OPERATIONS ENVIRONMENTAL MANAGEMENT PLAN

KOOLAN IRON ORE PROJECT

Mount Gibson Iron

This document is copyrighted ©. All rights are reserved. Apart from any fair dealing for the purpose of private study, research, criticism or review as permitted under the Copyright Act, no part may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means electronic, mechanical, photocopying, recording, or otherwise without prior permission.

<table>
<thead>
<tr>
<th>DOCUMENT OWNERS:</th>
<th>PREPARED BY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSET Manager</td>
<td>John Tomich</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPROVED BY:</th>
<th>Signed: Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Manager</td>
<td>21/12/17</td>
</tr>
</tbody>
</table>

Title: MGX-HSEC-KI-PLAN-318
Environmental Management Plan.doc

date effective: 21/12/14
revision status: 1
set review: Annually
planned review: 01/12/15

page 1 of 56
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.14.2.</td>
<td>Monitoring and Reporting</td>
<td>6</td>
</tr>
<tr>
<td>4.14.1.</td>
<td>Event and Corrective Action</td>
<td>6</td>
</tr>
<tr>
<td>4.14.</td>
<td>Operational Control</td>
<td>6</td>
</tr>
<tr>
<td>4.13.3.</td>
<td>HSEC Documentation</td>
<td>8</td>
</tr>
<tr>
<td>4.13.2.</td>
<td>Document Control</td>
<td>8</td>
</tr>
<tr>
<td>4.13.1.</td>
<td>Communication</td>
<td>8</td>
</tr>
<tr>
<td>4.13.</td>
<td>Environmental Awareness and Inductions</td>
<td>8</td>
</tr>
<tr>
<td>4.12.</td>
<td>Change Management</td>
<td>8</td>
</tr>
<tr>
<td>4.11.</td>
<td>Legal and Other Requirements</td>
<td>11</td>
</tr>
<tr>
<td>4.10.</td>
<td>Environmental Objectives and Targets</td>
<td>11</td>
</tr>
<tr>
<td>4.9.</td>
<td>Responsibilities and Authorities</td>
<td>13</td>
</tr>
<tr>
<td>4.8.5.</td>
<td>Environmental Awareness</td>
<td>13</td>
</tr>
<tr>
<td>4.8.4.</td>
<td>Training Records</td>
<td>13</td>
</tr>
<tr>
<td>4.8.3.</td>
<td>Training needs analysis and matrix</td>
<td>13</td>
</tr>
<tr>
<td>4.8.2.</td>
<td>Inductions</td>
<td>13</td>
</tr>
<tr>
<td>4.8.1.</td>
<td>Training Qualifications</td>
<td>13</td>
</tr>
<tr>
<td>4.8.</td>
<td>Environmental Awareness and Inductions</td>
<td>14</td>
</tr>
<tr>
<td>4.9.1.</td>
<td>Internal Communication</td>
<td>14</td>
</tr>
<tr>
<td>4.9.2.</td>
<td>External Communication</td>
<td>14</td>
</tr>
<tr>
<td>4.10.</td>
<td>Document Control</td>
<td>15</td>
</tr>
<tr>
<td>4.11.</td>
<td>HSEC Documentation</td>
<td>15</td>
</tr>
<tr>
<td>4.12.</td>
<td>Operational Control</td>
<td>15</td>
</tr>
<tr>
<td>4.13.1.</td>
<td>Incident and Corrective Action</td>
<td>16</td>
</tr>
<tr>
<td>4.13.2.</td>
<td>Regulatory Notification</td>
<td>16</td>
</tr>
<tr>
<td>4.13.3.</td>
<td>Corrective Actions</td>
<td>16</td>
</tr>
<tr>
<td>4.14.</td>
<td>Monitoring and Reporting</td>
<td>16</td>
</tr>
<tr>
<td>4.14.1.</td>
<td>Monitoring</td>
<td>16</td>
</tr>
<tr>
<td>4.14.2.</td>
<td>Reporting</td>
<td>16</td>
</tr>
</tbody>
</table>

---

Mount Gibson Iron Limited
KOOLAN ISLAND OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN
UNCONTROLLED COPY WHEN PRINTED

---

**TABLE OF ABBREVIATIONS**

---

4. Purpose ................................................................................................................. 5
1. Purpose ................................................................................................................. 5
2. Scope ....................................................................................................................... 5
3. Introduction ............................................................................................................ 5
3.1. Mining Operations Overview ........................................................................... 6
4. Environmental Management System Guidance Notes ........................................... 8
4.1. Environmental Management System Framework .............................................. 8
4.2. Environmental Policy ......................................................................................... 8
4.3. Environmental Risk Register ............................................................................ 10
4.4. Change Management ......................................................................................... 10
4.5. Legal and Other Requirements ......................................................................... 10
4.6. Environmental Objectives and Targets ............................................................. 11
4.7. Responsibilities and Authorities ........................................................................ 11
4.8. Environmental Awareness and Inductions ....................................................... 13
4.8.1. Training Qualifications ................................................................................. 13
4.8.2. Inductions ....................................................................................................... 13
4.8.3. Training needs analysis and matrix ............................................................... 13
4.8.4. Training Records ......................................................................................... 13
4.8.5. Environmental Awareness ........................................................................... 14
4.9. Communication ................................................................................................. 14
4.9.1. Internal Communication ............................................................................... 14
4.9.2. External Communication ............................................................................. 14
4.10. Document Control ............................................................................................ 15
4.11. HSEC Documentation ....................................................................................... 15
4.12. Operational Control ......................................................................................... 15
4.13. Event and Corrective Action .......................................................................... 15
4.13.1. Incident and Corrective Action ................................................................. 16
4.13.2. Regulatory Notification ............................................................................. 16
4.13.3. Corrective Actions ...................................................................................... 16
4.14. Monitoring and Reporting ................................................................................ 16
4.14.2. Reporting ..................................................................................................... 16
4.15. Control of Records ................................................................. 17
4.16. Emergency Response .......................................................... 17
4.17. Inspections and Audit ............................................................ 17
4.18. Interaction with the Health and Safety Management Plan .......... 18
4.19. Management Review ............................................................ 18

