



OPERATIONS ENVIRONMENTAL MANAGEMENT PLAN

Mount Gibson Iron

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DOCUMENT OWNER:	Manager Safety and Support Services			
PREPARED BY:	Environmental Superintendent			
APPROVED BY:	General Manager			
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TABLE OF ABBREVIATIONS

Abbreviation	Definition
ANFO	Ammonium Nitrate Fuel Oil
AQTF	Australian Quality Training Framework
AQIS	Australian Quarantine Inspection Service
CEO	Chief Executive Officer
COO	Chief Operating Officer
DAWE	Department of Agriculture, Water and Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DEE	Department of Agriculture, Water and the Environment (Federal)
DFES	Department of Fire and Emergency Services
DMIRS	Department of Mines, Industry Regulation & Safety
DoT	Department of Transport
DWER	Department of Water and Environmental Regulation
DWQMP	Drinking Water Quality Management Plan
EPBC	Environment Protection and Biodiversity Conservation Act 1999
EMP	Environmental Management Procedure
EMT	Emergency Management Team
ERT	Emergency Response Team
GDP	Ground Disturbance Permit
GIS	Geographic Information Systems
HSEC	Health, Safety, Environment and Community
HSET	Health, Safety, Environment and Training
KIOP	Koolan Iron Ore Project
MOC	Mining Operations Centre
MOSCP	Marine Oil Spill contingency Plan
MGX	Mount Gibson Iron Limited
NEPM	National Environmental Protection Measures
OEPA	Office of the Environmental Protection Authority
OEMP	Operations Environmental Management Plan
RM	Registered Manager
SSS	Safety and Support Services
SRR	Site Risk Register

1. PURPOSE

This Operations Environmental Management Plan (OEMP) addresses the potential for environmental impacts and associated management procedures relevant to the operating activities for Koolan Iron Ore Project (KIOP).

The OEMP (The Plan) has been prepared to meet Proponent Commitments 1 and 2 accepted by Mount Gibson Iron Ltd (MGX) in acquisition of the project from Aztec Resources Limited (the Proponent) and included in the Minister for Environment's Statement of approval (Statement 715):

1. Objective: Provide operational control documentation for the management of environmental impacts during construction and operation. Action: Implement an Environmental Management Plan which addresses the management of key environmental aspects;
2. Objective: Provide a risk based management system for the identification of impacts. Action: Implement the Environmental Management System for the project which embraces the ISO14001 standards.

2. SCOPE

The OEMP is a risk-based document. A comprehensive risk assessment of environmental aspects associated with the Koolan Iron Ore Project (KIOP) is maintained. The outcomes of the risk assessment are used as the basis for Environmental Management Procedures presented in this document.

This plan is applicable to all environmental processes and personnel (employees, contractors / suppliers and visitors). When applied and practiced, this plan will assist the requirements of:

- The Mount Gibson Iron HSEC system and standards;
- environmental approvals and licensing requirements of the project;
- other legal and compliance requirements related to environmental management for the project; and
- managing key environmental aspects and risks associated with the project in such a way that meets the business's objectives and environmental policy.

This OEMP is a revision of the 2014 submission of the document. In 2016 a revised document titled the *Koolan Island Care and Maintenance Environmental Management Plan* was submitted to DMIRS for the period of Care and Maintenance. The document was revised in 2018 prior to the start up to mining. This current document is relevant to the life of the Operational phase of Koolan Iron Ore Project (KIOP) including the seawall rebuild, pit capital dewatering, mining and processing and final site rehabilitation prior to mine closure.

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This document is intended to be used as a management document for KIOP while satisfying the objectives of commitments 1 and 2 in the Ministerial Statement 715.

3. INTRODUCTION

This Plan provides the framework to effectively manage environmental risks which, if not managed, have the potential to cause harm to the environment or the reputation of Mount Gibson Mining (MGX).

The Plan incorporates the key principles of *AS/NZS ISO 14001:2004 Environmental Management Systems*, which include:

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

The Plan is aligned with *AS/NZS ISO 14001:2004 Environmental Management Systems* and conforms with the Mount Gibson Iron HSEC standards and all environmental approvals, licensing and legal obligations relevant to the project.

3.1 Mining Operations Background

Koolan Iron Ore Pty Ltd, a subsidiary of Mount Gibson Iron Limited (ASX: MGX), operates the Koolan Island Iron Ore Project located 130 km northeast of Derby at the northern end of the Yampi Peninsular, off the Kimberley coast of Western Australia (Fig.1). It is separated from the mainland by a 1 km wide channel.

The Koolan Iron Ore Project was previously mined during the 1930's and then by BHP between 1963 and 1993. The site was closed down and rehabilitated in 1993 and the seawall opened and the Main Pit flooded. The project was reopened and managed by Aztec Resources between 2003 and 2007. On 28 March 2007 ownership of the project transferred from Aztec Resources to Mt Gibson Iron Ltd.

The Koolan Island Iron Ore Operation and Port Facility proposal was originally assessed by the Environmental Protection Authority (EPA) under Part IV (S45) of the *Environmental Protection Act 1986* in 2005. Ministerial approval with conditions was granted to the proponent Aztec Resources on 22 February 2006 under Ministerial Statement 715 (MS715) and associated Management Plans. The project was also assessed under the *Environmental Protection and Biodiversity Conservation Act 1999*. On 28 March 2007, ownership of the Koolan Island Iron Ore operation was transferred to Mount Gibson Iron Ltd, with a full owned subsidiary becoming the new operator.

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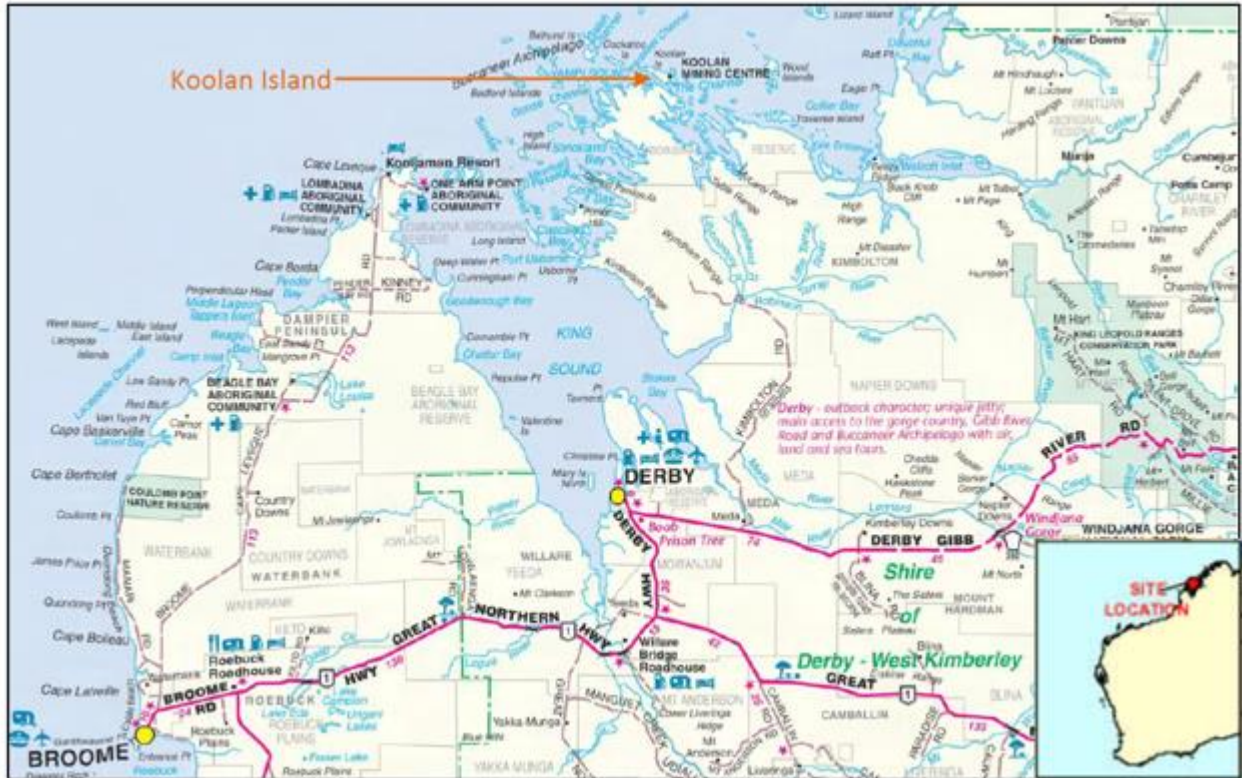


Figure 1: Locality Map of the Yampi Sound showing the location of Koolan Island

Construction and commissioning of Mine Infrastructure and the Port Facility signified implementation of the proposal which was completed under MS715 in 2007 and associated works approvals under Part V of the *Environmental Protection Act 1986*. The Main Pit sea wall was re-constructed, and dewatering commenced. Mining recommenced within the Main Pit and smaller satellite pits were also developed.

On November 25, 2014 instability in the Main Pit sea wall caused an integrity failure forcing the suspension of operations in the Main Pit due to the ingress of water. As a result of the loss of integrity, the sea wall collapsed during a spring tide event on the morning of 26 November 2014 resulting in the inundation of the Pit to sea level. Reduced mining continued in Acacia East satellite pit until February 2016. The KIOP entered into Care and Maintenance on April 1, 2016.

On 25 April 2017, a company decision was made to reconstruct the sea wall and re-enter Main Pit for mining. During June 2017, the seawall rebuild commenced and the breached section was civilly completed three months later. In October 2017, a civil contractor mobilized to Koolan Island to commence construction of a vertical seepage barrier within the seawall rock matrix. The construction phase was completed with the last panel installed in July 2018. Capital dewatering from the Main Pit commenced shortly after.

Mining operations to remove overburden and stabilize the pit walls commenced in July 2018. The extraction, processing and shipping of Iron Ore re-commenced in April 2019.

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A total of 44 million bulk cubic meters of waste rock and iron ore was mined on Koolan Island from the start of MGX's mining operations in 2006 to 1 July 2020. Mineral resources and ore reserves at Koolan Island at 30 June 2019 were:

- 74.2 Mt (total mineral resources) and
- 20.3 Mt (total ore reserve)

It is evident to Mount Gibson Iron Limited that the mineral resources and ore reserves in Main Pit remain significant.

3.2 Site Characteristics

The Koolan Iron Ore Project (KIOP) is a conventional open cut mining operation with ore extraction occurring below sea level in Main Pit and above sea level in satellite pit operations. Production is supported by dewatering operations; a port facility with berthing and ore loading capability for bulk ore carriers; and a 4,000,000 ton per annum crushing and screening plant. Ancillary infrastructure includes a 441-room accommodation village, airstrip, mobile plant workshops and administration offices with crib rooms, laboratory, bulk fuel facility, landfill, bioremediation facility, wastewater treatment plant, diesel power generators and bore-fields for raw and domestic water supply.

Mine and Infrastructure development domains on Koolan Island include:

- Open Pits
- Waste Rock Dumps
- Haul roads and minor roads
- Crushing and processing facility
- Port and ship loading facility
- Administration buildings, warehouses, workshops and laboratory
- Accommodation Village
- Sealed airstrip
- Fuel storage facilities
- Power station
- Water storage ponds
- Sewage plant and irrigation fields
- Ancillary services

The total area of disturbance as at 1 July 2020 was 608 Ha. The total approved disturbance footprint under Ministerial Statement 715 is 670 Ha.

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3.3 Regulatory Framework

The operation is approved at the State and Federal levels under Part IV of the *Environmental Protection Act 1984* and *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC), respectively.. The EPBC approval (EPC2522/2006) is current for the life of the operation until relinquishment of tenements.

The KIOP is currently licensed under Part V as a prescribed premises (Licence L8148) for categories 5 - Processing or beneficiation of metallic or non-metallic ore, 6 - Mine dewatering, 12 - Screening of material, 54 - Sewage facility, 58 - Bulk material loading or unloading, 64 - Class II or III putrescible landfill site, 73 - Bulk storage of chemicals.

MGX is granted mining tenements on Koolan Island on mining leases M 04/416 and M 04/417 in accordance with approved Mining Proposals (NOI) 5194, 5261A, 5278, 5312, 5567, 5601, 5716, 6038, 19402, 20559, 23857, 31899, 31828, 47723, 47516, 53093 and 83724. Current approval is for 36 million tonnes of ore and waste to be extracted per year and up to 4 million tonnes of ore to be processed per year.

A Project Management Plan was also approved under *Mines Safety & Inspection Act* in 2007 and in 2017 and remains current during the mining operation phase.

