



STATE
PLANNING
COMMISSION

Assessment Requirements

ENVIRONMENTAL IMPACT STATEMENT

Leigh Creek Urea Production Plant
Leigh Creek Coal Fields

NeuRizer Ltd

April 2023



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1 Objective of the EIS

Assessment of impacts for projects declared as impact assessed development (not being restricted development) is undertaken through the preparation of an Environmental Impact Statement (EIS).

The EIS process is the highest level of state assessment under the *Planning, Development and Infrastructure Act 2016* (PDI Act) and enables the holistic consideration of significant state projects that are considered to be of economic, social or environmental importance.

The EIS process provides a comprehensive assessment of a development or project proposal and expected effects on the receiving environment and within the broader context of its setting.

2 Description of Development

On 23 September 2022, and having considered a formal request from NeuRizer Ltd, the Minister for Planning declared that the proposed Urea Production Plant within the Leigh Creek Coal Fields be assessed as an Impact Assessed development pursuant to section 108(1)(c) of the *Planning, Development and Infrastructure Act 2016* (the PDI Act).

NeuRizer Ltd has submitted a development application report which provides the following description of the proposal.

The Urea Production Plant will comprise:

- an ammonia synthesis plant
- a urea synthesis plant
- a urea granulation warehouse
- a conveyor and loadout facility.

Ancillary infrastructure will include:

- permanent site offices/amenities
- telecommunications and parking
- construction camp (including temporary and permanent accommodation)
- water and power supply
- effluent treatment and disposal
- surface water management
- temporary facilities (laydown and preassembly areas, construction compound and concrete batching plant).

The UPP would combine the hydrogen component of syngas, which would be converted into ammonia by reaction with nitrogen. Ammonia would then be combined with carbon dioxide to form urea. The UPP would produce urea in a granular (solid) form for local and export markets. The product would be transported to an export port (yet to be decided) using the existing rail line (rail component will form part of a separate approval process).

Figure 1 identifies the extent of the project site within the broader Leigh Creek Coal Fields indicating the areas defined for development and to which these EIS Assessment Requirements apply.

