



## 12 MANAGEMENT FRAMEWORK

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### 12.1 Environmental management policy

The proponent is committed to reducing the impact of its operations on the environment. The key principles and actions underpinning its Environmental Management Policy (Appendix A.17) are:

- Incorporate environmental management as part of business activities.
- Monitor and measure environmental performance to ensure continual improvement.
- Periodically review, receive feedback and improve its Environmental Policy and Procedures.

Its environmental objectives are to:

- Operate in a responsible manner that respects the environment at all stages of business.
- Encourage new ways of minimising environmental impacts.
- Strengthen partnerships with stakeholders to achieve objectives and obligations.
- Strive to effectively manage resources, reduce waste and eliminate or minimise adverse environmental effects and risks associated with operations.
- Meet and, where appropriate, exceed applicable environmental laws, statutory obligations and relevant voluntary codes of practice.
- Protect natural, historic and culturally significant sites.

To achieve these objectives, the proponent would act to:

- Ensure that all people who work or visit its operations are aware of and have the necessary skills to fulfil their environmental obligations.
- Openly communicate its environmental performance with its workforce, government and the wider community.
- Ensure high levels of management and staff involvement in achieving stated objectives.

The proponent's Environmental Management Policy is applicable to all its directors and employees. It expresses an ongoing commitment to understand, abide by and regularly review these Key Principles and Actions.

The Environmental Management Policy is the foundation of the EMS and provides the framework for setting and reviewing objectives and targets.

### 12.2 Environmental management system

The proponent maintains and continuously improves an EMS that complies with the requirements of the International Standard *ISO 14001:2015 Environmental Management Systems*. The EMS would be used by the proponent to manage its environmental responsibilities, manage environmental impacts



of the operation, and ensure that effective management of the environment is integral to its operations.

Once all necessary environmental approvals have been obtained for the Proposal, the proponent would update the EMS with management plans and operational procedures relevant to the construction, operation and closure of the Facility.

### **12.2.1 Planning**

This component of the proponent's EMS consists of the following elements: environmental aspects, legal and other requirements, objectives and targets, and environmental management programs.

#### *Environmental aspects and impacts*

The proponent has established System Procedure *SP-01 Environmental Planning – Aspects and Impacts* to identify the environmental aspects of its current activities, products and services. The proponent has also detailed methods in SP-01 to determine which of those environmental aspects have a significant impact on the environment.

It is proposed that a comprehensive workshop would be conducted to revise the Environmental Aspects and Impacts procedure including a risk analysis to incorporate activities from the Proposal.

#### *Legal and other requirements*

All legal requirements would be updated in regards to the Proposal including requirements under the Ministerial Statement issued.

#### *Objective and targets*

The proponent has established System Procedure *SP-03 Objectives and Targets* to identify environmental objectives and quantifiable targets which meet the company's Environmental Management Policy. These environmental objectives and targets would be reassessed in light of the Proposal.

#### *Environmental management program*

An Environmental Management Program has been developed for the purpose of turning the objectives and targets into actions. The Environmental Management Program includes performance indicators that would be used to assess environmental performance. This program would be updated in light of the revised *SP-03 Objectives and Targets*.

EMPs being developed for Sandy Ridge are as follows:

- Construction Environmental Management Plan (to incorporate conditions and commitments from the environmental assessment and other approval processes)
- *Surface Water Management Plan* (see Appendix A.10).



- *Radiation Waste Management Plan* (see Appendix A.14).
- *Mine Closure Plan* (see Appendix A.19).
- *Waste Facility Decommissioning and Closure Plan* (see Appendix A.18).
- *Conceptual Emergency Response and Management Plan* (Appendix A.22).
- *Drinking Water Quality Management Plan* (see Appendix A.20).
- Class II Landfill Post Closure Management Plan (prepared prior to closure of the landfill and Proposal life i.e. 25 years).

### *Implementation and operation*

This component of the proponent's EMS is concerned with the implementation of the EMS and the development of necessary capabilities and support mechanisms to achieve the proponent's environmental policy, objectives and targets. This component consists of the following elements:

- Structure and responsibility.
- Training awareness and competence.
- Communication.
- Environmental management system documentation.
- Document control.
- Operational control.
- Emergency preparedness and response.

All components of implementation and operation would be reviewed in light of the Proposal. Particular emphasis and resources would be employed in the area of operational control and emergency preparedness and response.

### *Operational control*

Numerous environmental operational procedures would be developed for the EMS including:

- Vegetation clearing.
- Topsoil management.
- Flora management.
- Heritage management.
- Spill response.
- Oily waste treatment.
- Waste management.