Miscellaneous Lease L04/29 was also granted to MGX for the construction and management of accommodation village, airstrip and other support infrastructure. L04/68 was granted in 2015 for a fire break.

4. ENVIRONMENTAL MANAGEMENT SYSTEM GUIDANCE NOTES

4.1 Environmental Management System Framework

Mount Gibson Iron Limited manages impacts on the environment at its operations via an integrated Health, Safety, Environment and Community (HSEC Standards). The standard were developed to align to ISO 14001:2004 *Environmental Management Systems* and *AS4801 Occupational Health and Safety System*.

One of the purposes of the HSEC Standards is to ensure sound environmental performance through practicable control of impacts on the environment, consistent with the *MGX Environmental Policy* and objectives. KIOP shall align management systems with the relevant quality frameworks where practicable.

At this stage, the company does not intend to seek certification of its management systems against Australian (ISO) Standards.

The HSEC Standards are applied across all Mount Gibson Iron Limited operations. It should be noted that the HSEC Management System Standards do not form a part of this plan and are not considered a requirement under existing approvals. This document shall support the internal objective of meeting the HSEC Standards.

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4.2 Environmental Policy

The *MGX Environment Policy* provides a framework for all operations and activities undertaken by Mount Gibson Iron Limited. The policy is reflected in the HSEC Standards and applies to all personnel and contractors undertaking work for company. Copies are displayed in a prominent position at KIOP in the main office/foyer and on department notice boards as a minimum.

As part of the HSEC Standards the Policy demonstrates the company's internal values reflected in demonstrated commitment to excellence in Environment and Community and compliance with legal requirements as a minimum.

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Environmental Policy

Mount Gibson Iron Limited recognises that the sustainability of its business is dependent upon good stewardship of the environments in which it operates as well as the efficient management of its exploration and mining activities.

We understand that mining is a temporary land use associated with a range of actual and potential environmental impacts. As such, we are committed to high standards of environmental leadership in our business activities.

In order to achieve and maintain these standards, we will:

- as a minimum, comply with relevant state and national legislation;
- plan for the reduction of environmental risks as an integral part of our operations planning and long-term business strategy;
- set appropriate environmental objectives and targets, and implement environmental management plans to achieve these objectives and targets;
- recognise and protect areas of special heritage and cultural value;
- support and participate in community based environmental and heritage projects;
- maintain a close working relationship with government and other related industries to share and continually improve our environmental performance;
- develop and implement successful closure and rehabilitation programs;
- actively promote recycling programs within our business; and
- support economically viable energy efficiency initiatives which minimise greenhouse gas emissions.

We will regularly review and report on the environmental performance of the Company and will ensure that this Policy remains relevant to achieving our environmental objectives and targets.

Peter Kerr
Chief Executive Officer

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MGX-HSEC-CP-PO-1003	19/11/08	Rev 006	28/08/19	Two yearly	28/08/21

Company wide support and commitment for the HSEC Standards and this OEMP is reflected within the Environmental policy. The policy has been developed and implemented by the corporate team and is authorised by the Chief Executive Officer (CEO).

Resources are provided for the execution of this Plan in the form of:

- Human resources;
- Specialised skills;
- Technology; and
- Financial support.

4.3 Environmental Risk Register

An Integrated HSEC Risk Register shall be maintained for all mining related activities on KIOP mining lease and tenements in accordance with internal standards for risk management. The purpose of this register is to identify key risks associated with mining activities and assess the significance of their potential impacts to health, safety, environment and the community.

The General Manager in consultation with the Safety and Support Services Manager shall approve any changes to the site risk register. A significant risk register is maintained to keep record of high and extreme level risk scenarios with the potential to cause serious impact to the environment.

The risk register shall be reviewed on a quarterly basis and will also be reviewed in response to incidents, changes in legal requirements, findings of inspections and audits and management reviews.

At a task level personnel must use a Job Hazard Analyses (JHA) or a Simple Task Assessment and Risk tool (START), as a minimum, to identify potential risks and appropriate control measures.

4.4 Change Management

A process of change management shall be applied consistent with internal HSEC Standards whenever a significant change is planned. Change may include any modification to plant, processes, procedures and product. As part of the Change Management process the potential risks shall be assessed and considered prior to a final decision and controls applied to reduce risk to acceptable levels. Consultation shall occur to ensure multidisciplinary and stakeholder engagement in the process and that potential impacts and legal requirements are not overlooked prior to approval and sign off.

MGX maintains a standard for Management of Change applicable at all operations.

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4.5 Legal and Other Requirements

The KIOP shall comply with all relevant Federal, State and Local regulatory requirements. Copies of all licences/approvals/permits are stored in the filing system and listed in the site Licence Register. Hard copies are available from the Safety and Support Services Department.

An Obligations Register shall be maintained for all legal and other requirements using the internal event compliance management database (Pronto). The Obligations Register shall consolidate all obligations and commitments related to local, state and federal approvals, approved management plans and agreements into executable actions.

The Obligations Register shall also be used as an audit register for the identification of obligations and non-conformances and the recording of evidence to demonstrate those actions have been completed.

The Obligations Register will allocate responsibility and time frames for when actions or obligations need to be completed to ensure all internal and external compliance requirements are maintained. The KIOP Environmental Superintendent shall be responsible for the management of the Obligations Register.

KIOP will be audited internally as part of the HSEC Standards audit schedule and additionally through independent third-party audits as part of the Mount Gibson Iron Limited quality assurance and due diligence process. Internal audits shall be used to verify compliance status against the legal and other requirements and determine recommended actions to ensure compliance is achieved.

Compliance reporting is undertaken through submission of quarterly and annual reports to the Department of Water and Environment and Regulation (DWER), an annual report to the Department of Mines, Industry Regulation and Resource Safety (DMIRS), quarterly reports to the Department of Health and annual compliance statements to the OEPA and the Federal Department of Water, Agriculture and the Environment (DAWE)¹.

Legal and other requirements are managed internally in accordance with the HSEC Standards.

4.6 Environmental Objectives and Targets

HSEC Objectives and targets are presented within the annual Mount Gibson Iron Limited Business Plan. The KIOP objectives and targets reflect the company business plan at the Operations level. Annual objectives and targets are set on an annual basis against the fiscal calendar. Targets are set for incident frequency rates, safety performance, environmental incidents and preventative lead indicators such as hazard reporting.

¹ formally the Department of Energy and the Environment (DEE)

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Mount Gibson Iron Limited maintains an internal standard for planning and performance.

4.7 Responsibilities and Authorities

Responsibilities and authorities are set out in each EMP element in this document. Role, responsibilities and accountabilities are presented in organizational charts and role descriptions and maintained by the Human Resources function within Mount Gibson Iron Limited.

Roles at all levels are to have specific responsibilities, required competencies, and authority permissions described within the position description for the role. Where contractors are involved, the areas of responsibility and accountability shall be clarified as per the contract management process and the type of skill or service the contractor is providing. An internal standard exists for Contractor Management.

It is the General Manager's responsibility to ensure that the resources necessary to implement this plan are available. The General Manager may at times appoint delegates and appointed persons to fulfil these responsibilities.

The accountability for the implementation of those resources and this plan is assigned to the Manager – Safety and Support Services and the Superintendent Environment.

Department Managers are responsible where certain aspects of this plan fall within their area of operational responsibility. These roles utilise the resources made available by the General Manager to ensure the plan is implemented as required at all levels of the project.

It is the responsibility of the Environmental Superintendent to report to the Safety and Support Services Manager and the General Manager on the performance of this plan, its review and recommendations for improvement where necessary

The General Manager or delegate shall ensure:

- Compliance to the corporate HSEC Standards is maintained;
- Participate in the establishment, implementation, monitoring and review of this Plan;
- That management and employees have a clear understanding of their responsibilities in respect to minimise the risk of impacts to the environment associated with their roles;
- Clear lines of communication and consultation between management and employees is created and maintained;
- Workplace inductions and ongoing training for employees occurs; and
- There is compliance with the relevant legislation and regulations, HSEC standards, guidelines, codes of practice.

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Managers, Superintendents, Supervisors shall ensure:

- The General Manager is supported to ensure compliance with the corporate HSEC Standards;
- They participate in the establishment, implementation, monitoring and review of this Plan;
- They plan, implement and monitor their departmental responsibilities in relation to this plan and to minimise the risk of environmental impacts in their work areas;
- Personnel are provided with the necessary time, resources and training to comply with relevant legislation and HSEC standards;
- Environmental performance is promoted as an important component of all aspects of work and consult with their employees through active participation;
- Contractors meet their Environmental obligations as identified and agreed upon in the contract management process and comply with site procedures as appropriate;
- Action is taken to maintain a workplace which minimises the risk of impacts to the environment;
- Workplace inspections are conducted;
- They coach and guide employees in aspects associated with this plan and
- They display behaviours that demonstrate compliance with systems, processes and procedures.

All Employees and Contractors shall ensure:

- All work activities are planned and undertaken in a manner which mitigates environmental impacts;
- They participate in the establishment, implementation, monitoring and review of this plan;
- They cooperate with management in support of minimising the risk of impacts on the environment;
- They report and rectify where possible, conditions which may impact the environment that come to their attention;
- They follow the correct operating procedures and processes at all times;
- They take immediate action to correct any substandard condition or behaviours;
- They identify and communicate situations where procedures are not adequate or do not exist.

4.8 Environmental Awareness and Inductions

Environmental training is undertaken in MGX through the informal and formal delivery of material by internal or external trainer and assessors and facilitators. Training and competencies are managed internally in MGX through application of applicable internal standards and procedures.

4.8.1 Training Qualifications

HSEC Training and Awareness is delivered by trained professionals in HSE with formal qualifications in training and assessing. Some HSE training delivered on site is registered with training organisations

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and derived from units of competency recognized by the Australian Quality Training Framework (AQTF).

4.8.2 Inductions

A site-based induction is delivered on Koolan Island for all employees and contractors prior to commencement of work (refer to EMP01 in this document). The induction includes training in the HSEC standards and includes content on environmental requirements. An environmental awareness booklet outlining site requirements is issued to employees and contractors during the induction.

The site-based induction is reviewed annually or more frequently if there is a significant change in procedures and risk.

Area specific inductions are delivered on HSE risks pertinent to specific areas (e.g. Mining, Processing, Maintenance and Exploration).

Superintendents, Managers and General Managers receive a one to one briefing on environmental responsibilities relevant to the role and environmental risks relevant to area of responsibility. This shall include a review of licenses, approvals, management plans and procedures pertinent to the role.

4.8.3 Training needs analysis and matrix

All training needs and records are maintained on an internal online database accessible through the intranet. Training needs are determined by the individual's specific roles and responsibilities. Associated environmental responsibilities and relevant procedures and legal and other requirements pertinent to the area and to tasks being undertaken are considered. Training formats may include:

- Inductions;
- Procedural training;
- Practical scenario-based training (e.g. Minor spill response, emergency training)
- Environmental Awareness Training modules
- HSEC Standards training;
- Job Hazard Analysis training;
- Hazard identification and control training;
- Investigation training;

4.8.4 Training Records

Training records are maintained in hard copy and in electronic format including an online training database. Records include:

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- Records of attendance;
- Competency assessments (where relevant to the training provided);
- Training materials such as presentations and handouts used.

4.8.5 Environmental Awareness

Environmental Awareness topics are presented to the KIOP workforce through several forums such as prestart and toolbox meetings and inductions. Environmental topics presented are either general or area specific and will include topics taken from the EMP elements within this document (Section 5).

4.9 Communication

MGX applies internal standards around communication of environmental matters with internal and external stakeholders.

4.9.1 Internal Communication

Site personnel are required to discuss environmental issues as a regular component of their toolbox and site safety committee meeting agenda. Notice boards have been established to inform personnel of relevant environmental information such as minutes of meetings, results of monitoring, performance standards, environmental incident alerts and company environmental notices. The notice boards will be refreshed periodically with up-to-date information. Environmental incidents are reported to the Corporate Level through monthly performance reports.

The following mediums are used to communicate environmental issues and performance:

- Toolbox presentations
- Prestart Information meetings
- Site safety committee meetings
- Weekly return to site sheet
- Environmental Awareness Handbook
- Posters
- Monthly internal reports

4.9.2 External Communication

The General Manager, in consultation with the Project Director – Environment & Approvals is responsible for external communication in relation to matters concerning the environment. Authority is generally delegated to the Project Director – Environment & Approvals. This includes but is not limited to communications with government agencies and particularly in relation to

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reporting of incidents that may have occurred and environmental approval applications and reports submitted.

