



# CHAPTER 24

## ENVIRONMENTAL MANAGEMENT



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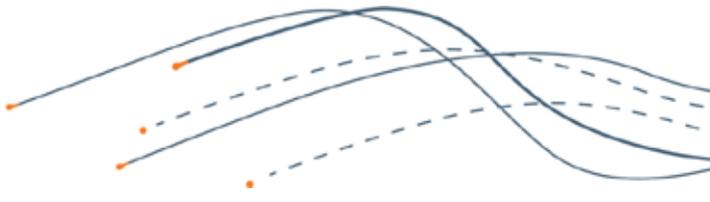
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## 24 Environmental Management

This chapter describes the environmental management framework for the CEIP Infrastructure. It describes Iron Road's environmental management system (EMS) and the overarching environmental management process to be implemented during the Construction and Operation phases of the project.

### 24.1 Environmental Management System

An EMS provides the means to identify, manage and monitor environmental risk associated with an organisation's activities, products and services. Such systems focus on pollution prevention, resource management and continuous improvement in environmental performance, and also provide the means to demonstrate ongoing environmental compliance.

Iron Road is developing an EMS consistent with AS/NZS ISO 14001:2004 *Environmental Management Systems*. The elements of the EMS are described below. The EMS will be prepared and subject to ongoing review using the 'plan-do-check-act' approach as outlined in Figure 24-1.

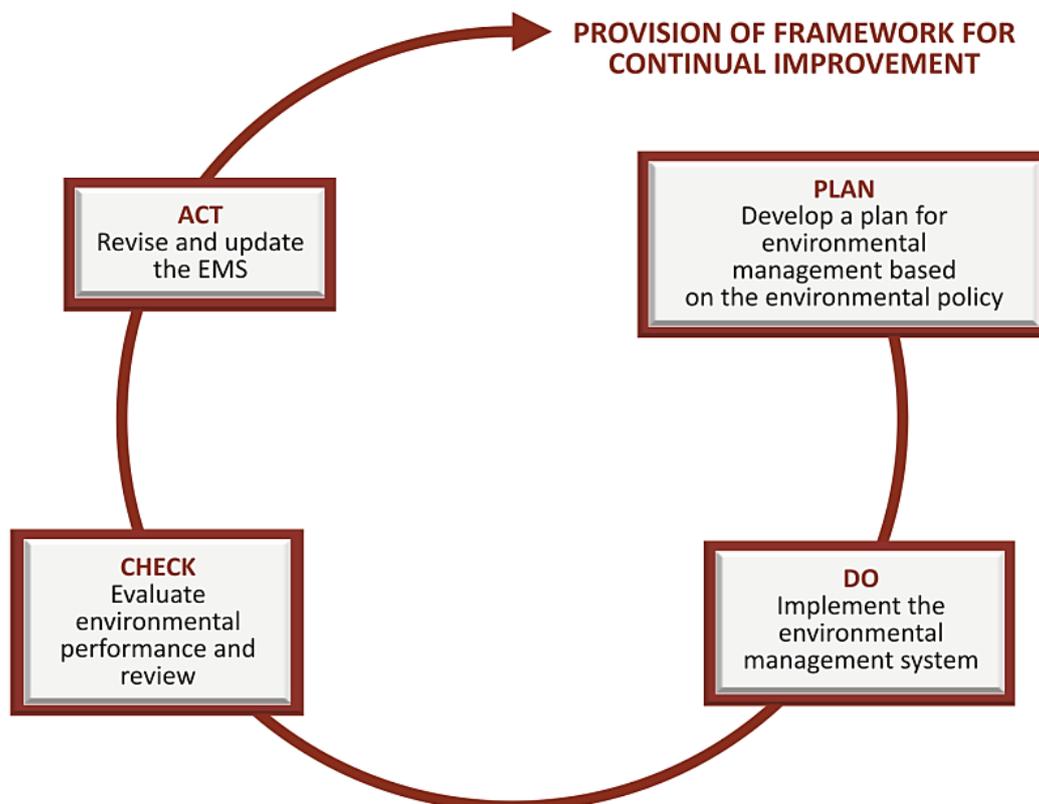


Figure 24-1 Plan-Do-Check-Act Cycle for Continual Improvement

Implementation of the EMS for the CEIP Infrastructure will occur through construction and operational Environmental Management Plans (EMPs). These plans are described in Section 24.2 and included as a draft in Appendix AA and BB respectively.

The draft construction EMP and draft Operational EMP describe Iron Road's commitments that will be observed to meet conditions (if any) and to mitigate and manage potential adverse effects of the project on the environment.

The EMS will be finalised and approved for implementation prior to commencement of construction.