5. ENVIRONMENTAL MANAGEMENT PROCEDURES .................... 19
EMP – 01 Induction, Training & Policies ....................................... 20
EMP – 02 Site Risk Register ......................................................... 21
EMP – 03 Incident Reporting ........................................................ 22
EMP – 04 Cultural Heritage management ....................................... 23
EMP – 05 Ground Disturbance ...................................................... 24
EMP – 06 Flora Management ........................................................ 26
EMP – 07 Weed Management ....................................................... 28
EMP – 08 Terrestrial Fauna ............................................................ 30
EMP – 09 Topsoil Management ..................................................... 32
EMP – 10 Borrow Pits ................................................................. 33
EMP – 11 Waste Rock Dumps ......................................................... 35
EMP – 12 Groundwater ................................................................. 37
EMP – 13 Dust Emission Management .......................................... 39
EMP – 14 Surface Water ............................................................... 40
EMP – 15 Marine Management ...................................................... 42
EMP – 16 Greenhouse Gas Emissions ............................................. 44
EMP – 17 Hazardous Material Management ................................. 45
EMP – 18 Waste Management ...................................................... 47
EMP – 19 Landfarm Management ................................................ 48
EMP – 20 Contaminated Sites ....................................................... 50
EMP – 21 Rehabilitation ............................................................... 51
EMP – 22 Fire Management .......................................................... 53

6. REVIEW RECORDS ................................................................... 55
# TABLE OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQTF</td>
<td>Australian Quality Training Framework</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>DER</td>
<td>Department of Environmental Regulation</td>
</tr>
<tr>
<td>DoE</td>
<td>Department of Environment (Federal)</td>
</tr>
<tr>
<td>DoT</td>
<td>Department of Transport</td>
</tr>
<tr>
<td>DMP</td>
<td>Department of Mines and Petroleum</td>
</tr>
<tr>
<td>DPaW</td>
<td>Department of Parks and Wildlife</td>
</tr>
<tr>
<td>DWQMP</td>
<td>Drinking Water Quality Management Plan</td>
</tr>
<tr>
<td>EMP</td>
<td>Environmental Management Procedure</td>
</tr>
<tr>
<td>EMT</td>
<td>Emergency Management Team</td>
</tr>
<tr>
<td>ERT</td>
<td>Emergency Response Team</td>
</tr>
<tr>
<td>GM</td>
<td>General Manager</td>
</tr>
<tr>
<td>HSEC MS</td>
<td>Health, Safety, Environment and Community Management System</td>
</tr>
<tr>
<td>HSET</td>
<td>Health, Safety, Environment and Training</td>
</tr>
<tr>
<td>KIOP</td>
<td>Koolan Iron Ore Project</td>
</tr>
<tr>
<td>MGX</td>
<td>Mt Gibson Iron Ltd</td>
</tr>
<tr>
<td>OEPA</td>
<td>Office of the Environmental Protection Authority</td>
</tr>
<tr>
<td>OEMP</td>
<td>Operations Environmental Management Plan</td>
</tr>
</tbody>
</table>
1. **PURPOSE**

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

The OEMP (The Plan) has been prepared to meet Proponent Commitments 1 and 2 accepted by Mt Gibson Iron Ltd 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 included in the Appendices. 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 to satisfy the requirements of:

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

This OEMP is relevant to the life of the Operational phase of Koolan Iron Ore Project (KIOP).

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 approval, licensing and legal obligations relevant to the project.

### 3.1. Mining Operations Overview

Koolan Iron Ore Pty Ltd, a subsidiary of Mount Gibson Iron Ltd (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. A description of the environment is included in the Appendices.

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

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

The Koolan Iron Ore Project was previously managed by Aztec Gold between 2003 and 2006. 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 1998*. On 28 March 2007 ownership of the Koolan Island Iron Ore operation was transferred to Mt Gibson Iron Ore Pty Ltd, becoming the new operator.
Construction and commissioning of Mine Infrastructure and the Port Facility was completed under MS715 in 2007 and associated works approvals under Part V of the *Environmental Protection Act 1986*. The operation is currently licensed under Part V as prescribed premises (Licence L8148).

MGX is currently undertaking mining on Koolan Island on mining leases M 04/461 and M 04/417 in accordance with approved Mining Proposals (NOI) 5194, 5261A, 5278, 5312, 5567, 5601, 5716, 6038, 19402, 20559, 23857, 31899 and 31828. 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.

The KIOP is currently in operating phase with a total of 7.05 banked cubic meters of waste rock and iron ore mined by the end of 2013.
4. ENVIRONMENTAL MANAGEMENT SYSTEM GUIDANCE NOTES

4.1. Environmental Management System Framework

MGX manages impacts on the environment via an integrated Health, Safety, Environment and Community management system (HSEC MS) that was developed to conform to ISO 14001:2004 and AS4801 Occupational Health and Safety System.

One of the purposes of HSEC MS 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 MS is an internal standard applied across MGX. 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 HSEM MS Standards.

4.2. Environmental Policy

The MGX Environment and Heritage Policy provides a framework for all operations and activities undertaken by MGX. The policy is reflected in the HSEC MS 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 MS Standard 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.

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.

---

1. MGX Environment and Community Policy
2. HSEC MS Standard 1.1 Leadership and Commitment
Environmental Policy

Mount Gibson Iron Limited (MGI) recognises that excellence in managing its environmental responsibilities is essential for successful business practices.

MGI understands that mining is a temporary land use that is associated with a range of potential impacts and as such MGI is committed to environmental leadership in all its business activities.

MGI is committed to ensuring that the protection of the environment will not be compromised for profit or production.