Formal communication with community stakeholders including traditional owners is coordinated through the corporate executive, and the General Manager.

All complaints received by site personnel are directed to the General Manager or delegate to address in consultation with the corporate function.

All communication with the media is directed to and facilitated through the corporate function, especially the COO and External Affairs Manager.

4.10 Document Control

The following key documents are approved by the General Manager where sent to an external party and are controlled at the site level. Controlled copies are maintained on the company intranet:

- Management Plans
- Critical Procedures
- Correspondence to regulators
- Risk Registers

As appropriate, some documents may require review by legal counsel and approval by the corporate executive prior to submission to external stakeholders.

Management Plans submitted as conditions under the Ministerial Statement 715 are also publicly available on the company internet as required by the Minister of the Environment.

4.11 HSEC Documentation

All HSEC documentation is maintained on the company intranet with limited "write access" granted to senior HSET and IT staff employed in the development and implementation of the management system.

Site level documents are maintained in the company intranet. "Read access" is site wide and "write access" is limited to a systems administrator whose function is to review and format approved documents for use.

Types of HSEC Documentation include:

- Policies

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- Standards
- Management Plans
- Procedures, Safe Work Instructions
- Forms
- Risk Registers

4.12 Operational Control

This OEMP outlines the requirements for environmental management at an operational level. The OEMP is divided into Environmental Management Procedures, each with a responsibility assigned and key actions.

4.13 Event and Corrective Action

An *event* in this document is defined as any occurrence that includes incidents that cause environmental impacts or harm as well as incidents involving non-compliance with internal procedures and 'near-miss' incidents that may or may not have resulted in an environmental impact. The purpose of event reporting is to identify the root cause and implement controls to prevent recurrence.

MGX defines and manages events in accordance with internal standards as far as practicable.

4.13.1 Incident and Corrective Action

All events must be reported using the internal online event reporting tool available on the company intranet.

The procedure for reporting incidents (events) is covered in section *EMP-03 Event Reporting* in this document.

4.13.2 Regulatory Notification

Only the General Manager or approved delegate is authorised to notify regulatory agencies of environmental-related incidents as per internal reporting protocols.

Events ranked as high to extreme risk may require notification to be reviewed by legal counsel, Project Director – Environment & Approvals and thereafter by MGX Executive.

4.13.3 Corrective Actions

Corrective actions are dealt with as per Event Reporting Procedures and may be generated from sources, including but not limited to incidents, audits, inspections and management reviews and

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obligations. All corrective action is managed within the online event reporting tool. Actions will be systematically managed via the online system to ensure items raised are recorded, responsibilities assigned and actions closed out.

Where corrective/preventative action is of critical importance, the Environment Superintendent shall retain evidence (documents, photographs, personnel statements) on file to demonstrate completion of the action.

4.14 Monitoring and Reporting

4.14.1 Monitoring

Environmental monitoring required under various permits, approvals and licenses is detailed in each of the various EMP elements within this document.

Monitoring programs are undertaken in accordance with approvals and licences and statutory management plans. Reporting events are captured within the Obligations Register for the purpose of compliance records.

Due diligence monitoring not specified in the Obligations Register is also undertaken where required to measure potential impacts from environmental incidents.

4.14.2 Reporting

Reporting of data acquired during monitoring is detailed in the appropriate EMP elements within this document.

Reporting to regulators is undertaken in accordance with approvals and licenses. Reporting events are captured within the Obligations Register to ensure compliance.

Internal reporting of environmental performance including achievements and incidents occurs on a monthly basis to senior company management.

4.15 Control of Records

Records will be managed in accordance with applicable MGX standards and procedures.

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4.16 Emergency Response

The response procedures required in the case of an environmental emergency are described in the site *Crisis and Emergency Management Plan*. A *Marine Oil Spill Contingency Plan* (MOSCP) is also maintained to respond to marine emergencies resulting from discharge of hydrocarbons into the marine environment surrounding Koolan Island. Both documents and associated procedures are available on company intranet.

A *Cyclone Preparedness Plan* is also implemented every year in preparation for the cyclone season between November and March. A *Bushfire Plan* is maintained to manage the risk of a wildfire on Koolan Island.

Emergency Ground Disturbance requirements in the event of a wildfire risk are addressed in section *EMP-06 Ground Disturbance and Vegetation Clearing* of this document.

Specialised training is provided to a dedicated Emergency Response Team (ERT) in the area of bush fire control and containment, hazardous material spills and marine oil spills. The ERT has a limited capacity to respond to environmental emergencies based on resource availability and operator capability.

Significant event response is coordinated by appointed roles trained to form part of a KIOP Emergency Management Team (EMT). EMT members are rostered on whilst on site. Team members are drawn from functional groups across the Operation reporting to an Emergency Response Coordinator. Scenario based training is undertaken twice a year to ensure all shifts are included.

4.17 Inspections and Audit

Inspection and audit requirements are addressed in the various EMP elements within this document. Informal internal inspections are undertaken on a weekly and monthly basis to monitor environmental performance and compliance. Corrective actions are assigned within the online event management data base where appropriate.

Internal audits are periodically undertaken by the corporate function or independent third parties to measure conformance against internal standards and compliance with legal and other requirements. Audit outcomes are entered into the online event management database and actions assigned where appropriate.

External audits and inspections are periodically undertaken by state and federal regulators. Outcomes of these events are captured in the online event management database and corrective actions assigned and communicated to the regulator, where appropriate. Where required any additional commitment made to regulators sourced from an inspection are captured in the Obligations Register.

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4.18 Interaction with the Health and Safety Management Plan

Noise and airborne contaminants are addressed within the scope of the Health and Hygiene Management Plan and are not addressed in this plan. Potable water is addressed in *EMP 12 – Groundwater* as condition 12 in the Ministerial Statement specifically relates to the provision of potable water on Koolan Island.

4.19 Management Review

This document shall be reviewed every two years. Changes to operations, approvals, legal and other requirements and risks registers shall be reflected in the review and incorporated into the Plan. New revisions of this document shall be approved by the General Manager and communicated across the operation and reported in the annual compliance assessment report to the OEPA.

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5. ENVIRONMENTAL MANAGEMENT PROCEDURES

The environmental management procedures detailed in this OEMP form the basis of the operational control procedures for mining activities at KIOP. Each of the management plans have been developed on review of operational risks on Koolan Island.

The procedures detail the objectives, management actions, performance indicators, monitoring and reporting requirements for each relevant environmental aspect associated with mining activities for the KIOP.

The Environmental Management Procedures are aligned to relevant regulatory Management Plans previously submitted to the OEPA and provide consistency with requirements and commitments under the *Ministerial Statement 715*. In addition, the EMP reflects where practicable, associated internal Environmental Standards implemented at MGX Operations under the HSEC Standards.

Each of the following procedures has an Owner and a Task Holder with whom the responsibility for the completion of these tasks reside. The General Manager KIOP holds overall responsibility for the site and for the OEMP. The Task Holder is delegated by the Owner to ensure that tasks and requirements are undertaken – in most cases the Task Holder is the Environment Superintendent or the Director of Environmental Approvals. Further delegation is possible but in all cases the responsibility remains with the Task Owner. Delegation is not abrogation. Where delegation has occurred, the delegate must be provided with the appropriate resources and level of authority to effectively carry out the task.

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5.1 EMP 01 - Induction, Training & Policies

Responsibilities	Owner General Manager
	Task Holder Manager Safety and Support Services
Objectives	
<ul style="list-style-type: none"> • Ensure personnel complete an induction that includes an environmental component prior to the commencement of work. • Comply with MGX HSEC standards for training and competency. 	
Management Measures	
<ul style="list-style-type: none"> • All employees, contractors and visitors must understand the environment policy and environment requirements before commencing work; • Ensure all personnel and contractors working on site attend the site induction; • Ensure the site induction includes information on the HSEC Standards and relevant legal requirements as well as the specific key environmental risks and environmental sensitivities relevant to the KIOP. 	
Performance Indicators	
<ul style="list-style-type: none"> • All personnel and contractors have completed the site induction prior to commencement of work on site. • The induction covers: <ul style="list-style-type: none"> ○ MGX environmental policy requirements; ○ KIOP Ground Disturbance process, including vegetation clearing, flora and fauna protection and weed control requirements; ○ Incident reporting procedures; ○ Aboriginal information including heritage sites, avoidance areas and Native Title; ○ Dust control; ○ Hydrocarbon management; ○ Topsoil management and rehabilitation; ○ Surface and groundwater management; ○ Quarantine and Marine Issues; ○ Significant Fauna and Flora; ○ Marine Management; ○ General housekeeping and waste management. 	
Monitoring	
<ul style="list-style-type: none"> • Conduct annual reviews to check the currency of required environmental training for site personnel and contractors. 	
Reporting	
<ul style="list-style-type: none"> • Reporting of environmental training delivered and a brief description of the training provided in the Annual Environment Report and Annual Compliance Assessment Reports. 	
Internal Reference Documents	
<ul style="list-style-type: none"> • MGX HSEC Standard 1.9 Training and Competency • MGX HSEC Standard 1.1 Leadership and Commitment 	

5.2 EMP 02 – Site Risk Register

Responsibilities	Owner General Manager
	Task Holder Manager Safety and Support Services
Objectives	
<ul style="list-style-type: none"> Identify all environmental risks and controls associated with mining and operating activities and record them in the Site Risk Register (SRR). Comply with MGX standards for risk management. 	
Management	
<ul style="list-style-type: none"> The SRR for the mine site will be developed by each department in conjunction with the Safety Team; The SRR will be maintained by the Manager Safety and Support Services and made available on the company intranet; The SRR will be reviewed quarterly and as required by findings from audits and inspections or through changes to the relevant legislation, permits and approvals. 	
Performance Indicators	
<ul style="list-style-type: none"> The SRR will be maintained and updated; Controls verified and validated. 	
Monitoring	
<ul style="list-style-type: none"> Critical control verifications shall be conducted annually to verify controls; The SRR will be subject to internal and external audits. 	
Reporting	
<ul style="list-style-type: none"> Reported as compliant or non-compliant in audit reports. 	
Internal Reference Documents	
<ul style="list-style-type: none"> MGX HSEC Standard 1.2 Risk Management MGX HSEC Standard 1.5 Change Management INX InControl 	

5.3 EMP 03 - Incident Reporting

Responsibilities	Owner General Manager
	Task Holder Manager Safety and Support Services
Objectives	
<ul style="list-style-type: none"> All environmental, heritage and community incidents, near misses and hazards to be reported. Comply with HSEC Standards for event reporting. 	
Management	
<ul style="list-style-type: none"> Incident reporting procedures will be included in the site induction; Incident notification will occur via the online event reporting database; All incidents, near misses and hazards will be reported; Actions resulting from investigations will be managed via the online event reporting database; Public complaints shall be investigated and categorised as per event reporting guidelines. 	
Performance Indicators	
<ul style="list-style-type: none"> All incidents, near misses and hazards reported as per incident reporting procedures; The General Manager will respond to complaints from the public via the Corporate Public Relations Manager; All actions arising from incidents are closed out. 	
Monitoring	
<ul style="list-style-type: none"> Incident reporting procedures subject to internal and external audits; 	
Reporting	
<ul style="list-style-type: none"> Incident reporting will occur via the company online event reporting database (INX InControl); Incidents will be recorded on department and site notice boards; All environment incidents will be reported in the monthly board report and the Annual Environment Report and Annual Compliance Assessment Reports. 	
Internal Reference Documents	
<ul style="list-style-type: none"> MGX HSEC Standard 1.3 Event Management Event Reporting Procedure INX InControl 	