#### **24.1.1 Scope**

The EMS will apply to the construction and operation of the CEIP Infrastructure including the port, infrastructure corridor (including railway line, borefield and transmission line) and the long-term employee village adjacent to Wudinna. It will apply to all contractors and sub-contractors, but not to suppliers. It will also apply to Iron Road offices and the mine site, although these are not covered by this EIS.

#### **24.1.2 Environmental Policy**

Iron Road has an existing environmental policy (included in Appendix B) which commits the Company to act in a way that enhances the environment. The policy recognises that sound environmental performance is an important part of business and for the communities in which Iron Road operates. Iron Road aims to work with the community towards a bright and confident future that benefits the region's economic, social and environmental goals. Iron Road seeks to do this by providing a net benefit for the environment and communities. To achieve this Iron Road will:

- Meet or exceed all relevant environmental laws, regulations and approval conditions.
- Identify, monitor and manage all environmental aspects of its business to maximise benefits and minimise adverse environmental impacts, including preventing pollution.
- Strive for excellence in environmental performance through setting goals in consultation with the community.
- Improve performance by undertaking appropriate environmental research and development, preferably utilising a partnership approach.
- Ensure the organisation's environmental systems and procedures are appropriate to the nature and scale of its activities and are fully integrated into the business.
- Train and support its employees and contractors and ensure the organisation has the necessary skills and technology to meet or exceed Iron Road's environmental performance expectations.
- Develop, implement and continually improve work practices that enable the organisation to identify, assess and manage environmental risks and opportunities.
- Communicate, engage and build trust with communities, regulators and other stakeholders on Iron Road's environmental performance.
- Publicly report the organisation's environmental performance on a regular basis.
- Provide adequate resources to implement and regularly review the Iron Road Environmental Policy.

Iron Road's environmental policy was last revised and approved by the Managing Director in February 2015. It will be reviewed every two years. The endorsed Environmental Policy will be made available to all personnel through the Iron Road intranet and on notice boards.

### 24.1.3 Environmental Aspects

Environmental aspects are defined as elements of an organisation's activities, products or services that can interact with the environment. A significant environmental aspect has, or can have, a significant environmental impact (AS/NZS ISO 14001:2004). Iron Road has identified its significant environmental aspects as shown in Table 24-1. These are based on the environmental assessment undertaken for the CEIP. Iron Road will review its environmental aspects:

- During the environmental assessment of any new projects, or extensions to existing projects
- Where a review of an EMP highlights the need to review the list of significant environmental aspects
- When substantial new relevant information becomes available
- Otherwise, at an interval of no less than three years

The construction and operational EMPs address the significant environmental aspects and describe management strategies to mitigate the impacts and risks associated with those aspects.

### 24.1.4 Legal and Other Requirements

Iron Road must comply with a range of legislation, policies and other requirements as identified in Chapter 5, Statutory Framework. A list of these requirements will be maintained and reviewed on an annual basis, or as Iron Road becomes aware of any change. Documents not available publicly via the web will be made available to staff through Iron Road's document management system.

Iron Road is committed to complying with the general environmental duty under the *Environment Protection Act* and relevant environment protection policies under that Act.

The construction and operational EMPs will provide the framework for achieving and demonstrating compliance with regulatory requirements (including the general environmental duty), environmental protection policies and relevant guidelines and codes of practice. The specific requirements for each environmental aspect are identified in the EMPs and incorporated, where appropriate, in the performance indicators.

### 24.1.5 Objectives and Targets

The EMS process requires Iron Road to set objectives and targets to manage significant aspects for the CEIP Infrastructure. The objectives state what Iron Road intends to achieve during the life of the CEIP Infrastructure (i.e. the overall goals for environmental performance to meet the commitments of the Iron Road's Environmental Policy and address project-based environmental risks). The targets define the performance level and timeframe to meet specified objectives. Objectives and targets (performance indicators) for the CEIP Infrastructure are incorporated in the draft EMPs (see Appendix AA and BB). The objectives are summarised in Table 24-1.

Most of the company-wide environmental aspects apply to both construction and operations, while some aspects are specific to one project phase. This approach has been taken to minimise duplication of information presented in the EMPs. Aspects specific to either construction or operations are identified in parentheses in Table 24-1.