- Chemical management.

Results of the proposed workshop conducted to identify potential adverse impacts would guide the development of new operational procedures. Other operating procedures not necessarily for environmental protection that would guide the operations of the Proposal are listed in Appendix A.16.

#### *Checking and corrective action*

This component of the proponent's EMS relates to the monitoring and evaluation of the proponent's environmental performance and consists of the following elements:

- Monitoring and measurement.
- Non-conformance and corrective and preventive action.
- Records.
- Environmental management system audit.
- Management review.

It is anticipated that internal audits would be programmed while integrating the Proposal into the proponent's EMS.

#### *Review and improvement*

System Procedure *SP-12 Management Review* was implemented for senior management to undertake reviews to assess the ongoing suitability and effectiveness of the EMS. It is anticipated that the frequency of Management Reviews would need to increase in light of incorporating the Proposal.

### **12.3 Summary of proposed environmental mitigation**

In accordance with the EPBC Regulations, Table 12-1 presents a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation measures proposed to be taken by the WA Governments, local governments or the proponent.



Table 12-1 Summary of environmental mitigation and management measures

Environmental factor/proposed action	Mitigation measures	To be undertaken by:
<b>Flora and vegetation</b>	Develop and implement a CEMP which outlines management and mitigation measures to address potential impacts on flora and vegetation values. A list of measures to be included is provided in Section 10.2.4	The proponent
	Implement fire prevention and management measures to be outlined in a Fire Management Plan.	The proponent
	Rehabilitation of disturbed areas in accordance with the MCP and WFDCP.	The proponent and WA Government
<b>Terrestrial environmental quality</b>	Spill response operational procedures would be implemented. Visual assessments and rapid clean-up of any spill would ensure the extent of the spill is small, and efficient and effective clean-up would minimise dust generation.	The proponent
	The proponent would ensure all operators are trained and familiar with operational procedures and are educated regularly at toolbox meetings. There would be onsite traffic management, including speed limits and two-way communication between all vehicles, to mitigate potential spills.	The proponent
<b>Terrestrial fauna</b>	Pre-clearing surveys would be conducted prior to any ground disturbance to determine if there are any signs of conservation significant fauna activity within the area proposed for clearing.	The proponent
	The CEMP would include fauna management measures to minimise, manage and monitor potential impacts on fauna from the Proposal. A list of measures to be included is provided in Section 10.4.4.	The proponent
	Once detailed design has been completed, include fire prevention measures within a Fire Management Plan.	The proponent
	Rehabilitation of disturbed areas in accordance with the MCP and WFDCP.	The proponent and WA Government
<b>Inland waters environmental quality</b>	Implement an Erosion and Sedimentation Control Plan.	The proponent
	Surface water management measures (e.g. roof canopy, operational bunding, V drains and sumps) would be implemented to protect surface water quality by ensuring it is diverted from operational areas.	The proponent
	Spill response operational procedures would be implemented.	The proponent
	Continue to undertake regular monitoring of the site's existing bore holes.	The proponent
	Continue to undertake weather monitoring and recording.	The proponent



Environmental factor/proposed action	Mitigation measures	To be undertaken by:
	Undertake subsidence monitoring in accordance with the WFDCP.	The proponent
	Hydrogeological modelling is currently being verified by collecting soil moisture data and temperatures at various depths above the silcrete to establish soil moisture profiles during rain events and subsequent dry periods. This would be reported during construction and operation.	The proponent
	Once detailed design has been completed, mapping of potential surface water flooding based on the Rockwater report (2015) would be prepared. This information would form part of the proposed CEMP for the Proposal.	The proponent
	It is recommended that six waterway crossing be constructed as floodways without any raised embankment in order to minimise scouring along the proposed access road. The road should be aligned to the east, where practical, to avoid the depression at site R5.	The proponent
	<p>Retaining water near the surface is important so it is allowed to evaporate/evapotranspire. By doing this, it would reduce potential recharge to less than 0.1 mm/year below the proposed clay cap area.</p> <p>Groundwater and climate monitoring should continue through the development of the Proposal. The monitoring of soil moisture probes to establish soil moisture profiles during rain events and dry periods, and at various depths, was installed in April 2016. The proponent would run analysis of both winter and summer soil moisture data in April 2017 to validate soil moisture profiles at the proposed Sandy Ridge site.</p>	The proponent
<b>Human health</b>	<p>The Outline Safety Case is a living document. It would be updated at each step of the development of the Facility, e.g. detailed design, during construction, operation and after closure. The following measures would be addressed as part of a detailed Safety Case:</p> <ul style="list-style-type: none"> <li>● Implement strict WAC.</li> <li>● Store waste material according to zoning scheme.</li> <li>● Provide extensive training to Sandy Ridge Facility workers.</li> <li>● Enforce appropriate use of personal protective equipment.</li> <li>● Conduct regular toolbox meetings to promote awareness of risks.</li> <li>● Develop clear operational procedures for handling dangerous goods.</li> <li>● Ensure all machinery and equipment used in handling is maintained.</li> </ul>	The proponent