5.4 EMP 04 - Cultural and Heritage management

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
Objectives	
<ul style="list-style-type: none"> • Avoid unauthorised disturbance to Aboriginal heritage sites; • Ensure authorised disturbance complies with conditions of the ground disturbance approval and conditions of approval under the <i>Aboriginal Heritage Act 1972</i>. • Comply with KIOP Ground Disturbance Procedures. • Comply with HSEC Standards for Cultural Heritage Management. 	
Management	
<ul style="list-style-type: none"> • Compliance with the KIOP Ground Disturbance Procedure; • Approval for disturbance in certain areas where required may need to be sought by MGX under section 18 of the <i>Aboriginal Heritage Act 1972</i>. • There will be no disturbance to any Aboriginal heritage site without the express written consent from the Department of Indigenous Affairs under section 18 of the <i>Aboriginal Heritage Act 1972</i>. Project Director – Environment & Approvals shall review any S18 Notice made seeking any permission; • Aboriginal heritage management and potential risks from ground disturbance will be covered in the site induction; • Known Aboriginal heritage sites shall be demarcated on site maps (where authorised), and communicated to site personnel, where appropriate for their protection; • A management programme for Aboriginal heritage sites will be implemented and will include no unauthorised access zones and confidentiality of location; • Traditional Owners shall be consulted during approvals processes to further develop Koolan Island; • All employees and contractors will promptly report any potential Aboriginal heritage sites to the Superintendent Environment. The report shall be passed to the General Manager and Corporate function. • Further information in relation to heritage management is contained in the co-existence agreement between Mount Gibson Iron Limited and the Native Title group. • All heritage incidents should be reported immediately to the Superintendent Environment. The report shall be passed to the General Manager and Corporate function. 	
Performance Indicators	
<ul style="list-style-type: none"> • Site induction provide information on cultural values in the mine site and local area, the requirement to avoid heritage sites and how to recognise Aboriginal sites in the field; • Known Aboriginal Heritage sites near operations areas protected by exclusion zones; • No unauthorised disturbance to Aboriginal Heritage sites. 	
Monitoring	
<ul style="list-style-type: none"> • The Superintendent Environment will conduct inspections as required to ensure compliance with the <i>Aboriginal Heritage Act 1972</i>; 	
Reporting	
<ul style="list-style-type: none"> • Any new suspected Heritage sites will be reported immediately; • Unauthorised interference with Aboriginal heritage sites will be reported as an incident as per the event reporting procedure. 	
Internal Reference Documents	
<ul style="list-style-type: none"> • MGX HSEC 5.2 Cultural Heritage Management • MGX HSEC 5.3 Social Impact Management • Event Reporting Procedure 	

5.5 EMP 05 - Ground Disturbance

Responsibilities	Owner Mine Manager
	Task Holder Superintendent Environment
Objectives	
<ul style="list-style-type: none"> • Prevent unapproved clearing of land; • Minimise adverse impacts from unapproved clearing; • Comply with relevant Native Vegetation Clearing Regulations; • Comply with <i>Ministerial Statement 715</i> condition 9; • Comply with KIOP Ground Disturbance Standards and Procedures. • Comply with MGX HSEC Standards for Ground Disturbance 	
Permits/Approvals	
<ul style="list-style-type: none"> • A <i>Ground Disturbance Permit</i> (GDP) is required prior to any ground disturbing activity. • No ground disturbing work shall commence until: <ul style="list-style-type: none"> ○ All regulatory approvals for clearing have been obtained and verified. ○ Pre-clearance flora and fauna surveys have been previously conducted in the proposed area of clearing in accordance with the Significant Flora and Fauna Management Plan. ○ The GDP is signed by the permit holder and approved by KI Environment Staff. ○ All clearing boundaries and any avoidance sites have been surveyed and flagged in the field. ○ The area is subject to two nights of Quoll relocation trapping in accordance with the Northern Quoll Management Plan. ○ Final authorisation to proceed has been approved by the Superintendent Environment and the boundaries and permit conditions have been communicated to the mobile plant operator. 	
Emergency Ground Disturbance	
<ul style="list-style-type: none"> • Under emergency conditions where ground disturbance is necessary to prevent damage to human life or health or irreversible damage to a significant portion of the environment is a risk, ground disturbance may be conducted without a GDP. • Examples of this type of circumstance include an uncontrolled fire, major environmental incident or life-threatening accident. Any emergency ground disturbance work must be reported to the Superintendent Environment and the Project Director - Environment and Approvals within 2 days of the work being conducted. • Under lesser emergency conditions but where immediate ground disturbance is required then the Superintendent Environment must be contacted for authorisation prior to conducting the work. • Under any emergency conditions there remains a requirement to avoid known Aboriginal Heritage and other avoidance sites. • All Emergency ground disturbance must be done only to the extent possible to reduce the risk to human health, environment and property to levels considered acceptable. 	
Management	
<ul style="list-style-type: none"> • Vehicles and machinery will only use designated tracks/roads. Off-road traversing is prohibited; • Only the minimum area required for safe work is to be disturbed; • The KIOP GDP Procedure shall be followed during the planning and execution of all ground disturbing activities; 	

<ul style="list-style-type: none"> • An estimate of the area to be disturbed and topsoil volumes to be moved and stored should be included in the GDP submission; • Lay down, parking and other storage areas will be located in GDP areas only. Where practicable, existing cleared areas will be used for laydown areas. Vegetation clearing for these areas will be avoided where possible; • When clearing land, vegetation will be removed and stockpiled with topsoil for later return or stockpiling at designated topsoil storage areas; • Topsoil and subsoil will be stripped prior to earthworks and managed in accordance with site soil management procedures; • Ground Disturbance will be included as a component of the General Induction and presented as a tool box topic and environmental awareness module; • No burning of cleared vegetation is permitted at any time.
<p>Performance Indicators</p> <ul style="list-style-type: none"> • Clearing will comply the requirements of the GDP procedure, and with the conditions specified in the GDP; • Completed and signed off GDP are kept on file for all ground disturbing work; • Spatial files retained showing progressive clearing; • General induction and awareness material presenting GDP requirements; • Awareness training presented to mining personnel on GDP requirements.
<p>Monitoring</p> <ul style="list-style-type: none"> • Follow up inspections will be completed as soon as practicable post clearing to verify compliance with conditions; • Ground disturbance approvals and inspection documentation will be subject to internal and external audits.
<p>Reporting</p> <ul style="list-style-type: none"> • Unauthorized clearing and non-compliance with Ground Disturbance permits shall be reported and entered in to INX InControl as per the Event Report Procedure. Reports of unauthorized clearing will include GPS coordinates, spatial files and photographs of the area cleared; • All incidents will be reported via the monthly board report and the Annual Environment Report and Annual Compliance Assessment Reports.
<p>Approvals Reference Documents</p> <ul style="list-style-type: none"> • Ministerial Statement 715 • Koolan Island Northern Quoll Management Plan • Koolan Island Significant Fauna Management Plan • Koolan Island Significant Flora Management Plan
<p>Internal Reference Documents</p> <ul style="list-style-type: none"> • MGX HSEC Standard 4.3 Ground Disturbance • KIOP Vegetation Clearance and Soil Resource Management Procedure • KIOP Ground Disturbance Permit Procedure • Event Reporting Procedure

5.6 EMP 06 - Flora Management

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
<p>Objectives</p> <ul style="list-style-type: none"> • Minimise the loss of native vegetation and flora habitats; • Protect Declared Rare and Priority Flora consistent with the provisions of the <i>Biodiversity Conservation Act 2016</i> and flora listed under the <i>Environment Protection & Biodiversity Conservation Act 1999</i> that occur within the operating area; • Comply with Ministerial Statement 715 condition 9; • Promote the natural return of vegetation and fauna; • Comply with the <i>Koolan Island Significant Flora Management Plan</i>; • Comply with relevant HSEC Standards; • Comply with the Quarantine Management Plan. 	
<p>Permits/Approvals</p> <ul style="list-style-type: none"> • All permits and approvals specified in EMP-05 Ground Disturbance will be followed; • Any new areas of clearing within existing approved areas will require pre-clearance surveys where previously not undertaken in accordance with the Significant Flora Management Plan; • Priority Flora populations will be identified and avoided wherever possible. 	
<p>Management</p> <ul style="list-style-type: none"> • Management of flora shall be undertaken in accordance with the Significant Flora Management Plan; • A preclearance flora survey will be undertaken prior to clearing being undertaken where the survey has not previously been undertaken. A survey shall also occur following three years where clearing has not been completed within three years of the initial survey or the presence of significant species is suspected in regrowth. Priority and rare flora species found in the mine site will be recorded and clearly demarcated with flagging tape and avoided where possible. The flagging tape will be inspected periodically to ensure the integrity of the demarcation; • Clearing activities will comply with EMP-05 Ground disturbance; • A Priority Flora will be discussed during the induction and an Identification guide will be made available to all personnel managing clearing activities; • Riparian vegetation and vegetation along drainage lines, gullies, gorges and creek crossings will be avoided and protected where practicable; • Open ground fires are not permitted unless authorised under the Koolan Island Fire Management Plan; • Dust control measures will be implemented to minimise impacts on vegetation adjacent to the mine area and roads; • Established access track and paths are to be used to access isolated locations. If a new track is required, then approval is to be obtained as per <i>EMP-06 Ground disturbance</i> and <i>EMP-13 Haul roads and access tracks</i> will be followed; • The risk of translocation of weed seed from the BHP Town site to the rest of the mine shall be minimised through wash-down; • Weed spread throughout the mine site shall be monitored through an annual survey and regular area inspections; • Consultation will occur with DBCA when disturbance of significant areas of Priority Flora is required; • Native seed is only to be collected from an area of local provenance in under a Scientific or Other Prescribed licence from DBCA; • For new projects/expansions, a survey will be undertaken to determine the presence of significant flora species in areas not previously covered; • Non locally native plants are not permitted to be bought on to Koolan Island, including the village area without prior authority from the OEPA and DBCA. 	

<p>Performance Indicators</p> <ul style="list-style-type: none"> • Clearing will comply the requirements of KIOP GDP Procedure, and with the conditions specified in the GDP; • General Inductions shall include a component on priority species; • Priority Flora Guide completed and available to all staff; • There is no unnecessary or unauthorised vegetation clearing and/or ground disturbance;
<p>Monitoring</p> <ul style="list-style-type: none"> • The Superintendent Production and an Environment Officer will inspect operation areas during clearing activities to ensure that only authorised clearing is being undertaken; • An Environment Officer will inspect clearing activities near or adjacent to exclusion zones. • Annual Weed Survey are undertaken annually and reported to the OEPA and DMIRS.
<p>Reporting</p> <ul style="list-style-type: none"> • Breaches of the GDP Procedure will be reported as an incident as per the Event Reporting procedure; • All incidents will be reported via the monthly board report and the DMIRS Annual Environment Report; • Significant incidents shall be reported to the DMIRS as soon as practicable after the event; • Annual ground disturbance figures shall be reported in the Annual Environment Report and Annual Compliance Assessment Reports and the Mine Rehabilitation Fund spreadsheet updated to adjust levy estimates.
<p>Approvals Reference Documents</p> <ul style="list-style-type: none"> • Ministerial Statement 715 • Koolan Island Quarantine Management Plan • Koolan Island Significant Flora Management Plan
<p>Internal Reference Documents</p> <ul style="list-style-type: none"> • MGX HSEC Standard 4.9 Flora Management • MGX HSEC Standard 4.3 Ground Disturbance • KIOP Vegetation Clearance and Soil Resource Management Procedure • KIOP Ground Disturbance Permit Procedure • Event Reporting Procedure

5.7 EMP 07 - Weed Management

Responsibilities	<p>Owner General Manager</p> <p>Task Holder Superintendent Environment</p>
<p>Objectives</p> <ul style="list-style-type: none"> • Comply with the requirements of the <i>Biosecurity and Agriculture Management Act 2007</i>; • Prevent the introduction and spread of weeds into and away from the mine site; • Comply with <i>Ministerial Statement 715</i> condition 9. • Comply with the <i>Koolan Island Quarantine Management Plan</i>; • Comply with the <i>Koolan Island Significant Flora Management Plan</i>; • Meet relevant HSEC Standards; • Control/reduce existing infestations of target weed species on Koolan Island. 	
<p>Management</p> <ul style="list-style-type: none"> • Known populations of target and declared weeds within the mine site will be demarcated on a site plan and weed layers kept in GIS and periodically updated; • Plant and equipment entering site shall be inspected for build up of mud and presence of seeds and weeds; • An annual weed survey shall be undertaken; • A list and means of identifying target weeds on site will be made available to all personnel involved in or managing clearing activities through posters, identification sheets and awareness sessions; • A component of the General Induction shall include the identification, reporting and management of target and declared weeds; • Site Induction of all employees/contractors will include equipment hygiene requirements; • Under supervision and management of Koolan Logistics, all earthmoving and ground engaging equipment will be inspected and cleaned of vegetation, mud and soil prior to entry and exit from site; • Any import of aggregate shall be sourced from a weed free area; • Weed seeds and clean down material recovered from site wash-down facility sediment sumps will be stored in the Site Bioremediation Landfarm in accordance with site procedures. The Landfarm will be routinely monitored for weeds. Rehabilitated material removed from the Landfarm will be utilised as subsoil and road base. • Weeds and infested soil recovered during clearing shall be buried. • A weed control program will be implemented where required in accordance with site procedures for Weed Control; • Quarantine areas encompassing known infestations will be established and demarcated by the Environment Superintendent to control vehicular access thereby reducing the potential for vegetative and seed dispersal. Any quarantine areas will be clearly demarcated and signed; • Any equipment or vehicle considered to have been working in a weed risk area will be cleaned down before being remobilised to other parts of the mine site. <p>Performance Indicators</p> <ul style="list-style-type: none"> • The site induction will include weed awareness information; • All earthmoving and ground engaging equipment will be clean prior to entry to site; • Weed identification guide completed and available to all staff; • Any new weed species introduced to site because of mine operation at shall be reported and controlled or eradicated. 	
<p>Monitoring</p> <ul style="list-style-type: none"> • Weed infestation inspections will be carried out by an Environment Officer as part of topsoil stockpile and work area environmental inspections; • Any new weed populations that arise in the mine site because of construction works or operating activities will be managed in accordance with site procedures. 	