MGI will strive to achieve excellence in environmental management by pursuing high standards of environmental performance in its activities. In order to achieve and maintain these high standards, it will:

- Comply with relevant state and national legislation as a minimum;
- Ensure that management and reduction of environmental risks is an integral part of operations planning and long term strategy;
- Develop, implement and monitor environmental management plans to achieve environmental targets;
- Set and meet environmental objectives and targets based on the prevention of pollution;
- 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 continually improve environmental management and performance;
- Actively promote recycling both internally and amongst its customers and suppliers; and
- Support and promote economically viable energy efficiency initiatives that minimise greenhouse gas emissions.

MGI will regularly review and report on the environmental performance of the Company and will ensure that this policy remains relevant to achieving its target of minimal impact to the environment.

Jim Beyer
Chief Executive Officer

☐ Non-Compliance with this policy can result in disciplinary action and dismissal.

For Further Information please contact your Departmental Manager.
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\(^1\). The purpose of this register is to identify key risks associated with mining activities and assess the significance of their impacts to health, safety, environment and the community. The General Manager in consultation with the HSEC 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. The risk register is maintained in the MGX online risk database available on the company intranet. A hard copy of the register is also maintained in the KIOP main conference room.

At a task level personnel must use a Job Hazard Analyses (JHA) or equivalent to identify potential risks and appropriate control measures.

4.4. Change Management

A process of change management shall be applied consistent with internal HSEC MS 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\(^4\).

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 License Register. Hard copies are available from the HSEC Department.

An Obligations Register shall be maintained for all legal and other requirements using the internal event reporting database\(^5\). The Obligations Register shall consolidate all obligations and commitments related to local, state and federal approvals, approved management plans and agreements. 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.

---

\(^1\) MGX HSEC MS Standard 1.2 Risk Management
\(^2\) MGX HSEC MS Standard 1.5 Change Management
\(^3\) MGX HSEC MS Standard 4.2 Compliance Management

<table>
<thead>
<tr>
<th>Title</th>
<th>date effective</th>
<th>revision status</th>
<th>set review</th>
<th>planned review</th>
<th>page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Management Plan.doc</td>
<td>21/12/2014</td>
<td>1</td>
<td>Annually</td>
<td>01/12/2015</td>
<td>10 of 56</td>
</tr>
</tbody>
</table>
KIOP will be audited internally as part of the HSEC MS audit schedule\(^6\) and additionally through independent third parties as part of the MGX quality assurance and due diligence program. 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 Environment and Regulation (DER), an annual report to the Department of Mines and Petroleum (DMP), quarterly reports to the Department of Health and annual compliance statements to the OEPA and the Federal Department of Environment (DoE).

Legal and other requirements are managed internally in accordance with the HSEC MS Standards\(^7\).

4.6. Environmental Objectives and Targets

HSEC Objectives and targets are presented within the annual MGX 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.

MGX maintains an internal standard for planning and performance\(^8\).

4.7. Responsibilities and Authorities

Responsibilities and authorities are set out in each EMP element in this document\(^9\). Role, responsibilities and accountabilities are presented in organisational charts and role descriptions and maintained by the Human Resources function within MGX\(^10\).

Roles at all levels are to have specific responsibilities, required competencies, and authority permissions described within the person's position description. 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\(^11\).

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 Health, Safety, Environment and Training Manager (HSET Manager) and the Environmental Superintendent. Area Managers are responsible where certain aspects of this plan fall within their area of 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 HSET Manager and the General Manager on the performance of this plan, its review and recommendations for improvement where necessary.

---

\(^{6}\) HSEC MS Standard 1.10 Audits
\(^{7}\) HSEC MS Standard 1.6 Planning and Performance
\(^{8}\) HSEC MS Standard 1.1 Leadership and Commitment
\(^{9}\) HSEC MS Standard 1.1 Leadership and Commitment
\(^{10}\) MGX Organisational Structure
\(^{11}\) HSEC MS Standard 1.4 Contractor Management
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 minimising the 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.

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 contribute to the mitigation of environmental impacts in their work areas;
- Personnel are provided with the necessary time, resources and training to comply with relevant legislation, 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 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 the support of minimising 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 competency is managed internally in MGX through application of applicable internal standards and procedures.\(^{12}\)

4.8.1. Training Qualifications

HSEC Training and Awareness is delivered by a trained professional in HSE with formal qualifications in training and assessing. Some HSE training delivered on site is registered with training organizations and derived from units of competency recognised by the Australian Quality Training Framework (AQTF).

4.8.2. Inductions

All MGX employees and contractors are required to undertake the MGX HSE Induction prior to arrival on site. A site based induction is also delivered on Koolan Island for all employees and contractors prior to commencement of work (refer to EMP01 in this document).

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. Open Pit, Crusher 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.\(^ {13}\) Training needs are determined by the individual's specific roles and responsibilities and associated environmental responsibilities and relevant procedures and legal and other requirements pertinent to the area and to tasks being undertaken. Training formats may include:

- Inductions;
- Procedural training;
- Practical scenario based training (e.g. Minor spill response, emergency training)
- Environmental Awareness Training modules
- HSEC MS 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:

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

\(^ {12}\) MGX HSEC MS Standard 1.9 Training and Competency

\(^ {13}\) Intuition
4.8.5. Environmental Awareness

Environmental Awareness topics are presented to the KIOP workforce through several forums (4.8.1). 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 HSE 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. Environmental incident trends are communicated through monthly dashboards and displayed in the site conference room.

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
- Newsletters
- Posters
- Monthly internal reports

4.9.2. External Communication

The General Manager, in consultation with the HSET Manager is responsible for external communication in relation to matters concerning the environment. Authority is generally delegated to the Environment Superintendent. This includes but is not limited to communications with neighbouring government agencies and particularly in relation to reporting of incidents that may have occurred and environmental approval applications and reporting submitted.

Formal communication with community stakeholders including traditional owners is coordinated through the Corporate Environment and Community 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.
4.10. Document Control

KIOP applies site procedures around the control of document where practicable. 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 COO or CEO 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
- 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 a number of Environmental Management Procedures, each with a responsibility assigned.

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.

