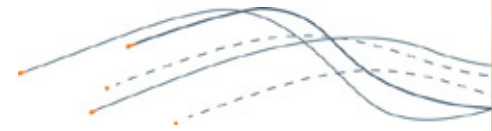


# Central Eyre Iron Project Environmental Impact Statement



## CHAPTER 1 INTRODUCTION



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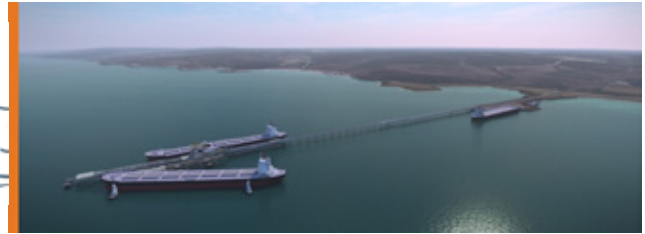
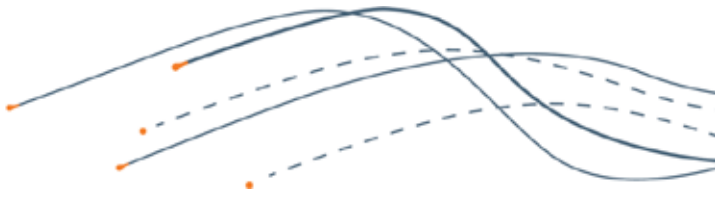
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# 1 Introduction

Iron Road Limited (Iron Road) is proposing to develop a magnetite mining and minerals processing operation near Warrambo, approximately 25 km southeast of Wudinna on the Eyre Peninsula in South Australia. The project is referred to as the Central Eyre Iron Project (CEIP).

Significant infrastructure is required to provide the logistics chain to enable export of the magnetite concentrate from the proposed mine to market. The required ancillary infrastructure includes:

- A deep water port facility at Cape Hardy on the east coast of the Eyre Peninsula
- A standard gauge railway line from the proposed mine site to the port
- A power supply transmission line
- A borefield and water pipeline
- A long-term employee village located adjacent to the town of Wudinna

The ancillary infrastructure is herein referred to as the CEIP Infrastructure and is the subject of this Environmental Impact Statement (EIS).

The CEIP Infrastructure was declared a Major Development (Appendix A) by the Minister for Planning on 15 August 2013 (republished 22 August 2013 and varied 29 May 2014) pursuant to Section 46 of the *Development Act 1993* due to its major environment, social and economic importance to South Australia. The proposed magnetite mine at Warrambo is subject to a separate approvals process pursuant to the *Mining Act 1971* and is therefore not discussed in any detail in this document.

Additionally, there are two related and concurrent projects which are being progressed by others. The Wudinna District Council is intending to upgrade the existing Wudinna airport to support increased demand as a result of the CEIP, and ElectraNet is planning to upgrade the Eyre Peninsula transmission line network. These projects will be the subject of a separate approvals process and are not discussed in any detail in this document.

The EIS presents the findings of environmental, social and economic impact assessments undertaken to determine the potential impacts and benefits associated with the proposed CEIP Infrastructure. The EIS has been developed in accordance with the *Guidelines for the preparation of an Environmental Impact Statement for the Cape Hardy deep sea port, infrastructure corridor and long term employee village* (Guidelines), provided in Appendix C), which were determined by the Development Assessment Commission and released by the Minister for Planning on 13 November 2014. A cross reference of the Guidelines (Guideline Comparison) to the location of the required information in the EIS is presented in Appendix D.

Iron Road commissioned Jacobs to prepare the EIS for the CEIP Infrastructure with support from technical specialists where required. The full EIS study team is listed in Appendix E.

This chapter provides an introduction to Iron Road as the proponent, an overview of the CEIP including the project components and localities, a summary of the statutory approvals process and an outline of the EIS methodology and document structure.

## 1.1 Iron Road Company Profile

Iron Road is an Adelaide-based resource company which targets exploration, evaluation and development of iron ore projects in South Australia. Iron Road’s vision is to become a trusted and reliable supplier of premium magnetite concentrates to the Asian marketplace. Iron Road’s flagship project in achieving this vision is the CEIP.