Reporting

- The Quarantine Chain of Custody form will be completed and signed off by KI Logistics prior to vehicle, machinery and plant entry on-site. Records will be kept by KI Logistics;
- New infestations of unrecorded weeds and failures in the quarantine protocols will be reported as an environmental incident as per the Mount Gibson Iron Limited Event Reporting Procedure;
- All incidents will be reported via the monthly board report and the Annual Environment Report and Annual Compliance Assessment Reports.
- Relevant regulatory authorities will be kept informed of the progress of any weed control in the Annual Environment Report and Annual Compliance Assessment Reports.
- The introduction or spread of any declared weed species shall be reported to the DAWE, OEPA, DBCA and DPIRD.

Approvals Reference Documents

- Ministerial Statement 715
- Koolan Island Quarantine Management Plan
- Koolan Island Significant Flora Management Plan

Internal Reference Documents

- MGX HSEC Standard 4.7 Quarantine Management
- MGX HSEC Standard 4.9 Flora Management
- MGX HSEC Standard 4.3 Ground Disturbance
- KIOP Vegetation Clearance and Soil Resource Management Procedure
- KIOP Ground Disturbance Permit Procedure
- Event Reporting Procedure

5.8 EMP 08 - Terrestrial Fauna

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
<p>Objectives</p> <ul style="list-style-type: none"> To protect native fauna consistent with the provisions of the <i>Biodiversity Conservation Act 2019</i> and protect threatened fauna listed under the <i>Environment Protection & Biodiversity Conservation Act 1999</i>; Comply with <i>Ministerial Statement 715</i> condition 9 and 10; Minimise adverse impacts of operating activities on native fauna species; Comply with the <i>Koolan Island Significant Fauna Management Plan</i>; Comply with the <i>Koolan Island Northern Quoll Management Plan</i>; Comply with relevant MGX HSEC Standards; Comply with KIOP Ground Disturbance Permit procedures. 	
<p>Permits/Approvals</p> <ul style="list-style-type: none"> A Ground Disturbance Permit is required prior to commencement of any ground disturbing activity; Preclearance fauna surveys are required where not undertaken previously in accordance with the <i>Significant Fauna Management Plan</i>; Stygofauna monitoring is required in accordance with the <i>Significant Fauna Management Plan</i>. Fauna avoidance and exclusion areas shall be demarcated in consultation with DBCA; Quoll relocation trapping will be undertaken, where appropriate, in accordance with the Northern Quoll Management Plan prior to clearing activities. 	
<p>Management</p> <ul style="list-style-type: none"> Site induction will include fauna protection requirements; Pets and off-road recreational vehicles are not permitted on site; Firearms are not permitted on site; Feeding and / or capture of native fauna is not permitted on site; Any report of suspected feral or introduced species on site shall be investigated by the Environment Officer; A cane toad identification poster shall be displayed in the training room; Killing of snakes is prohibited at site. Only trained snake handlers are authorised to capture and relocate snakes in accordance with site procedures; Disturbed areas will be rehabilitated as soon as practicable to facilitate fauna habitat restoration; Wherever possible barbed wire fencing will be avoided to minimise the risk of injury to Bats; All exploration drill holes will be capped to prevent injury fauna; Trenches shall be excavated with a means of egress; Any plastic lined ponds or dams must have fauna egress matting installed and maintained to assist the escape of wildlife; A protocol for the handling of sick and injured fauna will be developed for the site; Injuries and death of Northern Quoll shall be reported in accordance with the Mount Gibson Iron Limited event reporting procedure; A register shall be maintained for sick, injured and killed fauna; For new projects/expansions, a survey will be undertaken to determine the presence of significant fauna species in areas not previously covered; Quarantine measures shall be undertaken to prevent the release of fauna on to the Island including: <ul style="list-style-type: none"> Bait programs on vessels Vessel inspections prior to arrival and on arrival. Inspection of quarantine paperwork on bulk ore carriers. 	

<p>Performance Indicators</p> <ul style="list-style-type: none"> • Fauna protection requirements included in the site induction; • Cane toad identification poster on display; • Observations of feral animals will be reported to the Environment Officer and actioned as appropriate; • No significant decline in population health of Northern Quoll demonstrated in annual surveys; • No significant decline in subterranean fauna populations and diversity; • No significant decline in short range endemic populations; • Disturbed areas will be revegetated to facilitate fauna habitat restoration.
<p>Monitoring</p> <ul style="list-style-type: none"> • Site will be checked periodically to identify the presence of invasive pests. • Vessels shall be inspected in accordance with Quarantine procedures. • Facilities where potential entrapment of fauna shall occur on a regular basis. • Annual Northern Quoll surveys shall be undertaken in accordance with <i>the Northern Quoll Management Plan</i>. • Subterranean Fauna and short range endemic surveys are undertaken in accordance with the <i>Koolan Island Significant (Subterranean) Fauna Management Plan</i>.
<p>Reporting</p> <ul style="list-style-type: none"> • Bait and pest inspection checklists shall be submitted by the Barge Operator and maintained by KI Logistics in accordance with site Quarantine Procedures. • Copies of bait and pest inspection checklists provided by Barge operators shall be maintained by the Environment Superintendent. • All fauna deaths on site, including deaths on roads, will be reported to the Environment Officer. • Northern Quoll deaths resulting directly from operating activities will be reported as an incident as per the Mount Gibson Iron Limited Event Reporting Procedure. • Any intentional tampering or harm to fauna by an individual shall be reported as an incident as per the Mount Gibson Iron Limited Event Reporting Procedure. • All reported fauna injuries and deaths shall be recorded in a site register. • The introduction of any new fauna species shall be reported to the DAWE, OEPA, DBCA and DPIRD. • All incidents will be reported via the monthly board report and the Annual Environment Report and Annual Compliance Assessment Report and EPBC annual report.
<p>Approvals Reference Documents</p> <ul style="list-style-type: none"> • Ministerial Statement 715 • Koolan Island Northern Quoll Management Plan • Koolan Island Significant Fauna Management Plan
<p>Internal Reference Documents</p> <ul style="list-style-type: none"> • MGX HSEC Standard 4.10 Fauna Management • MGX HSEC Standard 4.3 Ground Disturbance • MGX HSEC Standard 4.7 Quarantine Management • KIOP Ground Disturbance Permit Procedure • Event Reporting Procedure

5.9 EMP 09 - Topsoil Management

Responsibilities	Owner Mine Manager
	Task Holder Environment Superintendent
Objectives	
<ul style="list-style-type: none"> • Collect and reuse soil resources for rehabilitation; • Comply with relevant HSEC Standards; • Comply with the <i>Koolan Island Mine Closure Plan</i>; • Comply with site procedures for soil resource management. 	
Management	
<ul style="list-style-type: none"> • All permits and approvals specified in EMP-05 Ground Disturbance will be followed; • Soil resources shall be recovered where practicable and safe to do so without risk to machinery and personnel; • Topsoil shall be recovered as soon as practicable following vegetation clearance; • Topsoil shall be stockpiled in discreet cells, no higher than 2m and deep ripped; • Erosion control shall be considered to avoid loss of soil during the wet season. • Weed monitoring and control shall be undertaken throughout the year on stockpiles; • The General Induction will include a component on soil management and awareness presentations delivered to relevant personnel; • The KIOP procedure Vegetation Clearance and Soil Resource Management will be implemented. 	
Performance Indicators	
<ul style="list-style-type: none"> • All available topsoil and vegetation directly returned or stockpiled appropriately for later use; • A register of topsoil stockpiles will be maintained on-site and shall record the stockpile number, the date placed, the source location, the type (topsoil/subsoil) and comments (including rehandling/relocation, seeding etc); • Signage shall be placed at the location of topsoil stockpiles to indicate the date and source of the material. 	
Monitoring	
<ul style="list-style-type: none"> • Active topsoil stockpiles will be inspected regularly for erosion and weed control. 	
Reporting	
<ul style="list-style-type: none"> • Information on the volume of topsoil stripped and stockpiled will be recorded and reported in the Annual Environment Report; • Loss of topsoil due to mining practices and poor handling shall be reported in accordance with MGX Event Reporting procedures; • Status of topsoil stockpiles is to be included in the Annual Environment Report. 	
Approvals Reference Documents	
<ul style="list-style-type: none"> • Koolan Island Mine Closure Plan • Mining Proposals • Tenement Conditions 	
Internal Reference Documents	
<ul style="list-style-type: none"> • MGX HSEC Standard 4.13 Rehabilitation • MGX HSEC Standard 4.3 Ground Disturbance • KIOP Vegetation Clearance and Soil Resource Management Procedure • KIOP Ground Disturbance Permit Procedure • Event Reporting Procedure 	

5.10 EMP 10 - Borrow Pits

Responsibilities	Owner General Manager
	Task Holder Mine Manager
Objectives	
<ul style="list-style-type: none"> • Minimise adverse environmental impacts from borrow pits; • Minimise the impacts on surface drainage of these areas; • Follow the requirements of EMP05 Ground Disturbance Permit; • Comply with applicable HSEC Standards. 	
Management	
<ul style="list-style-type: none"> • KIOP GDP procedures will be followed in accordance with EMP 05 – Ground Disturbance; • All regulatory approvals including mining proposals shall be obtained; • A Borrow Pit plan will be completed prior to the construction of new borrow pits. In addition the Plan shall include a provisional rehabilitation plan showing where possible the intended drainage of the borrow pit; • Drainage and erosion control structures will be developed around the pits to control the impact of substantial rainfall events where required; • All topsoil removed from the borrow pit areas shall be stockpiled along the edge of the borrow pit or at dedicated topsoil storage areas for subsequent use in rehabilitation; • Trees and heavy stands of vegetation will be preserved where practicable; • Priority flora to be preserved, where practicable; • Issues relating to dust emissions will be managed in accordance with EMP 13 – Dust Emission Management; • If groundwater sources are encountered, management of groundwater will be in accordance with EMP 12 – Groundwater; • Blasting and noise control will be managed under the <i>Health & Safety Management Plan</i>. 	
Performance Indicators	
<ul style="list-style-type: none"> • Compliance with the KIOP GDP procedure; • Borrow pit inspections conducted as part of environmental inspection schedule. 	
Monitoring	
<ul style="list-style-type: none"> • The Mine Production Superintendent will inspect and arrange maintenance for erosion and sedimentation control structures during the wet season where appropriate. 	
Reporting	
<ul style="list-style-type: none"> • Areas cleared for development of borrow pits will be reported in the monthly board report and in the Annual Environment Report and Mine Rehabilitation Fund submission. 	
Approvals Reference Documents	
<ul style="list-style-type: none"> • Koolan Island Mine Closure Plan • Mining Proposals • Tenement Conditions 	
Internal Reference Documents	
<ul style="list-style-type: none"> • MGX HSEC Standard 4.14 Mine Closure • MGX HSEC Standard 4.13 Rehabilitation • MGX HSEC Standard 4.3 Ground Disturbance • KIOP Vegetation Clearance and Soil Resource Management Procedure • KIOP Ground Disturbance Permit Procedure • Event Reporting Procedure 	

5.11 EMP 11 – Waste Rock Dumps

Responsibilities	Owner General Manager
	Task Holder Mine Manager
Objective	
<ul style="list-style-type: none"> • Minimise adverse environmental impacts from mine waste dumps; • Create stable, safe, free draining and non polluting landforms that have a self sustaining cover of locally native vegetation; • Meet the requirements of the <i>Koolan Island Mine Closure Plan</i>; • Meet relevant Mining Proposal and Tenement conditions; • Meet the requirements of relevant internal HSEC Standards; • Comply with Ministerial requirements. 	
Management	
<ul style="list-style-type: none"> • The establishment of waste dumps will follow the GDP procedure. After establishment, any clearing of vegetation for waste rock dumping should be cleared by a GDP; • Waste material handling guidelines will be applied with regard to the management of dispersive, erosive and saline waste rocks; • Waste dumps shall be designed and constructed in a manner where they do not adversely impact on downstream environments due to disruption of drainage line or loss of erodible material; • Hostile materials such as hyper-saline and dispersive materials shall be encapsulated where practicable and in consultation with the DMIRS; • Waste Rocks Dumps shall be designed and constructed so that the final landform does not encroach off the mining lease or extend beyond approved ministerial boundaries; • The <i>Koolan Island Water Management Plan</i> will be complied with regard to surface water management; • A Waste Dump Plan will be prepared and approved by the Technical Services Manager and the Mine Manager prior to construction in consultation with the Environment Superintendent; • Rehabilitation plans shall be developed consistent with criteria approved in the Koolan Island Mine Closure Plan and in consultation between KIOP Mine Planners and the Site Technical Services, Site Production and the Environment Superintendents. 	
Performance Indicators	
<ul style="list-style-type: none"> • Compliance with the KIOP Ground Disturbance procedure; • Maintenance and regular inspections of drainage and erosion control structures; • Progressive rehabilitation in accordance with approved Mine Closure Plan; • Management of hostile materials in accordance with approved Mining Proposals. 	
Monitoring	
<ul style="list-style-type: none"> • The Production Superintendent will inspect and arrange maintenance for erosion and sedimentation control structures during the wet season; • Monitor construction of the waste dump against Waste Dump Plan; • Compliance with Rehabilitation Plans. 	