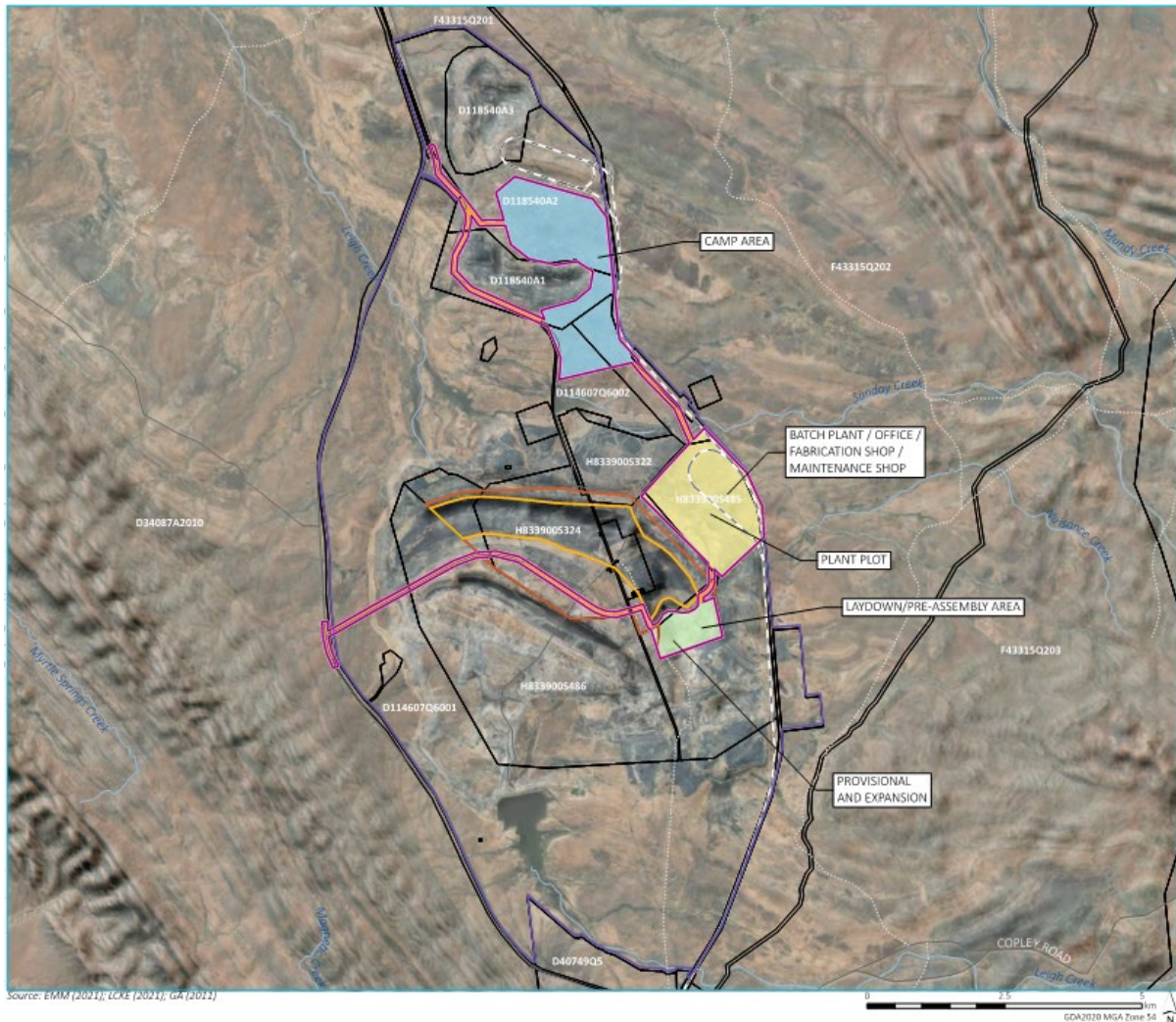


Figure 1: Project Site – Development Application Report.

3 Background to these Assessment Requirements

This document contains the Assessment Requirements to guide the preparation of an EIS by the project proponent. It is the responsibility of the proponent to demonstrate consideration of all Assessment Requirements, however, formal assessment may not be required for all listed Assessment Requirements, as they may not apply to the defined footprint of the UPP and associated infrastructure. The EIS should demonstrate consideration, and, where necessary, provide evidence of engagement with the relevant regulator confirming regulatory policy, guidelines and standards to be complied and any environmental aspects where formal assessment is not required.

The Assessment Requirements and impact assessments from environmental studies are to be prepared to address perceived and potential impacts of the proposed project during construction and operation within the project site and on the surrounding environment. Additionally, existing environmental conditions within the project site, including pre-existing site contamination, surface water, groundwater and potential for spontaneous combustion, should

be assessed to determine potential impacts and associated management and mitigation for project areas.

Every attempt has been made to ensure these Assessment Requirements address all of the major issues associated with the proposed development, however they are not necessarily exhaustive. The Assessment Requirements should not be interpreted as excluding from consideration matters deemed to be significant but not incorporated in them, or matters that emerge as important or significant from environmental studies or otherwise during the course of the preparation of the EIS and, following submissions, the Response Document, as they relate to the proposed development and project site.

The EIS must therefore address other matters not covered in these Assessment Requirements in the following circumstances:

- Studies reveal a matter that had not been foreseen when the Assessment Requirements were finalised.
- Stakeholder engagement and consultation with the community identifies an issue of widespread concern to the public, which had not previously been considered contentious. This may include a public perception of significant environmental harm that may not be borne out by technical studies, which may also be attracting extensive media coverage.
- New or amended legislation or policies come into effect after the Assessment Requirements have been finalised, which may or may not have been referred to in the Assessment Requirements. Transitional arrangements or exemptions may apply, but it is considered best practice and of net benefit to a project to consider emergent legislation or policies even if not specifically required. This serves to 'future-proof' the EIS.
- The proponent makes amendments to the proposed project that would result in a change in the nature, scale, timing or location of any impacts.

4 The Impact Assessment Process

4.1 EIS process

Once a development has been categorised as impact assessed development (not being restricted development), a Scoping Application is prepared by the proponent which includes a preliminary assessment of the key social, environmental and economic issues and impacts associated with the development.

The Commission uses the information provided in the Scoping Application to develop EIS Assessment Requirements to inform the preparation of the EIS.

The EIS must be prepared by the proponent in accordance with the Assessment Requirements for each environmental attribute in line with the level of detail specified. The level of detail is determined by the Commission based on the Practice Direction, the views of the relevant government agencies and the local council. The proponent is also given an opportunity to express any views on the level of detail required.

Assessment Requirements are intended to be outcome-focused and, supported by relevant guidance documents and legislation, are generally accompanied by a method of investigating the highlighted impacts and measures to assess these impacts. The methods provided are not necessarily exhaustive and a wide range of methods may be available to consider and respond to a particular issue.

If additional matters requiring detailed assessment become apparent after the final Assessment Requirements are issued, the EIS must also address these new matters in a comprehensive manner and identify means by which the effects can be managed.

The matters that must be included in an EIS are set out Section 113 of the PDI Act and provided below. These requirements include detail of expected environmental, social, economic and climate effects of the development, consistency with state and regional planning documents, consideration of the provisions of the *Environment Protection Act 1993* and commitments by the proponent to avoid, mitigate or satisfactorily manage and control any potentially adverse effects of the development on the environment.