Table 24-1 Environmental Aspects and Objectives

Environmental Aspect	Objectives
<b>Land Disturbance (construction)</b>	
<ul style="list-style-type: none"> <li>• Soil disturbance and changes to surface water flows</li> <li>• Vegetation clearance</li> <li>• Potential disturbance of heritage sites</li> <li>• Marine disturbance</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain the quality of land and soils so that the ecological and social environment values are protected.</li> <li>• Manage the hydrological regimes of surface water so that existing and potential uses, including ecosystem maintenance, are protected.</li> <li>• Minimise vegetation clearance required for Iron Road's activities and ensure it is offset by long-term actions that deliver a significant environmental benefit.</li> <li>• Maintain representation, diversity, viability and ecological function of flora and fauna at the species, population and community/assemblage level.</li> <li>• Prevent unauthorised disturbance to Aboriginal or Non-Aboriginal heritage.</li> <li>• Maintain the structure, function, diversity, distribution and viability of coastal and marine communities and habitats at local and regional scales.</li> </ul>
<b>Interaction with Natural Resources</b>	
<ul style="list-style-type: none"> <li>• Potential introduction and spread of pest plants and animals</li> <li>• Fauna interactions</li> <li>• Groundwater drawdown and seepage to groundwater</li> <li>• Ship loading and shipping activities (operations)</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain representation, diversity, viability and ecological function of flora and fauna at the species, population and community/assemblage level.</li> <li>• Maintain the quality and hydrological regimes of groundwater so that environmental values, both ecological and social, are protected.</li> <li>• Maintain the structure, function, diversity, distribution and viability of coastal and marine communities and habitats at local and regional scales.</li> <li>• Manage ground, surface and marine water quality so that environmental values, both ecological and social, are protected.</li> </ul>
<b>Emissions from Industrial Systems</b>	
<ul style="list-style-type: none"> <li>• Particulate emissions</li> <li>• Noise and vibration generation (terrestrial and marine)</li> <li>• Greenhouse gas emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain air quality for the protection of the environment and human health and amenity.</li> <li>• Manage noise and vibration generation for the protection of the environment and human health and amenity.</li> <li>• Implement reasonable measures to minimise greenhouse gas emissions during development and operation of Iron Road's projects.</li> </ul>
<b>Generation of Industrial Wastes and Discharges</b>	
<ul style="list-style-type: none"> <li>• Stormwater discharge (operations)</li> <li>• Accidental release from chemical/hydrocarbon storage</li> <li>• Waste generation</li> </ul>	<ul style="list-style-type: none"> <li>• Manage ground, surface and marine water quality so that environmental values, both ecological and social, are protected.</li> <li>• Ensure that human health and safety is not adversely affected.</li> <li>• Maintain the quality of land, soils and surface water so that the environment values, both ecological and social, are protected.</li> <li>• Minimise any adverse environmental impacts from wastes and to implement reasonable measures to minimise their generation, to maximise their reuse and recycling, and to ensure safe and lawful disposal of all waste.</li> </ul>

Environmental Aspect	Objectives
<b>Community Interactions</b>	
<ul style="list-style-type: none"> <li>• Employment and demand for business services</li> <li>• Accommodation of employees/contractors</li> <li>• Changes to land access</li> <li>• Traffic generation</li> <li>• Changes to visual amenity (operational)</li> <li>• Fire risk</li> </ul>	<ul style="list-style-type: none"> <li>• Contribute positively to the social and economic capital of the communities in which Iron Road operates.</li> <li>• Maximise opportunities for local and regional businesses in Iron Road's operations.</li> <li>• Treat other land users with respect, minimise impacts and compensate fairly where impacts are recognised and are unavoidable.</li> <li>• Ensure that human health and safety is not adversely affected.</li> <li>• Ensure that impacts to amenity are reduced to as low as reasonably practicable (ALARP).</li> </ul>

### 24.1.6 Implementation

Implementation of the EMS will occur through project-specific EMPs and procedures. Iron Road's primary mechanism for implementing the processes in its EMS for the CEIP Infrastructure is through a construction EMP and operational EMP. Draft EMPs are provided in Appendix AA and BB and discussed in Section 24.2.

### 24.1.7 Roles and Responsibilities

All personnel involved in the project, including Iron Road employees, contractors and sub-contractors, are required to undertake work in accordance with the EMPs and the EMS. The Iron Road General Manager is responsible for the effective implementation of the EMPs through the Environment Manager.

Key roles and responsibilities for implementation of the EMS during construction are summarised in Table 24-2. Post construction, all responsibilities will transfer to the ongoing senior management team for CEIP operations.