Reporting

- Significant erosion events and non-compliance with the Waste Dump Plan will be reported as an incident as per the Mount Gibson Iron Limited Event Reporting procedure;
- All incidents will be reported via the monthly board report and the Annual Environment Report.

Approvals Reference Documents

- Koolan Island Mine Closure Plan
- Mining Proposals
- Tenement Conditions

Internal Reference Documents

- MGX HSEC Standard 4.14 Mine Closure
- MGX HSEC Standard 4.13 Rehabilitation
- MGX HSEC Standard 4.3 Ground Disturbance
- KIOP Vegetation Clearance and Soil Resource Management Procedure
- KIOP Ground Disturbance Permit Procedure
- Event Reporting Procedure

5.12 EMP 12 – Groundwater

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
Objectives	
<ul style="list-style-type: none"> • Manage the environmental impact associated with groundwater extraction and dewatering discharge from operating pits; • Gain a better understanding of the regional hydrogeological system and collect adequate data to evaluate options for decommissioning of the final pit; • Comply with <i>Ministerial Statement 715</i> condition 8; • Comply with the requirements of the <i>Koolan Island Water Management Plan</i> and <i>Groundwater Operating Strategy</i>; • Comply with the <i>Operating Licence L8148</i>; • Comply with the <i>Koolan Island Drinking Water Quality Management Plan (DWQMP)</i>. 	
Permits/Approvals	
<ul style="list-style-type: none"> • Koolan Island is exempt under the Rights in <i>Water and Irrigation (RIWI) Act 1914</i> and is not required to see a Licence to construct bores or extract water; • The extraction and consumption of groundwater on Koolan Island for domestic and potable uses (treated) and industrial (raw water) use is managed under a Water Management Plan and Groundwater Operating Strategy approved by the OEPA and the DWER; • Potable water quality is managed on Koolan Island under a <i>Drinking Water Quality Management Plan (DWQMP)</i> endorsed by the Department of Health under the <i>Health Act 1911</i>; • The Site Operating Licence L8148 issued under Part V of the <i>Environmental Protection Act 1986</i> regulates groundwater monitoring and mine pit dewatering discharges. 	
Management	
<ul style="list-style-type: none"> • The Groundwater Operating Strategy, the Operating Licence and the DWQMP outlines the management and monitoring of production bores at Koolan Island; • The Operating Licence outlines the requirements for dewatering discharge from Main Pit to the marine environment via a settlement pond and marine diffuser; • The Groundwater Operating Strategy and the Operating Licence outlines the management and monitoring of monitoring bores at Koolan Island; • Potentially polluting substances, including hydrocarbons and other chemicals will be stored in secondarily contained sites to prevent unintentional discharge to the environment and contamination of groundwater; • Potentially hazardous wastes will be secondarily contained until removed from the site and handled as per EMP – 16 Hazardous Materials Management; • On-site solid waste disposal will be managed in accordance with Operating Licence conditions for the landfill and bioremediation facility; • Equipment servicing will take place in designated areas whenever practicable; field servicing and mobile plant rebuild will be undertaken in a manner that facilitates containment of all hydrocarbons and chemicals. 	
Performance Indicators	
<ul style="list-style-type: none"> • Compliance with the monitoring requirements of the Water Management Plan, Groundwater Operating Strategy, Marine Management Plan, Operating Licence L8148 and the DQWMP; • Compliance with the conditions of the DEC Operating Licences in relation to the quality of discharge water; • Compliance with licences issued for the storage of dangerous goods. 	

Monitoring <ul style="list-style-type: none">• Groundwater monitoring will comply with the conditions of the Operating licence and the Groundwater Operating Strategy and DWQMP.
Reporting <ul style="list-style-type: none">• Groundwater monitoring data will be included in the Annual Aquifer Review and the Annual Environment Report;• Water quality results for potable sources will be included in the quarterly and annual reports provided to the Department of Health.
Approvals Reference Documents <ul style="list-style-type: none">• Ministerial Statement 715• Operating Licence L8148• Koolan Island Water Management Plan•
Internal Reference Documents <ul style="list-style-type: none">• MGX HSEC Standard 4.11 Marine Management• MGX HSEC Standard 4.8 Water Management• MGX HSEC Standard 2.6 Drinking Water• Event Reporting Procedure

5.13 EMP 13 – Dust Emission Management

Responsibilities	Owner General Manager
	Task Holder Mine Manager Process and Maintenance Manager
Objectives	
<ul style="list-style-type: none"> • Minimise dust emission generated by the operation; • Minimise the impact of dust emissions on surrounding vegetation; • Minimise emissions of visible dust across the mining lease boundary; • Meet internal HSEC Standards for air quality. 	
Management	
<ul style="list-style-type: none"> • As part of workforce inductions, all personnel will be informed of the importance of minimising dust emissions; • Water trucks will be used in areas which have the potential to generate dust, including areas that receive heavy traffic, minor roads and haul roads and the ores stockpile and crusher area; • Dust suppression using water sprinklers shall be installed at the Crusher area where practicable, • Vegetation clearing and exposed surfaces will be kept to a minimum wherever practicable; • Vehicle speeds on haul roads, work sites and accommodation villages will be restricted; • The performance of dust suppression equipment will be monitored by regular site inspections; • Development and implementation of a <i>Koolan Island Dust Management Plan</i> as per MGX HSEC Standards; • The potential to encounter fibrous material during mining operations is specifically addressed in the <i>Koolan Island Safety Management Plan</i>. 	
Performance Indicators	
<ul style="list-style-type: none"> • Dust minimisation practices will be addressed in personnel inductions; • Monitoring of dust levels around site as per the <i>Koolan Island Dust Management Plan</i>; • Reduction of dust as per the <i>Koolan Island Dust Management Plan</i>. 	
Monitoring	
<ul style="list-style-type: none"> • Regular inspections shall be undertaken to monitor fugitive dust emissions; • Monitoring completed as per the <i>Koolan Island Dust Management Plan</i>. 	
Reporting	
<ul style="list-style-type: none"> • Significant dust emissions will be reported as an incident as per MGX Event Reporting procedure; • All incidents will be reported via the monthly board report and the Annual Environment Report. 	
Internal Reference Documents	
<ul style="list-style-type: none"> • MGX HSEC Standard 4.4 Air Quality Management 	

5.14 EMP 14 – Surface Water

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment Mine Manager Maintenance and Processing Manager
Objectives	
<ul style="list-style-type: none"> Minimise the impacts on the quality of surface waters; Contain any contaminated water on site; Avoid discharge of contaminants to the marine environment; Maintain and avoid unnecessary disturbance to natural surface drainage; Comply with <i>Ministerial Statement 715</i> condition 8. Comply with the Environmental <i>Operating Licence L8148</i>; Meet the requirements of the <i>Koolan Island Water Management Plan</i>; Meet the requirements of the <i>Koolan Island Marine Management Plan</i>; Meet the requirements of applicable internal HSEC Standards. 	
Permits/Approvals	
<ul style="list-style-type: none"> Licences will be obtained and kept current under Part V of the <i>Environmental Protection Act 1986</i> for relevant water discharges; 	
Management	
<i>Watercourses and Water Quantity</i>	
<ul style="list-style-type: none"> Culverts will be placed under roads, embankments and formations to permit free flow of drainage water and to assist in water shedding from the site where applicable; Culverts will be inspected on a regular basis to ensure free flow at all times; Cleared vegetation and topsoil stockpiles will be kept away from watercourses and in discrete stockpiles to minimise interference to surface flows. 	
<i>Water Quality</i>	
<ul style="list-style-type: none"> Drainage from mining activities will be kept separate from natural drainage, where practicable; Water released from mining and operation areas will be discharged via sediment reduction controls; Dewatering discharge from the Main Pit shall be managed in accordance with the operating licence and directed to a settlement pond prior to discharge except in emergency events following a cyclonic event; Wash down water from permanent wash down facilities will be collected in drains, transferred to settling ponds, having first passed through sediment traps and an oily water separator; Only quick-break degreasers are to be used for the washing down of equipment and around the plant; Oily water separators will also be used to treat waste water from bulk fuel facilities and vehicle workshops at the Mine Operations Centre; Areas that will contain hazardous materials such as hydrocarbons and other chemicals such as ANFO will be situated within enclosed catchment systems; Waste water treatment facilities shall be contained to prevent spillage of effluent to the environment and inspected; Irrigation spray fields shall be inspected for ponding of treated effluent; Equipment servicing and mobile plant and equipment rebuild will take place in designated areas where possible. Field servicing will be undertaken in a manner that facilitates containment of all hydrocarbons and chemicals; All sedimentation basins, hydrocarbon treatment facilities and drainage structures are to be inspected and maintained on a regular basis; Spillages of chemicals, hydrocarbons, untreated waste water and explosives are to be contained and cleared up immediately to minimise contamination of surface waters and reported. 	

Performance Indicators

- Implementation of the *Water Management Plan*;
- Compliance with the conditions of the DWER Operating Licences issued under the *Environmental Protection Act 1986*.

Monitoring

- The monitoring commitments specified in the Operating Licence L8148 and *Water Management Plan* will be implemented;
- Water samples will be collected from the Main Pit settlement pond, the Mullet Pit sump and the MOC oil water separator ponds in accordance with monitoring requirements;
- Regular inspections of drainage structures and erosion control measures will be carried out;
- The marine monitoring program shall be undertaken in accordance with the *Marine Management Plan*;
- All spills and 'near-miss' incidents will to be reported as an incident and recorded in the internal event reporting database.

Reporting

- Reporting will be conducted as per the *Marine Management Plan* and Operating Licence in the Annual Environment Report and Annual Compliance Assessment Report;
- Pollution, erosion events and 'near-miss' situations will be reported as per the MGX Event Reporting Procedure;
- All incidents will be reported in the Annual Environment Report and Annual Compliance Assessment Report.