Iron Road listed on the Australian Securities Exchange (ASX) in June 2008 (ASX: IRD) and enjoys the strong support of its major shareholder, The Sentient Group (Sentient) which holds 72.85% of Iron Road’s shares on issue. Sentient is an independent private equity investment firm specialising in the global resources industry. The Chairman of Sentient, Mr Peter Cassidy, is also the Chairman of Iron Road. An overview of Iron Road’s board of directors is presented in Table 1-1.

Table 1-1 Iron Road Board of Directors

Board Member	Position Held	Background
Mr Peter Cassidy	Non-executive Chairman	Co-founder and Chairman of Sentient, Chairman of Enirgi Group Corporation and a Director of Xinli Titanium. Previously established AMP Life’s private equity division.
Mr Ian Hume	Non-executive Director	A founding partner of Sentient and a manager of closed end private equity funds specialising in global investments in the natural resources industries.
Mr Jerry Ellis	Non-executive Director	A former Chairman of BHP Ltd, has served on the boards of a number of listed companies and governing bodies including Newcrest Mining, Aurora Gold and Australia and New Zealand Banking Group.
Mr Leigh Hall	Non-executive Director	A highly experienced company director with a strong background in finance and investment from careers in AMP, investment oversight boards and securities industry organisations.
Mr Julian Gosse	Non-executive Director	A background in merchant banking, stockbroking and venture capital industries. Has more than 20 years’ experience on the boards of various publicly listed companies.
Mr Andrew Stocks	Managing Director	Founding Director of Iron Road who has led the company from 2007, through the successful Initial Public Offer, the acquisition of the CEIP and the delivery of the \$100 million Definitive Feasibility Study.



Plate 1-1 Iron Road in the Community

## 1.2 History of the CEIP

Iron Road acquired Exploration Licence (EL) 4849 (formerly EL 3699) from Adelaide Exploration Limited in June 2008. EL 4849 covers an area of approximately 663 km<sup>2</sup> on the central Eyre Peninsula and allows Iron Road to undertake exploration activities pursuant to the *Mining Act 1971* and approved Programs for Environment Protection and Rehabilitation (PEPR). Although EL 4849 covers 663 km<sup>2</sup>, the proposed mining lease will comprise approximately 13% of this area (85 km<sup>2</sup>).

Previous work undertaken by Adelaide Exploration included the drilling of six Reverse Circulation drill holes during 2000 and performing metallurgical test work on samples collected.

Since obtaining the EL in 2008, Iron Road has undertaken nine staged resource drilling programmes with 511 holes drilled for a total of 161,000 m. The latest drilling programme was completed in October 2014 and included a total of 15 holes for 8,220 m. Prior to that programme commencing, the proposed mine had an estimated Mineral Resource of 3.7 billion tonnes of magnetite containing 16.0% iron, with a proven and probable reserve of 2,071 billion tonnes containing 15.5% iron.

On 27 February 2015 Iron Road announced the results of the most recent drilling programme which added a further 819 million tonnes, taking the Mineral Resource up to 4.5 billion tonnes at a grade of 16% iron. In addition, the Measured and Indicated categories now make up to 3.5 billion tonnes or 77% of the overall Mineral Resource.

The results of the Definitive Feasibility Study (DFS) for the CEIP were released in February 2014 and confirmed the feasibility of a process of magnetic separation producing 21.5 Mtpa of premium, high quality 67% magnetite concentrate for export from the mine site, based on an overall 25 year mine life.



Plate 1-2 Exploration Activity at the Proposed CEIP Mine

### 1.2.1 Environmental Policy

Iron Road is committed to managing the environmental and social components of the CEIP and the health and safety of their employees in an industry leading manner. Iron Road’s Environmental Policy, which was revised in 2015 to align with the developing stages of the CEIP, outlines its commitment to providing a net benefit for the environment and communities within which Iron Road operates.

Environmental management strategies that align with the Environmental Policy are discussed throughout this document and summarised in Chapter 24. A copy of Iron Road’s Environmental Policy is provided in Appendix B.