---

16 HSEC MS document structure
17 KIO.P Site HSEC Documents
18 MGX HSEC MS Standard 1.3 Event Management
4.13.1. Incident and Corrective Action

All events must be reported using the internal online event reporting tool available on the company intranet\(^{19}\).

The procedure for reporting incidents (events) is covered in section EMP-03 Event Reporting in this document\(^{20}\).

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\(^{21}\).

Events ranked as high to extreme risk may require notification to be reviewed by legal counsel and approved by the COO or CEO.

4.13.3. Corrective Actions

Corrective actions are dealt with as per Event Reporting Procedures and may be generated from a number of sources, including but not limited to incidents, audits, inspections and management reviews and 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 licences 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 to ensure compliance.

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

4.14.2. Reporting

Reporting of data acquired during monitoring (refer 4.13.1) is detailed in the appropriate EMP elements within this document.

Reporting to regulators is undertaken in accordance with approvals and licences. 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.

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* 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. The team leader is the General Manager or delegate and team members are drawn from functional groups across the Operation. 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.
4.18. Interaction with the Health and Safety Management Plan

Noise and airborne contaminants are addressed within the scope of the Health and Safety Management Plan and are not addressed in this OEMP. 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 annually. 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.
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 MS 25.

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 Corporate Manager Environment and Community. 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.
EMP – 01 Induction, Training & Policies

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Manager Health, Safety, Environment &amp; Training</td>
</tr>
</tbody>
</table>

**Objectives**
- Ensure personnel complete an induction that includes an environmental component prior to the commencement of work.
- To comply with MGX HSEC standards for training and competency.

**Management Measures**
- 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 MS and relevant legal requirements as well as the specific key environmental risks and environmental sensitivities relevant to the KIOP.

**Performance Indicators**
- All personnel and contractors have completed the site induction prior to commencement of work on site.
- The induction covers:
  - 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**
- Conduct annual reviews to check the currency of required environmental training for site personnel and contractors.

**Reporting**
- 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**
- MGX HSEC MS Standard 1.9 Training and Competency
- MGX HSEC MS Standard 1.1 Leadership and Commitment
EMP – 02 Site Risk Register

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
</tr>
<tr>
<td></td>
<td>Task Holder</td>
</tr>
<tr>
<td></td>
<td>Manager Health, Safety, Environment &amp; Training</td>
</tr>
</tbody>
</table>

Objectives
- Identify all environmental risks and controls associated with mining and operating activities and record them in the Site Risk Register (SRR).
- To comply with MGX standards for risk management.

Management
- The SRR for the mine site will be developed by each department in conjunction with the HSET Team;
- The SRR will be maintained by the Manager HSET and made available on the company intranet and a hard copy in the site conference room;
- 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
- The SRR will be maintained and updated quarterly.

Monitoring
- SRR reviewed and updated annually or more frequently if required;
- The SRR will be subject to internal and external audits.

Reporting
- Reported as compliant or non-compliant in audit reports.

Internal Reference Documents
- MGX HSEC MS Standard 1.2 Risk Management
- MGX HSEC MS Standard 1.5 Change Management
- INX InControl
**EMP – 03 Incident Reporting**

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
</tr>
<tr>
<td></td>
<td>Task Holder</td>
</tr>
<tr>
<td></td>
<td>Manager Health, Safety, Environment &amp; Training</td>
</tr>
</tbody>
</table>

**Objectives**
- All environmental, heritage and community incidents, near misses and hazards to be reported.
- To comply with HSEC MS Standards for event reporting.

**Management**
- 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**
- All incidents, near misses and hazards reported as per the relevant HSEC MS procedure;
- The General Manager will respond to complaints from the public via the Corporate Environment and Community Manager;
- All actions arising from incidents are closed out.

**Monitoring**
- Incident reporting procedures subject to internal and external audits;

**Reporting**
- Incident reporting will occur via the company online event reporting database
- 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**
- MGX HSEC MS Standard 1.3 Event Management
- Event Reporting Procedure
- INX InControl
EMP – 04 Cultural Heritage management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Corporate Environment and Community Manager</td>
</tr>
</tbody>
</table>

**Objectives**
- Avoid unauthorised disturbance to Aboriginal heritage sites;
- Ensure authorised disturbance complies with conditions of the ground disturbance approval and conditions of approval under the *Aboriginal Heritage Act 1972*.
- To comply with KIOP Ground Disturbance Procedures.
- To comply with HSEC MS Standards for Cultural Heritage Management.

**Management**
- Compliance with the KIOP Ground Disturbance Procedure;
- Approval for disturbance where required will be sought by MGX under section 18 of the *Aboriginal Heritage Act 1972*.
- There will be no disturbance to any Aboriginal heritage site without the express written consent from the Corporate Environment and Community Manager and authorisation from the Department of Indigenous Affairs under section 18 of the *Aboriginal Heritage Act 1972*.
- Aboriginal heritage management 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;
- Where practicable, the 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 Environment and Community Manager.
- Further information in relation to heritage management is contained in the co-existence agreement between MGX 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 Environment and Community Manager.

**Performance Indicators**
- 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**
- The Corporate Environment and Community Manager will conduct inspections as required to ensure compliance with the *Aboriginal Heritage Act 1972*.

**Reporting**
- 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**
- MGX HSEC MS 5.2 Cultural Heritage Management
- MGX HSEC MS 5.3 Social Impact Management
- Event Reporting Procedure
EMP – 05 Ground Disturbance

Responsibilities

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
</tr>
<tr>
<td>Task Holder</td>
<td>Manager Technical Services</td>
</tr>
</tbody>
</table>

Objectives

- To prevent unapproved clearing of land;
- To minimise adverse impacts from clearing;
- To comply with relevant Native Vegetation Clearing Regulations;
- To comply with Ministerial Statement 715 condition 9;
- To comply with KIOP Ground Disturbance Standards and Procedures.
- To comply with MGX HSEC Standards for Ground Disturbance

Permits/Approvals

- A Ground Disturbance Permit (GDP) is required prior to any ground disturbing activity.
- No ground disturbing work shall commence until:
  - 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 an Environment Officer and the boundaries and permit conditions have been communicated to the mobile plant operator.