Approvals Reference Documents

- Ministerial Statement 715
- Operating Licence L8148
- Koolan Island Water Management Plan
- Koolan Island Marine Management Plan

Internal Reference Documents

- MGX HSEC Standard 4.11 Marine Management
- MGX HSEC Standard 4.8 Water Management
- MGX HSEC Standard 4.3 Ground Disturbance
- Event Reporting Procedure

5.15 EMP 15 – Marine Management

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment Manager Maintenance and Processing
Objectives	
<ul style="list-style-type: none"> • Minimise the impacts on the quality of marine waters; • Contain any potential contaminants on site; • Avoid discharge of contaminants to the marine environment; • Maintain and avoid unnecessary disturbance to littoral and benthic habitat; • Avoid impact on marine fauna species including cetaceans; • Comply with the Environmental <i>Operating Licence L8148</i>; • Comply with <i>Ministerial Statement 715</i> condition 6 and 7. • Meet the requirements of the <i>Koolan Island Water Management Plan</i>; • Meet the requirements of the <i>Koolan Island Marine Management Plan</i>; • Meet the requirements of the <i>Koolan Island Quarantine Management Plan</i>; • Meet the requirement of the <i>Marine Oil Spill Contingency Plan</i>; • Meet the requirements of applicable internal HSEC Standards. 	
Permits/Approvals	
<ul style="list-style-type: none"> • Licences will be obtained and kept current under Part V of the <i>Environmental Protection Act 1986</i> for relevant discharges to the marine environment; • The Marine Management Plan is to undergo a review where potential changes to the operation present additional risk to the marine environment; • Approvals to impact upon the marine environment through ocean dumping or construction shall be obtained prior to proceeding. 	
Management	
<i>Vessels</i>	
<ul style="list-style-type: none"> • Quarantine measures shall be applied in accordance with the Quarantine Management Plan; • Bulk carriers shall be required to manage ballast water in accordance with AQIS requirements; • Bulk carriers shall be required to manage the risk of marine pests in accordance with AQIS requirements; • Bulk carriers shall avoid potential calving areas during whale breeding season; • A marine spill response capability will be maintained to manage potential marine oil spills. 	
<i>Water Quality</i>	
<ul style="list-style-type: none"> • Drainage from mining activities will be kept separate from natural drainage, where practicable; • Water released from mining and operation areas will be discharged via sediment reduction controls; • Dewatering discharge from the Main Pit shall be managed in accordance with the operating licence and directed to a settlement pond prior to discharge except in emergency events following a cyclonic event; • Wash down water from permanent wash down facilities will be collected in drains, transferred to settling ponds, having first passed through sediment traps and an oily water separator; • Only quick-break degreasers are to be used for the washing down of equipment and around the plant; • Oily water separators will also be used to treat waste water from bulk fuel facilities and vehicle workshops at the Mine Operations Centre; • Areas that will contain hazardous materials such as hydrocarbons and other chemicals such as ANFO will be situated within enclosed catchment systems; • Waste water treatment facilities shall be contained to prevent spillage of effluent to the environment and inspected; • Irrigation spray fields shall be inspected for ponding of treated effluent; • Equipment servicing and mobile plant and equipment rebuild will take place in designated areas; Field servicing will be undertaken in a manner that facilitates containment of all hydrocarbons and chemicals; 	

<ul style="list-style-type: none"> • All sedimentation basins, hydrocarbon treatment facilities and drainage structures are to be inspected and maintained on a regular basis; • Spillages of chemicals, hydrocarbons, untreated waste water and explosives are to be contained and cleared up immediately to minimise contamination of the marine environment and reported.
<p>Performance Indicators</p> <ul style="list-style-type: none"> • Implementation of the Marine Management Plan; • Compliance with the conditions of the DWER Operating Licences issued under the <i>Environmental Protection Act 1986</i>.
<p>Monitoring</p> <ul style="list-style-type: none"> • The monitoring commitments specified in the <i>Marine Management Plan</i> will be implemented; • The monitoring commitments specified in the Operating Licence L8148 and <i>Water Management Plan</i> will be implemented; • Vessel inspection and quarantine compliance inspections shall be undertaken in accordance with legislative requirements and the <i>Quarantine Management Plan</i>; • Regular inspections of drainage structures and erosion control measures will be carried out; • All strikes on cetaceans and other marine mammal will be reported as an incident and recorded in the internal event reporting database; • All marine spills and 'near-miss' incidents will to be reported as an incident and recorded in the internal event reporting database.
<p>Reporting</p> <ul style="list-style-type: none"> • Reporting will be conducted as per the <i>Marine Management Plan</i> and Operating Licence in the Annual Environment Report and Annual Compliance Assessment Report; • Pollution, erosion events and 'near-miss' situations will be reported as per the MGX Event Reporting Procedure; • All incidents will be reported in the Annual Environment Report and Annual Compliance Assessment Report.
<p>Approvals Reference Documents</p> <ul style="list-style-type: none"> • Ministerial Statement 715 • Operating Licence L8148 • Koolan Island Water Management Plan • Koolan Island Marine Management Plan • Koolan Island Quarantine Management Plan
<p>Internal Reference Documents</p> <ul style="list-style-type: none"> • MGX HSEC Standard 4.11 Marine Management • MGX HSEC Standard 4.8 Water Management • MGX HSEC Standard 4.3 Ground Disturbance • MGX HSEC Standard 4.7 Quarantine Management • Event Reporting Procedure

5.16 EMP 16 – Greenhouse Gas Emissions

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
Objective	
<ul style="list-style-type: none"> Promote energy efficiency and ensure reporting requirements are met. Meet the requirements of applicable MGX HSEC Standards. 	
Management	
<ul style="list-style-type: none"> Recycling facilities are not practicable nor cost effective on site so there is no collection of recyclable materials for transport to offsite via recycling contractors; Minimise Land Clearing activities as far as practicable and clear progressively to an extent that facilitates production while minimising vegetation loss and erosion; The benefits of energy-efficiency will be promoted on site. Energy saving devices will be used where practicable and based on the energy star ranking standard; Rehabilitate areas as soon as practicable in accordance with developed rehabilitation plans and applicable MGX HSEC Standards. 	
Performance Indicators	
<ul style="list-style-type: none"> Energy efficiency promotional material available on site. Greenhouse Gas emission reporting made through MGX's corporate Sustainability Report and Annual Reports 	
Monitoring	
<ul style="list-style-type: none"> The monthly site reporting will include monitoring of land cleared, fuel usage, electricity generation, rehabilitation, blasting, waste generated and the quantity of material recycled to be used in reporting; Contractors are also required to provide information relevant to greenhouse reporting. 	
Reporting	
<ul style="list-style-type: none"> Land cleared, fuel usage, electricity generation, rehabilitation and blasting will be reported in the Annual Environment Report and the Annual Sustainability Report; National Pollutant Inventory Reporting and National Greenhouse Emissions reporting requirements will also be met. 	
Internal Reference Documents	
<ul style="list-style-type: none"> MGX HSEC Standard 4.5 Greenhouse Gas Emissions MGX HSEC Standard 4.12 Waste Management 	

5.17 EMP 17 – Hazardous Material Management

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
Objectives	
<ul style="list-style-type: none"> • Ensure that the transport, handling and storage of hazardous materials are in accordance with the MGX HSEC Standards, the <i>Explosives and Dangerous Goods Act 1961</i>, the <i>Dangerous Goods Safety Act 2004</i> and associated regulations and licence conditions; • Collect, treat, transport and dispose of wastes in an environmentally acceptable manner in accordance with relevant legislation; • Meet the requirements of applicable HSEC Standards; • Minimise the environmental impact of waste disposal. 	
Management	
<p>Waste management will comply with site procedures. All waste and hazardous materials storage facilities will be designed in accordance with the appropriate design standards and legislation.</p> <p>Where applicable, storage will comply with Dangerous Goods licence DGS021460 and Explosives storage and handling licences issued by DMIRS.</p> <p><i>Bulk Hydrocarbon & Chemical Storage</i></p> <ul style="list-style-type: none"> • Wherever possible, double skinned self bunded tanks will be used; • All single skinned tanks will be located in areas with impervious floors and bunding with a capacity to contain 110% of the volume of the largest tank or 25% of the total volume stored in the compound; • Distances between the tanks and the bunding will be maintained as described in AS 1940 (2004); • The storage area will be graded to drain away from the storage tanks to a sump which can be emptied or pumped, as required; • All bulk storage tanks and fuel storage areas will be appropriately labelled, as required by the relevant legislation; • If leaks are detected in storage facilities, the Area Supervisor will be immediately informed and arrangements made for the leak to be controlled and the vessel replaced or repaired; • Bulk fuel facilities will be inspected as part of regular site environmental inspections and audits; • Chemical storage will meet placarding and separation and segregation requirements of relevant standards. <p><i>Minor Hydrocarbon & Chemical Storage</i></p> <ul style="list-style-type: none"> • All minor storage will be secondarily contained; • All storage containers and areas will be appropriately labelled, as required by legislation; • All chemicals will be stored in containment bunds, sea containers or chemical cabinets as appropriate for the volume and nature of the chemicals. <p><i>Explosives</i></p> <ul style="list-style-type: none"> • Explosives will be stored in accordance with the <i>Mines Safety and Inspection Regulations (1995)</i>. <p><i>Pipelines</i></p> <ul style="list-style-type: none"> • Storage tanks and associated pipelines containing hazardous goods will be located above ground and behind bunding; • Transfer of diesel shall occur at designated transfer points with spill protection and containment considered. <p><i>Spills</i></p> <ul style="list-style-type: none"> • Spill control equipment will be stored in critical locations to allow for a quick response to spills; • Spillages will be contained and appropriately managed by the use of absorbent material and the excavation and removal of contaminated soil to the site bioremediation facility or, where this is not possible, an off-site licensed facility; 	

<ul style="list-style-type: none"> Competency based Spill response training to be delivered to relevant personnel. <p><i>Waste Disposal</i></p> <ul style="list-style-type: none"> A licensed controlled waste carrier will remove all bulk waste oils and oily products generated on site; Waste oil containers will be clearly labelled and stored in banded areas or purpose built self banded containers prior to collection and will be separated from new product drums and pods; Hydrocarbons and oily waste such as fuels, grease, de-greasers, emulsified oil and oily waste water will be managed by the following practices: Appropriate storage and handling procedures; Segregation of hydrocarbon contaminated water from stormwater and other water (i.e. via an oil/water separator); Segregation of oily wastes (i.e. rags, filters, etc.) from general wastes; Clean-up procedures for spills; Environmentally acceptable recycling or disposal of captured waste; Controlled waste (including waste oil, other hydrocarbons and contaminated soil) will be handled and disposed of in accordance with the <i>Environmental Protection (Controlled Waste) Regulations 2004</i>. <p><i>Contaminated Sites</i></p> <ul style="list-style-type: none"> A list of areas identified as having the potential to be contaminated or being contaminated will be maintained on a site register and within a the contaminated sites layer on GIS.
<p>Performance Indicators</p> <ul style="list-style-type: none"> All chemicals and other hazardous materials will be retained within impervious holding facilities; Storage of bulk fuels and chemicals in accordance with DMIRS licence requirements and associated code and regulations; Transport of Controlled Waste will be done in accordance with <i>Environmental Protection (Controlled Waste Regulations) 2004</i> and site logistical procedures; Material Safety Data Sheets are available to all employees and contractors.
<p>Monitoring</p> <ul style="list-style-type: none"> Monthly inspections of chemical and hydrocarbon storage areas; Monthly review of controlled waste dispatch receipts retained on site and reports from controlled waste disposal and treatment site.
<p>Reporting</p> <ul style="list-style-type: none"> Reporting for the Annual Environment Report will include the volume of controlled wastes moved off site; Any incidents, near misses and non-compliances will be dealt with as per the MGX Event Reporting procedure; Spills will be reported to the DMIRS and DWER where required under licence and tenement conditions; All incidents will be reported via the monthly board report and the Annual Environment Report.
<p>Approvals Reference Documents</p> <ul style="list-style-type: none"> Operating Licence L8148 Dangerous Goods licence DGS021460
<p>Internal Reference Documents</p> <ul style="list-style-type: none"> MGX HSEC Standard 2.7 Hazardous Materials Event Reporting Procedure MGX-HSEC-KI-PR-2237- Waste Management Procedure

5.18 EMP 18 – Waste Management

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
Objectives	
<ul style="list-style-type: none"> Minimise the generation of waste wherever practicable; Meet the requirements of applicable HSEC Standards; Dispose of waste in an environmentally acceptable manner compliant with regulatory requirements. 	
Permits	
<ul style="list-style-type: none"> A site landfill will be licensed by the DWER and operated in accordance with licence conditions. 	
Management	
<ul style="list-style-type: none"> Waste will be managed in accordance with the Operating Licence and site procedures; Recyclable materials will be collected and transported for offsite recycling where practicable and cost effective; Housekeeping inspections of landfill facilities will be undertaken weekly; Littering on site is prohibited and work and office sites are to be kept clean and tidy; Overburden from the mine will be placed in waste rock dumps; Inert waste material shall be buried in designated waste dumps where approved by the Operating Licence; Inappropriate waste disposal shall be reported as an incident in accordance with internal event reporting procedures; Waste management will be addressed in the site induction. 	
Performance Indicators	
<ul style="list-style-type: none"> Compliance with the requirements of the DWER Works Approvals and Operating Licences; Weekly housekeeping inspections at the landfill. 	
Monitoring	
<ul style="list-style-type: none"> Weekly inspections of the landfill site will be conducted; Inspections of waste collection facilities shall be undertaken on a weekly basis; Confirmation of the segregation of wastes will be included in regular site inspections. 	
Reporting	
<ul style="list-style-type: none"> Volumes of waste material and recycled material will be reported via monthly site reporting, and the Annual Environment Report. 	
Approvals Reference Documents	
<ul style="list-style-type: none"> Operating Licence L8148 	
Internal Reference Documents	
<ul style="list-style-type: none"> MGX HSEC Standard 4.12 Waste Management Event Reporting Procedure MGX-HSEC-KI-PR-2237- Waste Management Procedure 	