## 1.3 CEIP Overview

The CEIP is South Australia’s largest iron ore project and the second largest resources project in the State’s history. A comparison of the CEIP to other iron ore projects proposed within South Australia is presented in Figure 1-1. The concentrate at the CEIP mine is a magnetite concentrate, unlike the majority of iron ore projects which generally produce hematite. After processing, magnetite has a number of advantages over hematite, including high iron content, a low level of impurities and lower carbon emissions during production of iron. As a result the CEIP will produce a premium and highly desirable product.

Benefits from the CEIP will include positive impacts to the local, regional and state economy, providing an increase in employment opportunities during both the construction and operation phases and economic diversification in the Eyre Peninsula region. Improvements to regional infrastructure are also proposed and will potentially provide a catalyst for additional development on the Eyre Peninsula, resulting in further increased economic opportunities for the region.

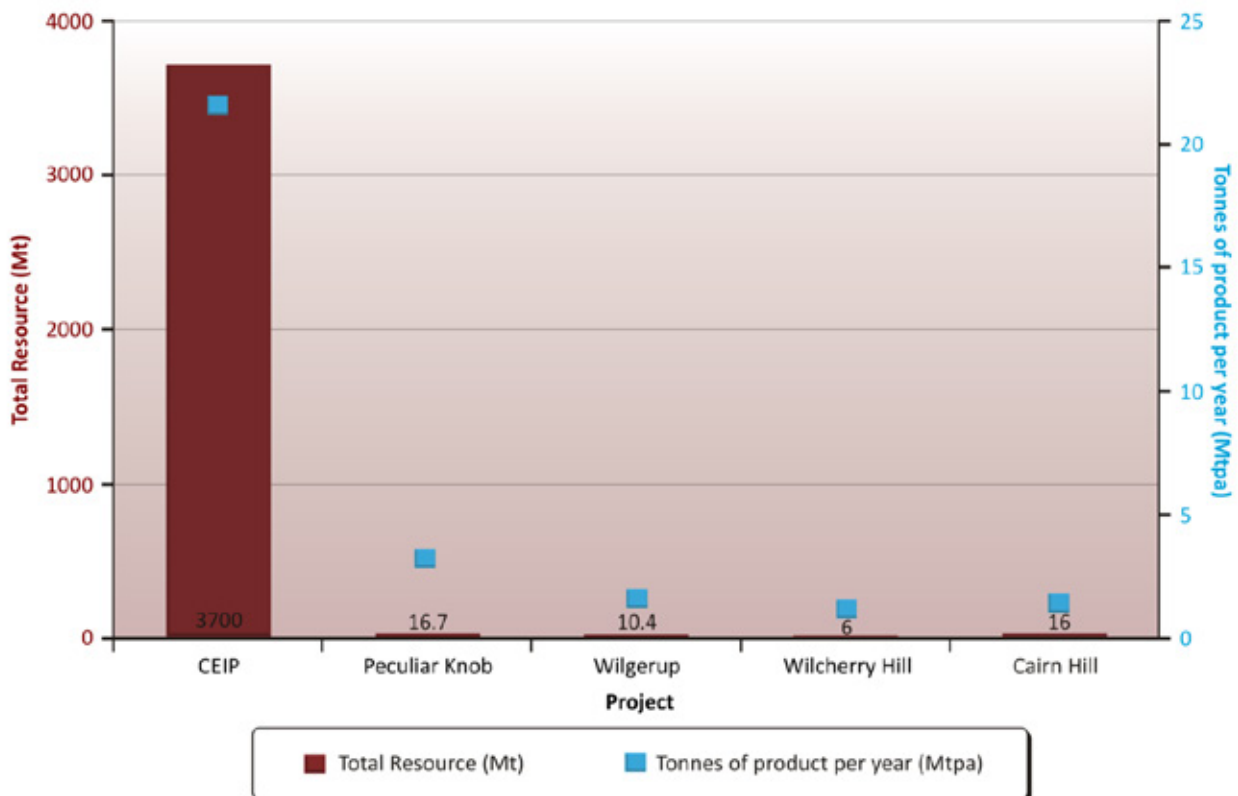


Figure 1-1 Comparison of Iron Ore Projects in South Australia



### 1.3.1 Overview of Project Components

A summary of each component of the CEIP Infrastructure is provided below and is depicted in Figure 1-2. A detailed description of all project components is provided in Chapter 4.