Emergency Ground Disturbance

- 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 at 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 Corporate Environment and Community Manager 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 damage to 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

- 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;
• An estimate of the area to be disturbed and topsoil volumes to be moved and stored should be included in the GDP submission where practicable;
• 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.

Performance Indicators
• 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.

Monitoring
• 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.

Reporting
• Unauthorised clearing and non-compliance with AR permits shall be reported as per the MGX Event Report Procedure. Reports of unauthorised 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.

Approvals Reference Documents
• Ministerial Statement 715
• Koolan Island Northern Quoll Management Plan
• Koolan Island Significant Fauna Management Plan
• Koolan Island Significant Flora Management Plan

Internal Reference Documents
• MGX HSEC MS Standard 4.3 Ground Disturbance
• KIOP Vegetation Clearance and Soil Resource Management Procedure
• KIOP Ground Disturbance Permit Procedure
• Event Reporting Procedure
EMP – 06 Flora Management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
</tr>
<tr>
<td>Task Holder</td>
<td>Superintendent Environment</td>
</tr>
</tbody>
</table>

**Objectives**

- Minimise the loss of native vegetation and flora habitats;
- Protect Declared Rare and Priority Flora consistent with the provisions of the *Wildlife Conservation Act 1950* and flora listed under the *Environment Protection Biodiversity Conservation Act 1999* that occur within the operating area;
- To comply with Ministerial Statement 715 condition 9;
- Promote the natural return of vegetation and fauna;
- To comply with the *Koolan Island Significant Flora Management Plan*;
- To comply with relevant HSEC MS Standards;
- To comply with the Quarantine Management Plan.

**Permits/Approvals**

- 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.

**Management**

- 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. 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-06 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 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 EMP-06 Ground disturbance and EMP-13 Haul roads and access tracks 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 DPaW 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 DPaW;
- 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 DPaW.
### Performance Indicators
- 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;

### Monitoring
- The Superintendent Production and 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 DPaW.

### Reporting
- 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 DMP Annual Environment Report;
- Significant incidents shall be reported to the DMP 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.

### Approvals Reference Documents
- Ministerial Statement 715
- Koolan Island Quarantine Management Plan
- Koolan Island Significant Flora Management Plan

### Internal Reference Documents
- MGX HSEC MS Standard 4.9 Flora Management
- MGX HSEC MS Standard 4.3 Ground Disturbance
- KIOP Vegetation Clearance and Soil Resource Management Procedure
- KIOP Ground Disturbance Permit Procedure
- Event Reporting Procedure
EMP – 07 Weed Management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task Holder</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Environment Superintendent</td>
</tr>
<tr>
<td></td>
<td>Logistics Superintendent</td>
</tr>
</tbody>
</table>

Objectives
- To prevent the introduction and spread of weeds into and away from the mine site;
- To comply with the Koolan Island Quarantine Management Plan;
- To comply with the Koolan Island Significant Flora Management Plan;
- To comply with relevant HSEC MS Standards;
- To control/reduce existing infestations of target weed species on Koolan Island.

Management
- Known populations of weeds within the mine site will be demarcated on a site plan and weed layers kept in GIS and periodically updated;
- An annual weed survey shall be undertaken;
- A list and means of identifying 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 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.
- 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.

Performance Indicators
- 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 as a result of mine operation at shall be reported and controlled or eradicated.

Monitoring
- 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 as a result of construction works or operating activities will be managed in accordance with site procedures.

Reporting
The Equipment Hygiene Certificate 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 weeds and failures in the equipment hygiene procedure will be reported as an environmental incident as per the MGX 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.

**Approvals Reference Documents**

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

**Internal Reference Documents**

- MGX HSEC MS Standard 4.7 Quarantine Management
- MGX HSEC MS Standard 4.9 Flora Management
- MGX HSEC MS Standard 4.3 Ground Disturbance
- KIOP Vegetation Clearance and Soil Resource Management Procedure
- KIOP Ground Disturbance Permit Procedure
- Event Reporting Procedure
EMP – 08 Terrestrial Fauna

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**
- To protect native fauna consistent with the provisions of the *Wildlife Conservation Act 1950*, and protect threatened fauna listed under the *Environment Protection Biodiversity Conservation Act 1999*;
- To comply with *Ministerial Statement 715* condition 9 and 10;
- To minimise adverse impacts of operating activities on native fauna species;
- To comply with the *Koolan Island Significant Fauna Management Plan*;
- To comply with the *Koolan Island Northern Quoll Management Plan*;
- To comply with relevant MGX HSEC MS Standards;
- To comply with KIOP Ground Disturbance Permit procedures.

**Permits/Approvals**
- 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 *Significant Fauna Management Plan*;
- Stygofauna monitoring is required in accordance with the *Significant Fauna Management Plan*.
- Fauna avoidance and exclusion areas shall be demarcated in consultation with DPaW;
- Quoll relocation trapping will be undertaken, where appropriate, in accordance with the Northern Quoll Management Plan prior to clearing activities.

**Management**
- 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 MGX 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:
  - Bait programs on vessels
  - Vessel inspections prior to arrival and on arrival.
  - Inspection of quarantine paperwork on bulk ore carriers.

**Performance Indicators**
- Fauna protection requirements included in the site induction;
- Can toad identification poster available;
- 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 as soon as possible to facilitate fauna habitat restoration.

**Monitoring**

- 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 the *Northern Quoll Management Plan*.
- Subterranean Fauna and short range endemic surveys are undertaken in accordance with the *Koolan Island Significant Fauna Management Plan*.

**Reporting**

- 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 MGX Event Reporting Procedure.
- Any intentional tampering or harm to fauna by an individual shall be reported as an incident as per the MGX 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 DoE and DPaW.
- All incidents will be reported via the monthly board report and the Annual Environment Report and Annual Compliance Assessment Report and EPBC annual report.