5.19 EMP 19 – Landfarm Management

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
Objectives	
<ul style="list-style-type: none"> • Ensure landfarm / bioremediation management practices comply with Operating Licence conditions and KIOP procedures; • Ensure that the risk of site contamination is minimised through bioremediation of hydrocarbon contaminated soils; • Meet the requirements of applicable HSEC Standards. 	
Management	
<i>Design and Construction</i>	
<ul style="list-style-type: none"> • The bioremediation landfarm will be designed and constructed in accordance with KIOP procedures and Works Approvals conditions, where applicable; • The bioremediation landfarm shall be maintained and operated in accordance with site procedures and Operating Licence conditions. 	
<i>Drainage</i>	
<ul style="list-style-type: none"> • A runoff collection control system will be maintained to prevent discharge from the bioremediation landfarm from entering surface and/or groundwater or surrounding vegetation and soil; • Bunds and diversion drains will be maintained to prevent stormwater runoff from adjacent areas from entering the landfarm facility, and to prevent the escape of runoff and/or leachate from the facility; 	
<i>Operation</i>	
<ul style="list-style-type: none"> • General access should be restricted and/or clear signage erected; • Storage and treatment beds will be divided via interior dividing bunds to ensure no cross-contamination of soil, and appropriate signage will be in place to ensure correct segregation; • Ensure large rock fragments (>150mm) and rubbish are removed from contaminated soil prior to being deposited in the treatment beds; • The recommended optimal treatment bed layer is 300mm thick, ensure materials are spread evenly and the compacted base of the landfarm is not disturbed; • Where practicable, heavily contaminated soil should be initially segregated from lightly contaminated soil, the heavily contaminated soil should be reworked to achieve a homogeneous mixture prior to being mixed with lightly contaminated soil; • The landfarm will be irrigated on a weekly basis during dry season (May-October). This will be undertaken using water carts to maintain optimum moisture levels; • Tillage will be undertaken regularly to promote aeration and minimise unpleasant odours, this should be done once or twice a month depending on weather conditions; • Fertilisers may be added if microbial activity and biodegradation are not progressing successfully. Application rates will be based on total petroleum hydrocarbon contaminant concentration, pH, and degradation rates determined by soil analysis; • Rehabilitated material removed from the bioremediation landfarm may be used as road base or fill for landfill. 	
Performance Indicators	
<ul style="list-style-type: none"> • No leachate from the landfarm facility; • Minimal odours and dust from the landfarm. 	

Monitoring

- The moisture concentration in the treatment beds will be monitored regularly;
- Soil sampling and analysis will be undertaken on a quarterly basis, to monitor contaminant loads, and following the KIOP procedure.

Reporting

- Volumes of soil moving in and out of the landfarm will be reported on a monthly basis and annual volumes will be reported in the Annual Environment Report;
- Soil sampling and moisture monitoring results will be reported in the Annual Environment Report.

Approvals Reference Documents

- DWER Operating Licence L8148

Internal Reference Documents

- MGX HSEC Standard 4.6 Contamination Management
- Event Reporting Procedure

5.20 EMP 20 – Contaminated Sites

Responsibilities	Owner General Manager
	Task Holder Superintendent Environment
Objectives	
<ul style="list-style-type: none"> • Ensure contaminated sites do not pose a risk of harm to human health or environmental values; • Comply with the requirements of <i>Ministerial Statement 715</i> condition 13; • Comply with the requirements of the <i>Koolan Island Contamination Management Plan</i>. • Meet applicable internal HSEC Standards; • Comply with the <i>Contaminated Sites Act 2003</i>. 	
Management	
<ul style="list-style-type: none"> • All contaminated and potentially contaminated sites will be identified and recorded on the contaminated sites layer on GIS; • Where surface terrains is to be newly disturbed, a GDP will be prepared for review based on legacy records of potentially contaminated sites. • The extent of contamination will be assessed; this will be based on evaluation against the National Environmental Protection Measure (NEPM) for the Assessment of Site Contamination; • Where evaluation of the investigation levels indicates likelihood of adverse effects on human health or ecological values, a specific health and ecological risk assessment will be conducted based on NEPM investigation levels, DWER licence conditions and general provisions of the <i>Environmental Protection Act 1986</i>, and associated Contaminated Site Management guidelines. • Where KIO causes new contamination, a remediation management plan for each contaminated site shall be developed. 	
Performance Indicators	
<ul style="list-style-type: none"> • All contaminated and potentially contaminated sites identified are held in a register; • Character and extent of contamination defined, and risks and impacts identified and prioritised; • Remediation actions will be completed as required by each remediation management plan. 	
Monitoring	
<ul style="list-style-type: none"> • Identified sites will be regularly inspected to ensure the management plan is implemented. 	
Reporting	
<ul style="list-style-type: none"> • Contaminated sites information will be reported in the Annual Environment Report. 	
Approvals Reference Documents	
<ul style="list-style-type: none"> • Operating Licence L8148 • Ministerial Statement 715 • Koolan Island Contamination Management Plan 	
Internal Reference Documents	
<ul style="list-style-type: none"> • MGX HSEC Standard 4.6 Contamination Management • Event Reporting Procedure • MGX-HSEC-KI-PR-2237- Waste Management Procedure 	

5.21 EMP 21 – Rehabilitation

Responsibilities	Owner General Manager
	Task Holder Mine Manager Superintendent Environment
Objectives	
<ul style="list-style-type: none"> • Ensure landforms and other disturbed areas at the completion of construction are safe, stable, non-erodible, and capable of supporting sustainable native vegetation and integrated into the surrounding environment. • Meet requirements of the <i>Koolan Island Mine Closure Plan</i>. • Comply with <i>Ministerial Statement 715</i> condition 6. • Meet tenement conditions. • Meet applicable internal HSEC Standards. 	
Management	
<ul style="list-style-type: none"> • Rehabilitation to be completed where required in accordance with approved Rehabilitation Plans. • Disturbed areas will be deep ripped and progressively rehabilitated, when available, with applicable surface treatments and topsoil, wherever available; • Where possible, overburden slopes will be progressively battered, spread with stored topsoil and vegetation (where available) and stabilised to prevent surface water erosion and encourage vegetation establishment; • Where possible, topsoil will be respread to a depth of 100mm to encourage revegetation; • Where possible dead vegetation recovered during clearing will be scattered on replaced topsoil to encourage biological activity and promote revegetation; • Compacted surfaces no longer required post construction will be ripped to promote water infiltration and the catchment of seed and organic matter; • Rehabilitated areas will be indicated by signage and rehabilitation records will be maintained. Records will include survey of rehabilitated areas; • Rehabilitated areas shall be free draining and erosion resistant; • Rehabilitated areas shall have signage placed to control access; • Locally provenant seeds shall be used in direct seeding of rehabilitated landforms; • All tracks that are no longer required for ongoing use will be rehabilitated; • Earth windrows will be placed across disused access tracks which cross the contour to reduce the rate of runoff and discourage use. 	
Performance Indicators	
<ul style="list-style-type: none"> • All temporary areas impacted to be rehabilitated ; • Rehabilitation is completed as per approved Rehabilitation Plans and in accordance with MCP completion criteria and targets; • Opportunities for progressive rehabilitation are identified, planned and implemented though the long term mine planning process; • A mine closure plan is approved and reviewed during life of mine. 	
Monitoring	
<ul style="list-style-type: none"> • The Environment Superintendent will check areas that have been disturbed for rehabilitation potential on a regular basis; • Site inspections to be undertaken to ensure rehabilitation is completed progressively; in accordance with approved Rehabilitation Plans; • Landscape Function Analysis or similar will be conducted annually on rehabilitated areas to monitor for rehabilitation progress; • Rehabilitation shall be routinely monitored for weeds and treated where required. Remedial works shall be undertaken to address erosion where practicable. 	

<p>Reporting</p> <ul style="list-style-type: none">• Rehabilitated areas (ha) will be reported in the Annual Environment Report.• Results of any rehabilitation monitoring to be reported in the Annual Environment Report.
<p>Approvals Reference Documents</p> <ul style="list-style-type: none">• Ministerial Statement 715• Koolan Island Mine Closure Plan• Tenement Conditions• Mining Proposals
<p>Internal Reference Documents</p> <ul style="list-style-type: none">• MGX HSEC Standard 4.13 Rehabilitation• MGX HSEC Standard 4.14 Mine Closure• Event Reporting Procedure

5.22 EMP 22 – Fire Management

Responsibilities	Owner General Manager
	Task Holder Safety and Support Services Manager
Objectives	
<ul style="list-style-type: none"> • Reduce the risk of wildfire on human life, property and the environment. • Prevent, contain and control fires on Koolan Island. • Meet requirements of the <i>Koolan Island Crisis and Emergency Management Plan</i>, the <i>Koolan Island Fire Management Plan</i> and associated procedures. • To meet applicable internal HSEC Standards. 	
Management	
<ul style="list-style-type: none"> • Dangerous Goods and Hazardous substances are stored and managed in accordance with applicable standards and procedures; • Site safety procedures are in place around Hot Works including risk assessment, permits and controls; • No camp fires allowed; • Vegetation clearing is undertaken where the risk of fire is considered acceptable following a review of risks. Controls are in place to respond to a fire, to contain and prevent escalation; • Where there is a risk of fire initiation due to fly rock from blasting exists, adequate controls shall be implemented to prevent, contain and control any fire caused by blasting • An Emergency Response Team shall conduct exercise and scenario training in bush fire response; • Assets will be available to respond to a bush fire; • Fire breaks shall be constructed where required to protect human life and property from bush fire; • Fire breaks shall be maintained to allow vehicular access and egress and prevent spread of weeds and establishment of fuel; • Fuel load hazard reduction burns shall be undertaken in the cooler seasons in consultation with DFES and Traditional Owners; • Emergency firebreaks shall be created in accordance with EMP 06 – Ground Disturbance and applicable site procedures; • Bush fire events shall be reported to the OEPA and DMIRS; • The Induction shall contain a component on bush fire risk and prevention including the risk of cigarette litter; • Bush fires and fires in the workplace shall be reported and investigated in accordance with internal event reporting procedures; • Fire extinguisher training shall be conducted as part of the induction; • Post bush fire monitoring of weed spread and vegetation regrowth shall be undertaken to determine the effect of fire regimes on flora recruitment and recovery. 	
Performance Indicators	
<ul style="list-style-type: none"> • Bush risks are measured and assessed during site risk reviews; • Hazard reduction burns occur in a manner acceptable to DFES and the Traditional Owners; • Fire breaks are maintained to protect human life and property; • Inductions communicate fire risk and prevention and provide basic level training in fire response; • Adequate fire response capabilities are maintained consistent with site emergency procedures; • All fires shall be reported and investigated. 	
Monitoring	
<ul style="list-style-type: none"> • The Environment Superintendent will check areas that have been disturbed by fire and record area and scale of impact to the OEPA and DMIRS; • Fire scar areas shall be monitored for weed growth and re-growth of native species; • Site inspections to be undertaken to ensure housekeeping is at a level where fire risk is managed. 	

Reporting

- Incidents will be reported in the Annual Environment Report;
- Bush fire events on the Island shall be reported to the OEPA and DMIRS;
- Results of any fire scar are monitoring to be reported in the Annual Environment Report.

Approvals Reference Documents

- Koolan Island Project Management Plan

Internal Reference Documents

- MGX HSEC Standard 4.15 Fire Management
- MGX HSEC Standard 1.7 Crisis and Emergency Management
- Koolan Island Wildfire Management Plan
- Event Reporting Procedure

6. RECORD OF REVIEW

Rev	Date	Revision Description	By	Check	Approved
000	21/12/14	Initial Issue	J.Tomich Enviro. Supt.	G.Palmer Manager Safety & Support Services	S. de Kruijff General Manager
001	31/03/16	Changes made. Submitted as Care and Maintenance Plan to DMIRS.	J.Tomich Enviro. Supt.	Dave Rayfield Registered Manager	Dave Rayfield Registered Manager
002	17/10/18	Template update – Introduction updated to include sea wall collapse and reconstruction.	J.Tomich Enviro. Supt.	G.Palmer Manager Safety & Support Services	T. Wride Registered Manager
003	24/08/20	Role title changed to reflect appointment of General Manager. Introduction updated to include recommencement of normal operations. Environmental Policy updated with current version.	J.Tomich Enviro. Supt.	T.Collie Project Director – Environment & Approvals	C.Arnold General Manager

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