**Table 24-2 EMS Roles and Responsibilities during Construction**

Role	Responsibilities
General Manager	<ul style="list-style-type: none"> <li>• Promoting the culture for environment and providing clear expectations and guidelines.</li> <li>• Overseeing involvement of all internal and external stakeholders.</li> <li>• Supporting the Project Director in organising and resourcing project teams.</li> <li>• Reporting to the Iron Road Board.</li> <li>• Ensuring resources are provided to implement the EMS.</li> </ul>
Project Director (Construction)	<ul style="list-style-type: none"> <li>• Acting as the management representative for the EMS.</li> <li>• Promoting the culture for environment.</li> <li>• Overseeing environmental management and risk on the project.</li> <li>• Overseeing training.</li> <li>• Monitoring performance and consolidated reporting of progress against project KPIs during construction.</li> </ul>

Role	Responsibilities
Environment Manager	<ul style="list-style-type: none"> <li>Ensuring all systems, standards and processes are aligned through the CEIP.</li> <li>Providing general environmental management implementation support.</li> <li>Engaging with stakeholders.</li> <li>Conducting incident investigations.</li> <li>Performing environmental risk assessments.</li> <li>Managing the environmental approval process.</li> <li>Overall implementation of the EMPs for the CEIP.</li> <li>Coordinating management reviews, external and internal audits and reporting progress against environmental targets and objectives.</li> </ul>
Project Construction Manager	<ul style="list-style-type: none"> <li>Overseeing on-site construction activities.</li> <li>Ensuring compliance of construction activities with conditions of relevant project licences, permits and the construction EMP.</li> <li>Ensuring all environmental guidelines and requirements are met.</li> </ul>

Specific responsibilities for implementing the EMS are listed in Table 24-3, noting that achieving a high standard of environmental management is the responsibility of all Iron Road managers, employees and contractors.

**Table 24-3 Specific Responsibilities for Implementation of the EMS**

Action	Responsibility
Review of company environmental policy	General Manager
Maintenance of environmental aspects register	Environment Manager
Maintenance of register of legal and other requirements	Environment Manager
Review of objectives, targets and programmes	Environment Manager
Provision of adequate resources	General Manager
Competence, training and awareness	Project Director
Communication	Project Director
Documentation / Reporting	Environment Manager
Document control	Project Controls Manager
Operational control	Project Construction Manager
Emergency preparedness and response	Project Construction Manager
Monitoring, non-conformity, corrective action and preventative action	Environment Manager
Control of records	Environment Manager
Internal audit	Project Director
Management review	General Manager

### **24.1.8 Training**

All Iron Road staff and contractors involved in construction activities will be required to undertake training in environmental management requirements as part of the site induction prior to any construction works being carried out. Staff and contractors will also undertake job-specific training relevant to their role. The Project Director (Construction) is responsible for overseeing training through the relevant functional (e.g. environment) and area managers.

During the CEIP operation phase, appropriate professional development for Iron Road staff and contractors will be conducted to enable them to implement sound environmental practice in all their work practices.

### **24.1.9 Communication**

As discussed in Chapter 6, Stakeholder Engagement, Iron Road will implement a community engagement plan. Through this plan, Iron Road will report on the implementation of its EMS (including its performance against its environmental policy, objectives and targets) and seek community feedback. Outcomes of the community engagement process will be considered when Iron Road reviews its EMS and its EMPs.

Iron Road will also establish a procedure for managing internal and external communication concerning the EMS.

### **24.1.10 Review**

The EMS will be reviewed by the Environment Manager every three years under the direction of the General Manager.

## 24.2 Environmental Management Plans

Construction and operational EMPs will be the primary mechanism for implementation of the EMS for the CEIP Infrastructure. The draft EMPs (provided in Appendix AA and BB) are based on the environmental assessment and commitments made in the EIS. Draft EMPs will be finalised prior to the commencement of construction activities and will be revised to address approval conditions and any other licences or requirements.

### 24.2.1 Content

The EMPs are structured around the significant environmental aspects for the CEIP Infrastructure as identified in Table 24-1. The EMPs include the elements shown in Table 24-4.

**Table 24-4 Elements of the Environmental Management Plan**

Element	Description
Background	An introductory overview of the key issues requiring management.
Legal and other requirements	The key legislation, policies, standards and other requirements that apply to the environmental aspect.
Values	The relevant environmental values that require protection.
Objectives	The performance goals the EMP is seeking to achieve.
Management strategies	An overview of the management measures that will be utilised to meet the objectives and their timing.
Performance indicators (targets)	A specification of the required level of performance to meet environmental / legislative or project-specific standards.
Monitoring	Procedures to monitor, measure and record performance.
Reporting	Reporting requirements to regulators, the community and other stakeholders for the environmental aspect and the responsible parties.
Non-conformance	The procedures to be undertaken if performance indicators are not met.