**Approvals Reference Documents**

- Ministerial Statement 715
- Koolan Island Northern Quoll Management Plan
- Koolan Island Significant Fauna Management Plan

**Internal Reference Documents**

- MGX HSEC MS Standard 4.10 Fauna Management
- MGX HSEC MS Standard 4.3 Ground Disturbance
- MGX HSEC MS Standard 4.7 Quarantine Management
- KIOP Ground Disturbance Permit Procedure
- Event Reporting Procedure
### EMP – 09 Topsoil Management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

#### Objective
- To conserve and reuse soil resources for rehabilitation;
- To comply with relevant HSEC MS Standards;
- To comply with the Koolan Island Mine Closure Plan;
- To comply with site procedures for soil resource management.

#### Management
- All permits and approvals specified in EMP-05 Ground Disturbance will be followed;
- All 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
- 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
- Active topsoil stockpiles will be inspected regularly for erosion and weed control.

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

#### Internal Reference Documents
- MGX HSEC MS Standard 4.13 Rehabilitation
- MGX HSEC MS Standard 4.3 Ground Disturbance
- KIOP Vegetation Clearance and Soil Resource Management Procedure
- KIOP Ground Disturbance Permit Procedure
- Event Reporting Procedure
EMP – 10 Borrow Pits

Responsibilities

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>General Manager KIOP</td>
<td>Mine Manager</td>
</tr>
</tbody>
</table>

Objectives

- Minimise adverse environmental impacts from borrow pits;
- Minimise the impacts on surface drainage and long term visual impact of these areas;
- Follow the requirements of EMP05 Ground Disturbance Permit;
- Comply with applicable HSEC MS Standards.

Management

- 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 Health & Safety Management Plan.

Performance Indicators

- Compliance with the KIOP GDP procedure;
- Borrow pit inspections conducted as part of environmental inspection schedule.

Monitoring

- The Production Superintendent will inspect and arrange maintenance for erosion and sedimentation control structures during the wet season where appropriate.

Reporting

- 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

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

Internal Reference Documents

- MGX HSEC MS Standard 4.14 Mine Closure
- MGX HSEC MS Standard 4.13 Rehabilitation
- MGX HSEC MS Standard 4.3 Ground Disturbance
- KIOP Vegetation Clearance and Soil Resource Management Procedure
- KIOP Ground Disturbance Permit Procedure
- Event Reporting Procedure
EMP – 11 Waste Rock Dumps

Responsibilities

<table>
<thead>
<tr>
<th>Owner</th>
<th>General Manager KIOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Holder</td>
<td>Mine Manager</td>
</tr>
<tr>
<td></td>
<td>Technical Services Manager</td>
</tr>
</tbody>
</table>

Objective

- Minimise adverse environmental impacts from mine waste dumps;
- Minimise the long-term visual impact of these areas;
- Create stable, safe, free draining and non polluting landforms that have a self sustaining cover of locally native vegetation;
- To meet the requirements of the *Koolan Island Mine Closure Plan*;
- To meet relevant Mining Proposal and Tenement conditions;
- To meet the requirements of relevant internal HSEC MS Standards;
- To comply with Ministerial requirements.

Management

- The establishment of waste dumps will follow the GDP procedure;
- 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, fibrous, potentially acid forming and dispersive materials shall be encapsulated where practicable and in consultation with the DMP;
- 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 *Koolan Island Water Management Plan* will be complied with 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 MGX Mine Planners, Site Technical Services, Site Production and the Environment Superintendent.

Performance Indicators

- Compliance with the KIOP Ground Disturbance procedure;
- Maintenance and regular inspections of drainage and erosion control structures;
- Progressive rehabilitation in accordance with approved Rehabilitation Plans;
- Management of hostile materials in accordance with Mine Closure Guidelines.

Monitoring

- 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 MGX 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 MS Standard 4.14 Mine Closure
- MGX HSEC MS Standard 4.13 Rehabilitation
- MGX HSEC MS Standard 4.3 Ground Disturbance
- KIOP Vegetation Clearance and Soil Resource Management Procedure
- KIOP Ground Disturbance Permit Procedure
- Event Reporting Procedure
EMP – 12 Groundwater

**Responsibilities**

<table>
<thead>
<tr>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Manager KIOP</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**

- To manage the environmental impact associated with groundwater extraction and dewatering discharge from operating pits;
- To gain a better understanding of the regional hydrogeological system and collect adequate data to evaluate options for decommissioning of the final pit;
- To comply with *Ministerial Statement 715* condition 8;
- To comply with the requirements of the *Koolan Island Water Management Plan* and *Groundwater Operating Strategy*;
- To comply with the discharge requirements of the *Koolan Island Marine Management Plan*;
- To comply with the *Operating Licence L8148*;
- To comply with the *Koolan Island Drinking Water Quality Management Plan* (DWQMP).

**Permits/Approvals**

- Koolan Island is exempt under the Rights in *Water and Irrigation (RIWI)* Act 1914 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 DER;
- Potable water quality is managed on Koolan Island under a *Drinking Water Quality Management Plan* (DWQMP) endorsed by the Department of Health under the *Health Act 1911*;
- The Site Operating Licence L8148 issued under Part V of the *Environmental Protection Act 1986* regulates dewatering discharges.

**Management**

- 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;
- Annual Marine Monitoring is undertaken to measure potential littoral impacts in the marine environment due to dewatering discharge;
- 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
- 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
- Groundwater monitoring will comply with the conditions of the Operating licence and the Groundwater Operating Strategy and DWQMP.

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

### Internal Reference Documents
- MGX HSEC MS Standard 4.11 Marine Management
- MGX HSEC MS Standard 4.8 Water Management
- MGX HSEC MS Standard 2.6 Drinking Water
- Event Reporting Procedure
EMP – 13 Dust Emission Management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>General Manager KIOP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Task Holder</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**

- To minimise dust emission generated by the operation;
- To minimise the impact of dust emissions on surrounding vegetation;
- To minimise emissions of visible dust across the mining lease boundary;
- To meet internal HSEC MS Standards for air quality.

