedback from ongoing assessment and regular inspections is provided so that steps can be taken to correct any issues that are impeding implementation, and to provide a closure loop to ensure the H&SMS is implemented in the way that it was planned.

These arrangements are described in the H&SMS and include:
• specific and general control measures needed for the workplace such as monitoring of plant, workings and air quality
• monitoring strategies to verify the effectiveness of critical controls
• information detailing who will do the monitoring, assessment and inspections, and how often
• details of who will assess results of monitoring and take any required action
• the competency of workers undertaking inspections or monitoring and any training needs they may have
• procedures for carrying out monitoring, assessments and inspections to ensure they are effective and accurate
• the scope for inspections and the tools needed (e.g. checklists)
• the reporting of results and outcomes and ensuring the actions necessary to deal with any issues are identified, actioned and completed
• auditing and reviewing the activities.

MMO's Documentation to Address Requirements
0000-85-P-013-014 Measurement and Monitoring
0000-85-P-013-016 Audit and Compliance

9.4 RESOURCING THE IMPLEMENTATION OF THE MSMS

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice
MMO identifies and provides the necessary human, plant and equipment, and financial resources to establish and implement the H&SMS.

Further, MMO sets out in the H&SMS the resources needed to maintain and improve the H&SMS, and to achieve the objectives of the health and safety policy and planned outcomes.

The performance standards set for the effective operation of the H&SMS, including auditing and review, assist in determining the types and levels of resourcing required to effectively implement the H&SMS. This includes resources for routine matters such as housekeeping and maintenance and less routine matters such as making changes to plant and equipment or work practices.

MMO's Documentation to Address Requirements
0000-85-P-013-001 Leadership, Commitment and Policy
0000-85-P-013-005 Objectives and Programmes
0000-85-P-013-012 Operations and Maintenance H&S Controls
0000-85-P-013-016 Audit and Compliance

10 KEEPING THE MSMS CURRENT AND EFFECTIVE

10.1 INTRODUCTION

Legislative Requirements
HS Mines Regulations r. 38 Review of control measures
WHS Mines Regulations r. 618 Review of control measures
WHS Mines Regulations r. 625 Review

Principles and Requirements of the MSMS Code of Practice
Nil

MMO's Documentation to Address Requirements
0000-85-P-013-014 Measurement and Monitoring
0000-85-P-013-018 Management Review

10.2 TRIGGERS FOR REVIEW

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice
It is MMO's responsibility to ensure the H&SMS is current at all times. This ongoing review occurs on a continual basis at MMO to ensure the H&SMS remains effective and, additionally, a formal review occurs every three years (this may be carried out internally or by an external organisation) with the outcome recorded.

Additionally, MMO (as the mine operator) must review and as necessary revise control measures implemented within the H&SMS in the following circumstances:
• an audit of the effectiveness of the H&SMS indicates a deficiency in a control measure
• there is a significant change in the operations and activities performed

• a worker is moved from exposure to a hazard or assigned to different work in response to a recommendation contained in a health monitoring report
• a notifiable incident, reportable incident or illness occurs that is required to be notified to the regulator under the WHS laws, or any other incident that has the potential to cause harm
• an inspector or Health and Safety Representative requests a review
• external health and safety information and alerts containing advice or legislative changes or recommendations are issued arising out of fatal or serious accidents.

A PCBU at MMO must notify MMO (as the mine operator) immediately of a request for a review by a Health and Safety Representative. MMO ensures that a control measure that is the subject of a request by a Health and Safety Representative is reviewed and revised as necessary.

A Health and Safety Representative may also request that a control measure be reviewed if they hold a reasonable belief that a control measure has not been adequately addressed and/or that:
• the control measure does not control a risk it was implemented to control
• a change to the workplace is going to occur that necessitates a change to the control measure
• a new hazard or risk has arisen
• the results of consultation under the WHS laws indicates that a review is necessary.

A review may involve measuring against performance standards to identify any deficiencies in control measures (eg. an incident or deficiencies found during an audit). Effective review of a control measure may require recording and documentation (ie. explaining why a review was needed and any corrective changes to controls).

MMO's Documentation to Address Requirements
0000-85-P-013-014 Measurement and Monitoring
0000-85-P-013-015 Incident Management
0000-85-P-013-016 Audit and Compliance
0000-85-P-013-017 Corrective and Preventive Action

10.3 DETAILS OF REVIEW

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice
Any event having the potential for injury, ill health, damage or other loss is an indication that the applied controls are not adequately controlling the risk. These events trigger the need to review them and the H&SMS.

The review of control measures after an incident is required to be documented including details about:
• the incident
• the identified hazards and how the exposure occurred
• any failures in controls
• the review undertaken
• the recommendations
• whether any control measure or part of the H&SMS needs to be changed.