### 24.2.2 Review

The intent of each EMP is that it is a dynamic document that is subject to regular review and continual improvement. Review of the EMPs will include a process of adaptive management whereby the effectiveness of environmental controls and procedures is continually assessed to improve environmental performance. Such reviews will occur on an ongoing basis; however a formal review schedule will be developed as the project progresses. The following circumstances may also trigger a review of an EMP:

- Change in the scope and design of the project
- Changes in regulatory standards
- Following environmental incidents, reported non-compliances or in response to complaints
- Subsequent to environmental audits where outcomes warrant improvement

The process for approval and review of the EMPs is shown in Figure 24-2.

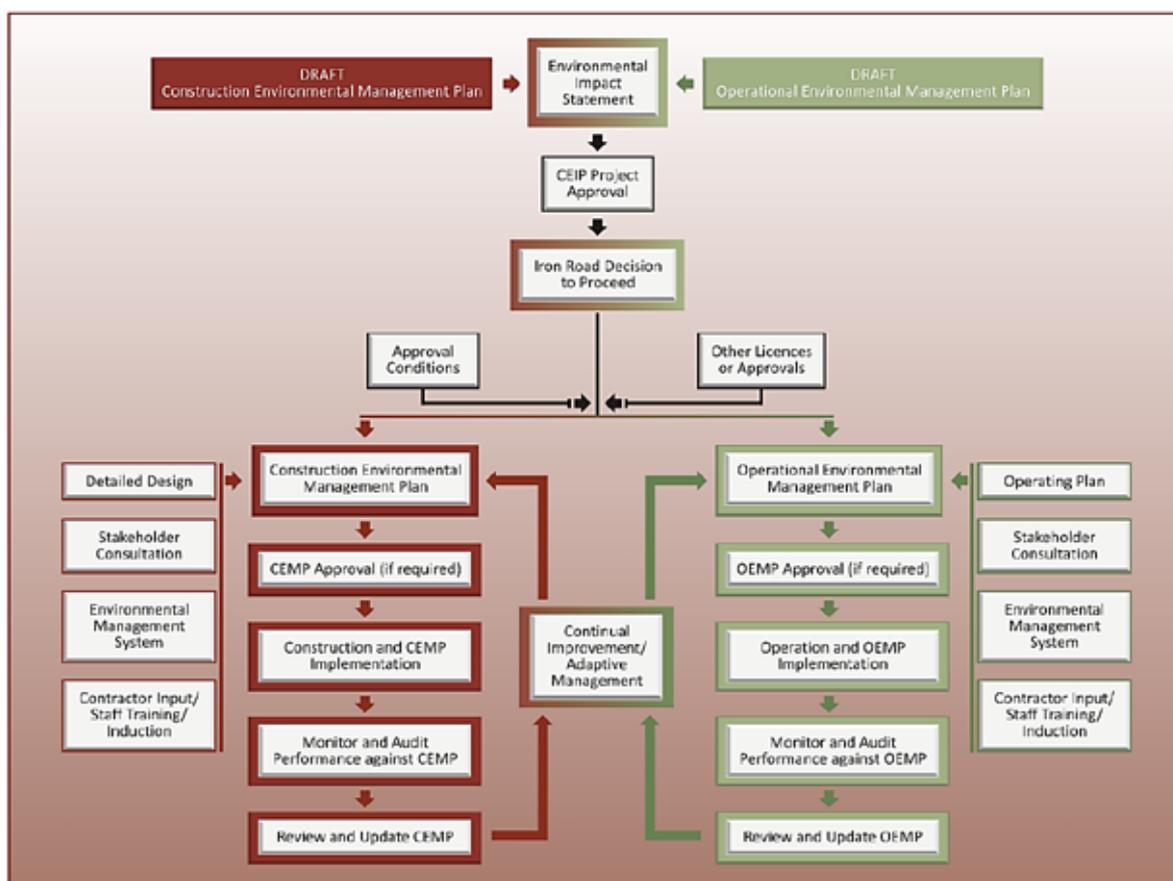


Figure 24-2 Approval and Review of EMPs

### 24.2.3 Subsequent Documentation

The Construction EMP (CEMP) and Operational EMP (OEMP) are overarching documents which are likely to be subject to regulatory approval. A number of specific issues in each EMP will be addressed through more detailed plans to provide appropriate guidance and instruction to staff and contractors working on site. These include:

- Aboriginal Cultural Heritage Procedures
- Water Management Plan
- Sediment and Erosion Control Plan
- Soil Management Plan
- Acid Sulfate Soil Management Procedures
- Waste Management Plan
- Significant Environment Benefit Offset Plan
- Vegetation Management Plan
- Weed Management Plan
- Pest Species Management Plan

These plans will be finalised prior to construction or operation, as applicable.



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