- **Long-Term Employee Village:** Long-term accommodation for the mine site workforce is proposed to be located northeast of Wudinna on an area of up to 5 ha and will include 300 accommodation units along with other associated facilities.
- **Infrastructure Corridor:** The proposed infrastructure corridor will connect the mine to the port at Cape Hardy and extend approximately 130 km in length between the mine boundary and the port boundary. A standard gauge heavy rail line will span the entire length of the infrastructure corridor to transport the magnetite concentrate from the mine to the port. The railway line has been designed to accommodate six return train movements per day. The northern part of the proposed infrastructure corridor will also include a water borefield, water pipeline and power transmission line (which will run from the Yadnarie substation and join the corridor north of the Birdseye Highway).
- **Port:** The port is proposed at a greenfield site approximately 7 km south of Port Neill in an area known as Cape Hardy. The site provides a natural deep water location with no dredging required. The ship loader will have a capacity of 70 Mtpa leaving substantial capacity available for third party users. The port is designed to support Panamax and Capesize vessels, with a 1.3 km jetty and wharf structure that incorporates a tug harbour and module off-loading facility.



Plate 1-3 Iron Road Display at an International Conference

### 1.3.2 Overview of the Project Sites and Localities

The Eyre Peninsula is triangular in shape, bounded by the Spencer Gulf to the east, the Great Australian Bight to the west and the Gawler Ranges to the north. The region has a Mediterranean climate, with warm to dry summers and cool, wet winters. The geographical relief of the Eyre Peninsula is undulating and low, with most areas less than 150 m above sea level, peaking in the Gawler Ranges north of Wudinna at approximately 500 m. A large proportion of land on the Eyre Peninsula has been cleared of native vegetation for agricultural purposes, predominately broad acre cropping and grazing. Significant areas of native vegetation which remain intact are generally restricted to conservation reserves.

At each corner of the triangular Eyre Peninsula are the larger regional centres of Whyalla, Port Lincoln and Ceduna. Whyalla is the second largest regional town in South Australia, with a population in excess of 22,000 people built on resource processing and manufacturing. Port Lincoln is the second largest town with a population of approximately 14,000, which is based on the fishing and aquaculture industries and as an export hub for agriculture. Within the central Eyre Peninsula, Cummins, Cleve, Kimba, Lock and Wudinna are primarily agricultural service centres, with Wudinna also providing a gateway to the Gawler Ranges tourism region (RDA Whyalla and Eyre Peninsula 2012) (DAWEP).

As depicted in Figure 1-2, the proposed mine is located near Warrambo, approximately 25 km southeast of Wudinna and approximately 315 km northwest of Adelaide. The proposed infrastructure corridor will originate in a south-easterly direction from the mine near the intersection of Kimba Road and Lock Road. The corridor will then follow the northern boundary of the Hambidge Wilderness Protection Area, before turning in a south-easterly direction, passing approximately 7 km west of Darke Peak, 1.5 km southwest of Rudall and 3 km west of Port Neill at its intersection with the Lincoln Highway. The corridor will then continue south to the proposed port facility located approximately 7 km south of Port Neill at Cape Hardy.