**Management**

- 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 Koolan Island Dust Management Plan as per MGX HSEC Standards;
- The potential to encounter fibrous material during mining operations is specifically addressed in the Koolan Island Safety Management Plan.

**Performance Indicators**

- Dust minimisation practices will be addressed in personnel inductions;
- Monitoring of dust levels around site as per the Koolan Island Dust Management Plan;
- Reduction of dust as per the Koolan Island Dust Management Plan.

**Monitoring**

- Regular inspections shall be undertaken to monitor fugitive dust emissions;
- Monitoring completed as per the Koolan Island Dust Management Plan.

**Reporting**

- 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**

- MGX HSEC MS Standard 4.4 Air Quality Management
EMP – 14 Surface Water

Responsibilities

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Superintendent</td>
</tr>
<tr>
<td>Infrastructure Maintenance Superintendent</td>
</tr>
<tr>
<td>Production Superintendent</td>
</tr>
</tbody>
</table>

Objectives

- To minimise the impacts on the quality and quantity of surface waters;
- To contain any contaminated water on site;
- To avoid discharge of contaminants to the marine environment;
- To maintain and avoid unnecessary disturbance to natural surface drainage;
- To comply with Ministerial Statement 715 condition 8.
- To comply with the Environmental Operating Licence L8148;
- To meet the requirements of the Koolan Island Water Management Plan;
- To meet the requirements of the Koolan Island Marine Management Plan;
- To meet the requirements of applicable internal HSEC MS Standards.

Permits/Approvals

- Licences will be obtained and kept current under Part V of the Environmental Protection Act 1986 for relevant water discharges;

Management

Watercourses and Water Quantity

- 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.

Water Quality

- 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 DER 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 annual 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 MS Standard 4.11 Marine Management](#)
- [MGX HSEC MS Standard 4.8 Water Management](#)
- [MGX HSEC MS Standard 4.3 Ground Disturbance](#)
- [Event Reporting Procedure](#)
EMP – 15 Marine Management

**Responsibilities**

<table>
<thead>
<tr>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Manager KIOP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Superintendent</td>
</tr>
<tr>
<td>Port Control Officer</td>
</tr>
</tbody>
</table>

**Objectives**

- To minimise the impacts on the quality and quantity of marine waters;
- To contain any potential marine contaminated on site;
- To avoid discharge of contaminants to the marine environment;
- To maintain and avoid unnecessary disturbance to littoral and benthic habitat;
- To avoid impact on marine fauna species including cetaceans;
- To comply with the Environmental Operating Licence L8148;
- To comply with Ministerial Statement 715 condition 6 and 7.
- To meet the requirements of the Koolan Island Water Management Plan;
- To meet the requirements of the Koolan Island Marine Management Plan;
- To meet the requirements of the Koolan Island Quarantine Management Plan;
- To meet the requirement of the Marine Oil Spill Contingency Plan;
- To meet the requirements of applicable internal HSEC MS Standards.

**Permits/Approvals**

- Licences will be obtained and kept current under Part V of the Environmental Protection Act 1986 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**

**Vessels**

- 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.

**Water Quality**

- 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;
• 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.

Performance Indicators
• Implementation of the Marine Management Plan;
• Compliance with the conditions of the DER Operating Licences issued under the Environmental Protection Act 1986.

Monitoring
• The monitoring commitments specified in the Marine Management Plan will be implemented;
• The monitoring commitments specified in the Operating Licence L8148 and Water Management Plan will be implemented;
• Vessel inspection and quarantine compliance inspections shall be undertaken in accordance with legislative requirements and the Quarantine Management Plan;
• 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;
• 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.

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
• Koolan Island Quarantine Management Plan

Internal Reference Documents
• MGX HSEC MS Standard 4.11 Marine Management
• MGX HSEC MS Standard 4.8 Water Management
• MGX HSEC MS Standard 4.3 Ground Disturbance
• MGX HSEC MS Standard 4.7 Quarantine Management
• Event Reporting Procedure
EMP – 16 Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objective**
- To promote energy efficiency and ensure reporting requirements are met.
- To meet the requirements of applicable MGX HSEC MS Standards.

**Management**
- Where practicable and cost effective recycling facilities will be made available on site to collect recyclable materials for transport to offsite 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**
- Where practicable recycling facilities implemented and operation demonstrating diversion of waste streams from landfill;
- Energy efficiency promotional material available on site.

**Monitoring**
- 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**
- 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**
- MGX HSEC MS Standard 4.5 Greenhouse Gas Emissions
- MGX HSEC MS Standard 4.12 Waste Management
EMP – 17 Hazardous Material Management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
</tr>
<tr>
<td>Task Holder</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**

- To ensure that the transport, handling and storage of hazardous materials are in accordance with the MGX HSEC MS Standards, the Explosives and Dangerous Goods Act 1961, the Dangerous Goods Safety Act 2004 and associated regulations and licence conditions;
- To collect, treat, transport and dispose of wastes in an environmentally acceptable manner in accordance with relevant legislation;
- To meet the requirements of applicable HSEC MS Standards;
- To minimise the environmental impact of waste disposal.

**Management**

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.

Where applicable, storage will comply with Dangerous Goods licence DGS021460 and Explosives storage and handling licences issued by DMP.

**Bulk Hydrocarbon & Chemical Storage**

- 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.

**Minor Hydrocarbon & Chemical Storage**

- 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.

**Explosives**

- Explosives will be stored in accordance with the Mines Safety and Inspection Regulations (1995).

**Pipelines**

- 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.

**Spills**

- 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;
- Competency based Spill response training to be delivered to relevant personnel.
### Waste Disposal
- 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 bunded areas or purpose built self bunded 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 *Environmental Protection (Controlled Waste) Regulations 2004*.

### Contaminated Sites
- A list of areas identified as having the potential to be contaminated or being contaminated will be maintained on a site register and within the contaminated sites layer on GIS.