Environmental factor/proposed action	Mitigation measures	To be undertaken by:
	<ul style="list-style-type: none"> <li>• Include spill controls in design of waste isolation pits such as bunds.</li> <li>• Include fire detection and suppression systems in Facility design.</li> <li>• Maintain an emergency response and management plan.</li> </ul>	
	Update and implement the Outline Operating Strategy.	The proponent
	Upon completion of detailed design, implement a site specific WAC policy document that is underpinned by the Operating Strategy.	The proponent
	The wastewater treatment system proposed to be installed would meet Shire of Coolgardie requirements.	The proponent
	<ul style="list-style-type: none"> <li>• Limit the potential for airborne asbestos fibres to be generated through stabilisation and dust control measures.</li> <li>• Limit potential for airborne asbestos to be inhaled by ensuring only people who need be in the vicinity are and they are protected with suitable PPE.</li> </ul>	The proponent
	Implement the Drinking Water Quality Management Plan.	The proponent
	Implement the Radioactive Waste Management Plan.	The proponent
	Implement human health monitoring as outlined in the Radiation Waste Management Plan (Appendix A.14).	The proponent
	Best practice noise management would be implemented during operation of the mine to ensure compliance is achieved with the Environmental Protection (Noise) Regulations 1997.	The proponent
<b>Heritage</b>	<p>There are no known records of heritage items (Aboriginal or European) within or in close proximity to the proposed development envelope as confirmed via online database searches (WA Department of Aboriginal Affairs Site Register, State Heritage Register [inHerit], World Heritage Register, National Heritage Register, Commonwealth Heritage Register and the Australian Heritage Database). In addition, a search of the Land, Approvals and Native Title Unit indicated there are no registered native title claims over the proposed development envelope (Government of Western Australia, 2015).</p> <p>Field surveys did not record any heritage items (registered or previously unrecorded) or ethnographic values within the proposed development envelope. The field surveys were conducted in consultation with representatives of the Kapam Native Title Group, Kelamaia Kabu(d)n and Widji Group.</p>	The proponent



Environmental factor/proposed action	Mitigation measures	To be undertaken by:
<b>Amenity</b>	Dust suppression and management measures would be implemented to minimise dust impacts where possible. This would include: <ul style="list-style-type: none"> <li>• Application of dust suppression methods along internal access roads and hard stand areas using watercarts during dry, dusty periods.</li> <li>• Weather conditions would be monitored prior to mining activities most likely to generate dust (i.e. vegetation removal, topsoil and subsoil stripping, and blasting).</li> <li>• Dust deposition gauges would be installed on the proposed development envelope boundaries nearest to the IWDF and the former Jaurdi Pastoral Lease and monitored quarterly for the initial 12 months. The final locations of dust deposition gauges would be identified in consultation with the DER.</li> </ul>	The proponent
	Disposal cells would be rehabilitated on completion of subsidence monitoring with the objective of producing a surface slightly mounded above the existing natural surface that is vegetated.	The proponent
	Following closure of the mine, all mining related infrastructure would be removed and disturbed areas would be rehabilitated.	The proponent
<b>Rehabilitation and decommissioning</b>	Implement the MCP.	The proponent
	The MCP would be reviewed and revised as appropriate by the proponent every three years or such other time as specified in writing by the EPA or DMP. The next review date would follow Ministerial Approval in order to include relevant conditions or requirements regarding closure.	The proponent
	Implement the WFDCP.	The proponent/WA Government
	The WFDCP would be reviewed and revised as appropriate by the proponent every three years or such other time as specified in writing by the EPA or DER. The next review date would follow Ministerial Approval in order to include relevant conditions or requirements regarding closure.	The proponent/WA Government
<b>Nuclear action</b>	Once all necessary environmental approvals have been obtained for the Proposal, the proponent would update the EMS with management plans and operational procedures relevant to the construction, operation and closure of the Proposal.	The proponent