The EIS process is illustrated in Figure 2.

4.2 Consultation Process

After the completed EIS is submitted to the Minister for public release, it is referred to council(s) and relevant government agencies for comment. The public is provided with an opportunity to comment when the completed EIS is released for public exhibition.

Public consultation is a valuable resource to the EIS preparation process and a well-considered engagement strategy can play a pivotal role in the assessment of a project. The PDI Act sets out the principles of the Community Engagement Charter which guide public participation in the planning process and ensure that people and communities have a greater opportunity to engage in the planning process. The Minister will consider the Charter in determining the consultation program for an impact assessed development.

Public exhibition is undertaken for a minimum of 30 business days. An advertisement will be placed in The Advertiser and local newspapers inviting submissions. The public consultation process will cater for those with special needs or those not able to access documentation electronically.

4.3 Responding to submissions

Copies of submissions from the public, council(s) and other relevant agencies will be provided to the proponent who then prepares a Response Document to address matters raised during the public exhibition period.

Following the receipt of the Response Document, the Commission will prepare an Assessment Report. The Assessment Report must set out:

- The Minister's assessment of the development
- Any comments by the Minister relating to:
 - the EIS
 - submissions received through the public consultation process
 - the proponent's responses to submissions received and matters raised by the Minister
- Comments provided by the Environment Protection Authority, another Minister, a council or other authority or body
- Any other comments or matters as the Minister or the Commission thinks fit.

The Assessment Report and the Response Document will be available for inspection and purchase by members of the public at a place and for a period of time determined by the Commission.



Figure 2: Steps in impact assessed development process.

Availability of each of these documents (primarily on the PlanSA Portal website) will be notified by advertisements in The Advertiser and local newspapers and in writing to persons who made a written submission. A copy of the EIS, Response Document and the Assessment Report will be provided to the relevant council(s). Requirements for public availability and notification of an EIS, Response Document and Assessment Report are laid out in Section 113 (10) - (12) of the PDI Act.

The Minister will make a final decision subject to Section 115 of the PDI Act.

In deciding whether the proposal will be approved and any conditions that will apply, the Minister must have regard to:

- The State Planning Policies
- Regional Plans, including the 30-Year Plan for Greater Adelaide (where relevant)
- Provisions of the Planning Rules and the regulations
- If relevant, the Building Code of Australia
- Where development involves or is for the purposes of a prescribed activity of environmental significance, the Environment Protection Act including the objects, General Environmental Duty and relevant environment protection policies
- Where relevant, the view of the Minister who is responsible for the administration of an area of the State subject to a special legislative scheme
- The EIS, Response Document and the Commission's Assessment Report
- Where relevant, any other government policy and/or legislation.

Pursuant to Section 115(2)(a) of the PDI Act the Minister can at any time indicate that the development will not be granted authorisation. This may occur if the development is inappropriate or cannot be demonstrated to be properly managed. This is commonly referred to as an "early no."

4.4 Development of the Assessment Requirements

Assessment Requirements set out the environmental attributes relevant to the development which are to be assessed (e.g. soil, water, heritage, threatened species etc). The key environmental, social and economic impacts to these environmental attributes are to be addressed in the EIS. The level of assessment required is determined by the Commission based on consideration of key factors to determine whether a standard level of assessment will be sufficient or whether more detailed assessment is required.

4.4.1 Key factors to consider in determining level of assessment detail

The PDI Act defines an EIS as "a document that includes a detailed description and analysis of a wide range of issues relevant to the proposed development or project, incorporating significant information to assist in an assessment of environmental, social or economic effects associated with the development or project and the means by which those effects can be managed".

In setting the Assessment Requirements, the Commission considers the scale, nature and sensitivity of the receiving environment associated with the proposal and refers to relevant legislation, policy, guidance documents, government agencies and subject matter experts to determine whether a standard or a detailed level of assessment is appropriate.

The Commission is required to classify the issues relevant to the proper assessment of the development or project according to categories of importance so as to indicate the levels of attention that should be given to those issues in the preparation of an EIS.

The following key factors have been considered in identifying the issues requiring assessment in the EIS and whether the Assessment Requirements are 'detailed' or 'standard':

- Scale of the impact taking into account intensity, geographical extent and duration
- Nature of the impact which should consider direct, indirect, cumulative and perceived impacts
- Sensitivity of the receiving environment
- Ability to avoid, minimise and/or offset the impacts of the project, to the extent known at the application stage
- Complexity of technical assessments and investigations required to identify and assess mitigation measures.

Description and examples of the key factors is provided in Table 1.