### Performance Indicators
- All chemicals and other hazardous materials will be retained within impervious holding facilities;
- Storage of bulk fuels and chemicals in accordance with DMP licence requirements and associated code and regulations;
- Transport of Controlled Waste will be done in accordance with *Environmental Protection (Controlled Waste Regulations) 2004* and site logistical procedures;
- Material Safety Data Sheets are available to all employees and contractors.

### Monitoring
- 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.

### Reporting
- 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 DMP and DER where required under licence and tenement conditions;
- All incidents will be reported via the monthly board report and the Annual Environment Report.

### Approvals Reference Documents
- Operating Licence L8148
- Dangerous Goods licence DGS021460

### Internal Reference Documents
- MGX HSEC MS Standard 2.7 Hazardous Materials
- Event Reporting Procedure
EMP – 18 Waste Management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**
- To minimise the generation of waste wherever practicable;
- To meet the requirements of applicable HSEC MS Standards;
- To dispose of waste in an environmentally acceptable manner compliant with regulatory requirements.

**Permits**
- A site landfill will be licensed by the DER and operated in accordance with licence conditions.

**Management**
- Waste will be managed in accordance with the Operating Licence and site procedures;
- Recyclable materials will be collected and transported for onsite 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**
- Compliance with the requirements of the DER Works Approvals and Operating Licences;
- Weekly housekeeping inspections at the landfill.

**Monitoring**
- 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**
- Volumes of waste material and recycled material will be reported via monthly site reporting, and the Annual Environment Report.

**Approvals Reference Documents**
- Operating Licence L8148

**Internal Reference Documents**
- MGX HSEC MS Standard 4.12 Waste Management
- Event Reporting Procedure
EMP – 19 Landfarm Management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**

- To ensure landfarm / bioremediation management practices comply with Operating Licence conditions and KIOP procedures;
- To ensure that the risk of site contamination is minimised through bioremediation of hydrocarbon contaminated soils;
- To meet the requirements of applicable HSEC MS Standards.

**Management**

*Design and Construction*

- 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.

*Drainage*

- 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;

*Operation*

- 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**

- 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
- DER *Operating Licence L8148*

### Internal Reference Documents
- *MGX HSEC MS Standard 4.6 Contamination Management*
- *Event Reporting Procedure*
EMP – 20 Contaminated Sites

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**
- To ensure contaminated sites do not pose a risk of harm to human health or environmental value;
- To comply with the requirements of *Ministerial Statement 715* condition 13;
- To comply with the requirements of the *Koolan Island Contamination Management Plan*.
- To meet applicable internal HSEC MS Standards;
- To comply with the *Contaminated Sites Act 2003*.

**Management**
- All contaminated and potentially contaminated sites will be identified and recorded on the contaminated sites layer on GIS;
- 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, DER licence conditions and general provisions of the *Environmental Protection Act 1986*, and associated Contaminated Site Management guidelines.
- A remediation management plan developed for each identified contaminated site shall be developed.

**Performance Indicators**
- All contaminated and potentially contaminated sites identified and registered;
- 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**
- Identified sites will be regularly inspected to ensure the management plan is implemented.

**Reporting**
- Contaminated sites information will be reported in the Annual Environment Report.

**Approvals Reference Documents**
- *Operating Licence L8148*
- *Ministerial Statement 715*
- *Koolan Island Contamination Management Plan*

**Internal Reference Documents**
- *MGX HSEC MS Standard 4.6 Contamination Management*
- *Event Reporting Procedure*
EMP – 21 Rehabilitation

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
<th>Task Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
<td>Environment Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**

- To 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.
- To meet requirements of the *Koolan Island Mine Closure Plan*.
- To comply with *Ministerial Statement 715* condition 6.
- To meet tenement conditions.
- To meet applicable internal HSEC MS Standards.

**Management**

- 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 discouragement use.

**Performance Indicators**

- All temporary areas impacted to be rehabilitated according to this EMP;
- Rehabilitation is completed as per approved Rehabilitation Plans;
- Opportunities for progressive rehabilitation are identified, planned and implemented though the long term mine planning process and site targets;
- A mine closure plan is approved and reviewed during life of mine.

**Monitoring**

- 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 success;
- Rehabilitation shall be routinely monitored for weeds and treated where required. Remedial works shall be undertaken to address erosion where practicable.
Reporting
- Rehabilitated areas (ha) will be reported in the Annual Environment Report.
- Results of any rehabilitation monitoring to be reported in the Annual Environment Report.

Approvals Reference Documents
- Ministerial Statement 715
- Koolan Island Mine Closure Plan
- Tenement Conditions
- Mining Proposals

Internal Reference Documents
- MGX HSEC MS Standard 4.13 Rehabilitation
- MGX HSEC MS Standard 4.14 Mine Closure
- Event Reporting Procedure
EMP – 22 Fire Management

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Manager KIOP</td>
</tr>
<tr>
<td></td>
<td>Task Holder</td>
</tr>
<tr>
<td></td>
<td>Health, Safety and Training Superintendent</td>
</tr>
</tbody>
</table>

**Objectives**

- To reduce the risk of wildfire on human life, property and the environment.
- To prevent, contain and control fires on Koolan Island.
- To meet requirements of the Koolan Island Crisis and Emergency Management Plan, the Koolan Island Fire Management Plan and associated procedures.
- To meet applicable internal HSEC MS Standards.

**Management**

- 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 DMP;
- 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**

- 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**

- The Environment Superintendent will check areas that have been disturbed by fire and record area and scale of impact to the OEPA and DMP;
- 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 DMP;
- 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 MS Standard 4.15 Fire Management
- MGX HSEC MS Standard 1.7 Crisis and Emergency Management
- Koolan Island Fire Management Plan
- Event Reporting Procedure
## 6. REVIEW RECORDS

<table>
<thead>
<tr>
<th>Rev</th>
<th>Date</th>
<th>Revision description</th>
<th>By</th>
<th>Check</th>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12/12/2014</td>
<td>APPROVED FOR ISSUE</td>
<td>JT</td>
<td>GP</td>
<td>SDK</td>
</tr>
</tbody>
</table>


THIS PAGE IS BLANK