The review may also include consideration of:
• results from inspections and audits
• health and safety performance reports
• the extent to which performance standards have been met
• industry events relevant to the elements being reviewed
• incident reports
• hazard identification reports
• the continuing suitability of the controls in the H&SMS (including procedures and administrative arrangements in relation to changing conditions)
• technological changes relevant to the element(s) being reviewed
• corrective action reports
• changes in regulatory requirements
• changes to community expectations
• concerns of relevant interested parties.

MMO's Documentation to Address Requirements
0000-85-P-013-014 Measurement and Monitoring
0000-85-P-013-015 Incident Management
0000-85-P-013-016 Audit and Compliance
0000-85-P-013-017 Corrective and Preventive Action

10.4 REVIEW PROCESS

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice
In undertaking the review, workers and their Health and Safety Representatives, if applicable, must be consulted in accordance with WHS laws. The person(s) carrying out the review must have the appropriate skills, knowledge and competence to be able to assess compliance with all the elements of the H&SMS being reviewed.

Where a review identifies that a revision to any part of the H&SMS is needed, those changes will be made in accordance with the standard MMO consultation and document control requirements.

If any part of the H&SMS is revised, MMO records the revisions within the affected document(s).

MMO's Documentation to Address Requirements
0000-85-P-013-009 Documentation, Document Control and Records Management
0000-85-P-013-016 Audit and Compliance

10.5 ENSURING THE MSMS IS EFFECTIVE

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice

For the H&SMS to be effective it must be current and fit for purpose. MMO has a procedure for measuring how the H&SMS is performing against set performance standards and a system for auditing to ensure the H&SMS remains effective. The procedures are documented and form part of the H&SMS.

The H&SMS includes the following:
• performance standards for measuring the effectiveness of all aspects of the H&SMS that are sufficiently detailed to show how MMO ensures the effectiveness of the H&SMS, and which include steps to be taken to continually improve the H&SMS
• a system for auditing the effectiveness of the H&SMS against the performance standards, including the methods, frequency and results of the audit process.

MMO's Documentation to Address Requirements
0000-85-P-013-005 Objectives and Programmes
0000-85-P-013-014 Measurement and Monitoring
0000-85-P-013-016 Audit and Compliance
0000-85-P-013-018 Management Review

10.6 SELECTING PERFORMANCE STANDARDS

Legislative Requirements
WHS Mines Regulations r. 622(1)(p) Performance standards
WHS Mines Regulations r. 623 Performance standards and audit

Principles and Requirements of the MSMS Code of Practice
A performance standard is defined as a target or required level of performance for a particular issue and the measurement to determine whether it is achieved. If the selected standards are not being met, it is an indication of deficiencies requiring investigation and corrective actions.

The performance standards are designed to measure either sections of or the entire H&SMS to ensure that it is achieving the objectives set out in the health and safety policy and objectives. Performance standards have a meaningful measure and are sufficiently detailed and clear in what they are measuring.

Specifically, performance standards need to measure if:
• risk controls are effective
• the application of the H&SMS has been consistent
• the content and implementation of the H&SMS comply with WHS laws.

The matters to consider when developing suitable performance standards include:
• measures to identify and implement continuous improvement
• methods for measuring or verifying performance standards
• performance standards for measuring at different levels of the H&SMS (eg. at a high level for the system as a whole, and at a lower level for individual elements of the system)
• measures for meeting overall targets within specified timeframes
• a combination of performance standards (eg. proactive standards – ones that measure the activities or inputs for managing safety, and reactive standards – ones that measure the outputs or actual performance achieved).

MMO has performance standards in a range of areas. This is needed to adequately identify the effectiveness of individual elements of the H&SMS as well as the overall effectiveness of

the H&SMS. This is important to identify improvement opportunities as well as identifying the requirement for corrective actions.

Information on H&SMS performance is reported to, and reviewed by, appropriate senior MMO personnel. Any consequent improvement in aspects of the H&SMS, such as changing a control measure or training, will provide evidence of meeting the requirement for the performance standards to be linked to continuous improvement. Reviewing activities against the performance measures will include taking actions to improve the adherence to the performance standards and the review of the standards to check they are representative of the H&SMS.

When the selected control measures are in place they must be verified. A review of a control measure also triggers a review of the H&SMS.

MMO's Documentation to Address Requirements
0000-85-P-013-002 Hazard Identification, Risk Assessment and Control Identification
0000-85-P-013-005 Objectives and Programmes
0000-85-P-013-014 Measurement and Monitoring
0000-85-P-013-018 Management Review

10.7 AUDITING THE EFFECTIVENESS OF THE MSMS

Legislative Requirements
Nil

Principles and Requirements of the MSMS Code of Practice
The purpose of audits at MMO is to determine whether all arrangements set out in the H&SMS are being implemented effectively. MMO ensures the system for auditing the effectiveness of the H&SMS against performance standards includes the methods, frequency, and reporting of audit results.