Plate 1-4 Iron Road Display at the Wudinna Show



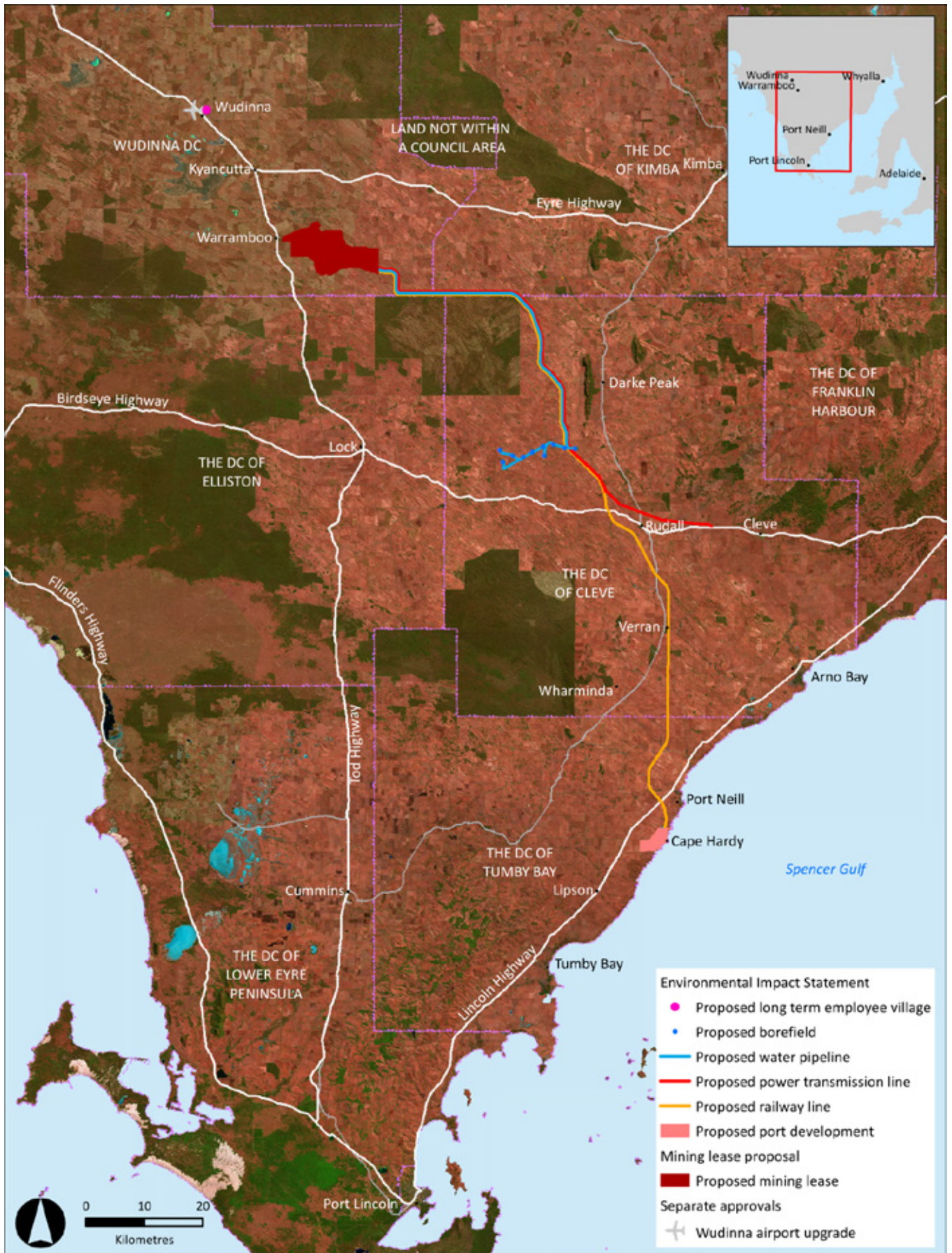


Figure 1-2 CEIP Location and Infrastructure Components

## 1.4 Statutory Approvals Process

The CEIP Infrastructure is subject to a range of Commonwealth and South Australian Government regulatory approvals processes which are discussed in detail in Chapter 5.

### 1.4.1 State Approvals

The CEIP Infrastructure was declared a major development by the Minister for Planning in August 2013 (varied May 2014) and will be assessed under Section 46 of the *Development Act 1993* which is administered by the South Australian Department of Planning, Transport and Infrastructure (DPTI).

Following the declaration, a development application outlining the key components of the proposed CEIP Infrastructure was submitted to the Minister for Planning with a request for Guidelines and appropriate level of assessment to be issued. Following consultation with relevant government agencies, the Development Assessment Commission (DAC) issued the *Guidelines for the Preparation of an Environmental Impact Statement for the Cape Hardy deep sea port, infrastructure corridor and long term employee village* on 13 November 2014. The Guidelines outline the requirements for the preparation of an EIS, the highest level of assessment available under the *Development Act 1993*, allowing for the greatest level of environmental scrutiny and public comment. The assessment of the EIS, including all public and Government agency consultation, will be undertaken by DPTI on behalf of the Minister for Planning.

