

## 7 Environmental risk assessment

### 7.1 Methodology

An environmental risk assessment for the proposed modification was conducted as part of the scoping phase for this EA to identify potential environmental interactions and their likely severity. The risk assessment generally accords with Mangoola Coal's Risk Management Procedure MAN SD PRO 0082 Risk Management and the AS/NZS ISO 31000:2009 Risk management – Principles and guidelines.

A key input into the Mangoola Coal Risk Management Procedure is identification of key matters through a comprehensive stakeholder engagement process (refer to Section 6.3). This consultation process assisted in the identification of matters important to the local community and to be addressed within this proposed modification.

### 7.2 Prioritisation

A review of matters associated with environmental and social attributes of the proposed modification was undertaken. Those matters identified as assessment priorities are presented in Table 7.1. The results of the risk assessment, as well as issues raised during consultation and in the DGRs, have provided the basis for prioritising the technical studies conducted for this EA.

**Table 7.1 Assessment priorities**

Attribute	Matters for consideration	Where considered
Noise and vibration	Changes to noise generation affecting private residential receptors surrounding the site. Changes to road and rail traffic noise. Changes to the acquisition and management zones under PA 06_0014.	Chapter 8
Air quality and greenhouse gas	Changes to predicted dust emissions (including cumulative emissions) surrounding the site, including dust emissions associated with rail transport. Changes to the acquisition and management zones under the project approval. Changes to greenhouse gas emissions over the mine life.	Chapter 9
Traffic and transport	Changes to road traffic generation (including cumulative impacts) for mine operations associated with increased employee numbers. Potential impacts to the capacity, level of service and safety of local roads and intersections.	Chapter 10
Surface water	Changes to runoff areas during extraction. Changes to water demands over the life of the mine. Changes to site water balance and surface water management. Potential impacts to receiving waters due to saline discharges.	Chapter 11
Socio-economics	Economic efficiency (ie consideration of economic costs and benefits). Regional and state economic effects (ie the economic stimulus that the proposed modification would provide to the regional and State economy). Changes to amenity issues such as noise, traffic and air quality that may impact amenity of affected residential receptors. Increase in demand for community services and infrastructure and local housing and accommodation.	Chapters 12 and 13
Visual amenity	Changes to visual impacts/visual amenity as result of alterations to final landform.	Chapter 14

Lower risk matters for the proposed modification include groundwater, ecology, Aboriginal and European heritage, waste management, hazards and rehabilitation. Visual amenity was also considered a lower risk matter. However, due to community and stakeholder concerns regarding visual impacts for Modification 4 related to the relocation of the 500 kV ETL, visual amenity associated with the proposed modification was identified as an area of potential community concern. Accordingly, a visual assessment report was prepared for the proposed modification.

Similarly, agriculture is considered a low risk and an assessment in accordance with the NSW Strategic Regional Land Use Policy is not required for the proposed modification. However, a comprehensive assessment of agricultural impacts has been undertaken for the proposed modification.

Lower risk matters considered are presented in Table 7.2. No detailed technical investigations have been carried out for these aspects. This does not mean that these matters are not important. Rather, the assessment suggested that these matters could be effectively managed using existing management measures and proven techniques; whereas the more significant study elements require particular attention.

**Table 7.2**      **Lower risk matters**

<b>Attribute</b>	<b>Matters of consideration</b>	<b>Where considered</b>
Agriculture	Impacts on agricultural resources and enterprises. Changes to location and area of land utilised for agriculture. Changes to the productive potential of land to be returned to agriculture.	Chapter 15
Groundwater	Changes to the maximum rate of coal extraction may affect the rate of interception and extraction of groundwater. Changes to the final landform may affect the rate of groundwater recharge and surface water infiltration post-closure. Changes to predicted impacts to offsite users. Potential water reforms including the introduction of aquifer interference regulations.	Section 16.2
Ecology	Potential impacts to ecology.	Section 16.3
Aboriginal heritage	Management of OEH and Aboriginal groups' expectations.	Section 16.4
European heritage	Meeting regulatory requirements.	Section 16.5
Waste management	Quantity, nature and management of waste streams, including tailings. Waste minimisation.	Section 16.6
Hazards	Increase in risk from storing and using hazardous materials on the site.	Section 16.7
Rehabilitation	Increase in rate of rehabilitation.	Section 16.8

An assessment of lower risk matters for the proposed modification is presented in Chapter 16.