There are several types of auditing systems available to MMO:
• adequacy audit – determines if procedures meet the requirements of an applicable minimum standard (e.g. Glencore or Australian Standards)
• compliance audit – establishes the extent to which the documented system has been implemented and followed by the workforce (may be undertaken internally or by external parties)
• internal audit – where MMO looks at whether the systems, procedures and activities are adequate and being complied with
• external audit – where an external body undertakes an audit against the performance measures or more commonly against a defined external standard, such as ISO 45001.

All types of audits as defined above are utilised by MMO. The methods used in audits include:
• interviews
• physical verification
• statistical methods
• document review including records and reports
• checklists
• observations of a work area.

The method(s) selected for a specific application will depend on what is being audited and the risks associated with the element of the H&SMS being audited.

The primary audit for the Mine Safety Management System is conducted annually utilising 0000-85-F-010-016 Safety Management System Audit Tool.

Scope of Audit:

The activities of the audit, the areas to cover and the performance standards to be audited against are documented, and define the scope of the audit.

Typically, MMO audits involve looking at whether:
• systems are in place for controlling the work processes, for example, management plans as well as subsidiary documentation such as procedures and work instructions
• workers understand their responsibilities
• training has been delivered
• required equipment is available and working properly
• inspections specified in the H&SMS have been undertaken
• responses were activated if triggers were initiated
• required reports have been completed
• identified defects and other situations of non-conformance have been actioned.

Conducting an Audit:

The H&SMS specifies who is responsible for facilitating, conducting and actioning results from the audit. These responsibilities may include:
• applying due diligence to select an appropriate auditor
• identifying resources required for the audit
• preparing the audit documents
• maintaining the audit records
• verification by observing operations
• interviewing workers and Health and Safety Representatives
• checking audits are carried out in the specified time frame and frequency
• ensuring results and corrective actions identified are acted upon in a timely manner.

MMO selects people both within the organisation and external persons to carry out the audit as appropriate. In either case, the person carrying out the audit must be competent, impartial and objective. Where possible, if the auditor is an internal MMO person, the auditor should be independent of the process/activity being audited.

Frequency:

The frequency of a specific audit is determined by an assessment of how critical each H&SMS element is to maintaining work health and safety and what may be necessary based on the results of previous audits.

Audits occur at different stages depending on the status of work processes being audited. Consideration is given to:
• pre-commencement audits - carried out before a work process begins to determine that all specified work arrangements are in place
• implementation audits - carried out after the work process has commenced to determine the effectiveness of the implementation of the specified work arrangements

• routine audits - regular audits aimed at checking ongoing compliance with the specified work arrangements
• pre-review audits - an audit carried out near the due date for a review of the H&SMS so that the findings can be considered in the review process.

Follow-Up Action:

If the result of the audit shows deficiencies in the performance of the H&SMS, the result is considered and acted upon. Where possible, results are ranked in order of priority for attention.

The audit results are reviewed by a person with sufficient authority to take action on the non-conformances.

Where the audit identifies that an amendment to the H&SMS (or part of the H&SMS) is required, then those changes are effected in accordance with the consultation and document control requirements of the H&SMS.

MMO maintains an action register and carries out a regular review of their completion in an acceptable timeframe. The risk priority for each action may also have a time based escalation process to ensure that the action is reprioritised and rectified in a timely manner if required.

MMO's Documentation to Address Requirements
0000-85-P-013-016 Audit and Compliance
0000-85-P-013-017 Corrective and Preventive Action
0000-85-P-013-018 Management Review
0000-85-F-010-016 Safety Management System Audit Tool
0000-85-F-010-004 MMO Contractor HSE Management System Plan Internal Audit Tool

11 DEFINITIONS

Health and Safety Management System	That part of the overall management system which includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the H&S Policy, thereby managing the H&S risks associated with the business of the organisation.
Mine Safety Management System Manual	(This document). Those components of the entire Health and Safety Management System which address a Mine Safety Management System (MSMS) as required by the WHS (Mines) Regulations 2022.

12 REFERENCES

WHS Act 2020 for Western Australia

WHS (Mines) Regulations 2022 for Western Australia

DMIRS Code of Practice for a Mine Safety Management System

International Council on Mining and Metals (ICCM) Sustainable Development Framework

Centre for Chemical Process Safety (CCPS) – Guidelines for Risk Based Process Safety

NOHSC 1014:2002 Control of Major Hazard Facilities

Glencore's SafeWork program (branded as SafeNickel within the Nickel Assets Division)

ISO 45001:2018 Occupational health and safety management systems

13 APPENDICES

Nil

14 REVISION TABLE

Rev No.	Date	Reason for Revision	Revised By	Authorised By
0	01/11/2023	New document based on DMIRS Code of Practice for a MSMS as required by WHS (Mines) Regulations 2022	A. Perriam	J. Giraudo
1	24/10/2024	Update with MSMS structure and added in new hazard management plans	J. Shenton	L. O'Meara
2	31/03/2025	Update Section 8.8 with updated statutory supervisor areas and operating model. Update Life Saving Behaviours	J.Shenton	L. O'Meara
Document Owner: *Manager - Health and Safety*				
Document Owner's Signature:				