Approval for the proposed CEIP Mine is the subject of a Mining Lease application being assessed by the Department of State Development pursuant to the *Mining Act 1971*. The Mining Lease application is being assessed concurrently with this EIS, with statutory public consultation and a decision on the application to coincide with the EIS processes (if practicable).

A range of other State approvals will also be required for both the CEIP Infrastructure and the CEIP Mine and these are discussed in more detail in Chapter 5.

### 1.4.2 Commonwealth Approvals

Iron Road submitted a referral pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* to the Department of the Environment on 29 July 2014. The CEIP Infrastructure was declared to be a controlled action as a result of potential impacts to the Southern Right Whale and will be subject to assessment by the South Australian Government using the EIS process under a bilateral agreement with the Commonwealth Government. A separate referral for the mine was submitted on 30 September 2014 and the mine was determined not to be a controlled action.

### 1.4.3 Objectives of the EIS

This EIS has been prepared to identify and assess the potential environmental, social and economic impacts and benefits of the CEIP Infrastructure, including cumulative impacts and benefits. Mitigation and management strategies have been proposed where possible to minimise and avoid adverse impacts.

The objectives of the EIS are to:

- Provide a source of information to individuals and groups to gain an understanding of the CEIP, the need for the CEIP, the other alternatives that were investigated, the effects on the environment, the impacts that are expected to occur and the measures to be taken to minimise those impacts.
- Provide a forum for public consultation and informed comment on the proposal.
- Provide a framework for decision-makers to consider the CEIP in line with environmental, social, economic, cultural and technical factors.

The structure of the EIS has been developed in response to the Guidelines. For each environmental/social aspect, the EIS provides the following information:

- The purpose and scope of the study undertaken
- A summary of relevant legislative criteria
- Methodology of the assessment
- The existing environmental values that may be affected by the CEIP Infrastructure
- Design measures or modifications incorporated into the project to protect environmental values
- An assessment of the anticipated impacts
- Management measures and control strategies to be implemented to reduce impacts and risks to a level which is considered as low as reasonably practicable
- An assessment of the residual risks to the environmental values identified

#### **1.4.4 Assessment Process**

Following submission of the EIS to Government, there will be a period during which the public and other stakeholders may make submissions about this EIS direct to the South Australian Government. During that period, DPTI will advertise and facilitate public meetings to consult with interested parties on both the content of the EIS and the proposed development and will advise where and when written submissions should be forwarded.

Following the public consultation period, Iron Road will be provided with copies of all submissions received and will be required to respond to all of them via a 'response document'. The response document may include further information or amendments to the EIS as a result of the issues raised during the consultation period. If substantial changes are made, further public consultation may be warranted.

The Minister for Planning, in conjunction with DPTI and other relevant government agencies, will assess the EIS (including the response document) and detail any findings in an assessment report. The Governor of South Australia will make the final decision on the development application for the CEIP Infrastructure, having regard to the EIS, the DPTI assessment report, the public submissions, the response document and any other relevant information. The Governor's decision will be published in the Government Gazette and on the South Australian Government website and media will be notified. The assessment report itself will be released publicly and made available by DPTI on the State Government website after the Governor's decision on the development application has been announced.

Additional information regarding the assessment process, including a flowchart depicting the key steps is presented in Chapter 5.



## 1.5 Document Structure

The EIS has been developed in accordance with the Guidelines released by the Minister for Planning on 13 November 2014. The EIS identifies and discusses the potential environmental, social and economic impacts of the CEIP Infrastructure and presents proposed mitigation strategies to address these impacts and environmental risks where appropriate. Structure of the EIS is shown in Table 1-2.

**Table 1-2 EIS Structure**

Chapter	Description
1	Introduction to CEIP, Iron Road and approval process
2	Project justification, need for project and benefits
3	Project alternatives investigated during design and impact assessment process
4	Detailed description of project, including the location of all components
5	Relevant legislative requirements and alignment of CEIP to strategic objectives
6	Detailed description of community and stakeholder engagement activities
7	Description of environmental impact assessment methodology and process
8	Description of land use and tenure
9	Definition of the impact and risk assessment process employed
10-23	Assessment of relevant environmental, social and economic impacts and risks
24	Environmental management framework
	References
	Glossary