Table 1: Description and examples of key factors to consider during scoping

Key factor	Components of factor	Description of example
Scale of the Impact	Severity	The scale or degree of the impact relative to the current situation or adopted standards or performance measures. The intensity may be measured quantitatively and compared to reference values (e.g. area of vegetation cleared, air and water quality, noise levels, change or disruption to ecological community function) or qualitatively.
	Geographical extent	The geographical reach of the impacts of the development or the range within which the impacts are observable
	Duration	The timeframe over which the impact occurs (e.g. for a short period, during construction only; during operations permanently). It may also refer to the period/s in which the impacts are observable and the regularity of the impacts (e.g. irregular, intermittent, regularly during operations.)
Nature of the Impact	Direct impacts	Impacts caused directly by the development. They usually occur at the same time as the development and within the vicinity of the site (e.g. vegetation clearing, air emissions).
	Indirect impacts	Impacts that occur as a consequence of the development or its direct impacts. Impacts may be delayed and happen further away from the site (e.g. project changes water table,

Key factor	Components of factor	Description of example
		changes affect wetland and causes an impact on groundwater dependent ecosystems). Impacts may also occur due to growth or land use changes facilitated by the project (e.g. a new transmission line may open up new areas for renewable energy generation).
	Cumulative impacts	The combined impacts of the project on a matter combined with other relevant existing and future projects (e.g. marine impacts from multiple port developments).
	Perceived impacts	There are a range of perceptions of the same impacts by people or groups
Sensitivity of the Receiving Environment	Existing regulations and guidance	The degree of sensitivity expressed in legislation or relative to adopted standards and performance measures (e.g. Guidelines for the use of the <i>Environment Protection (Noise) Policy 2007</i>)
	Value to society	<u>Environmental value</u> : e.g. water quality, natural habitat). <u>Social value</u> : e.g. community value, landscape, recreation, lifestyle disturbance, water quality, cultural heritage, amenity. <u>Economic value</u> : e.g. water supply, critical transport routes
	Vulnerability / resilience to change	The degree of vulnerability of the environment to the impacts of the project or resilience to cope with change. Regard should be had to the likely scale and nature of the impacts of the development and the sensitivity and adaptive capacity of the environment.

4.4.2 Assessment Level Characteristics

The characteristics of 'detailed' and 'standard' levels of assessment are provided in Table 2. A detailed level of assessment is required if the impact of the development has one or more the characteristics set out in Table 2.

Table 2: Characteristics of detailed and standard assessment

Level of Assessment	Characteristic of the impact of the development
Standard	<ul style="list-style-type: none"> • The project is unlikely to result in significant impacts on the environmental attribute if managed through conventional management and mitigation measures, including cumulative impacts. • While the assessment of the impacts of the development on the environmental attribute will involve technical specialists, these impacts are likely to be: <ul style="list-style-type: none"> ○ well understood by regulators and stakeholders

Level of Assessment	Characteristic of the impact of the development
	<ul style="list-style-type: none"> ○ relatively easy to predict using standard methods ○ capable of being mitigated to comply with relevant standards or performance measures. ● The assessments will be supported by quantitative assessment methods, although the focus and coverage may be on specific project components or project locations ● The assessment is unlikely to involve any significant uncertainties, or require any detailed cumulative impact assessment.
Detailed	<ul style="list-style-type: none"> ● The development has a high / medium probability of causing significant environmental impact on the environmental attribute, including cumulative impacts. ● There is a high / medium probability of impacts on the development from external environmental factors such as those associated with climate change (sea-level rise, increased frequency of bushfire, floods etc) ● It is considered important by the Commission, and/or there is a public perception that an activity has the potential to cause significant impacts on the environmental attribute (even though this may be mistaken), or the activity has been the subject of extensive media coverage. ● Potential impacts to a Matter of National Environmental Significance (MNES) are likely to require referral and approval under the <i>Environment Protection Biodiversity and Conservation Act 1999</i>). The development raises requirements under other legislation applicable for the development (e.g. prescribed activities of environmental significance under the <i>Environment Protection Act 1993</i>). ● Assessment of the impacts of the development on the environmental attribute will require detailed studies and investigations to be carried out by technical specialists. During this assessment, these specialists may need to: <ul style="list-style-type: none"> ○ work closely with specialists assessing the impacts of the project on other environmental attributes to determine the likely indirect impacts of the project ○ undertake a detailed cumulative impact assessment for the project. ● Assessment is likely to involve several uncertainties in relation to one or more of the following and specific strategies may be required to address these uncertainties (e.g. further monitoring, review, technical investigations and adaptive management). <ul style="list-style-type: none"> ○ data collection (e.g. baseline information, availability of data for cumulative impacts assessment) ○ identifying the specific mitigation measures or suitable offsets for the project ○ the methods available for predicting the impacts of the project, including the indirect and cumulative impacts ○ criteria for evaluating the acceptability of the impacts of the project

4.4.3 Environmental Attributes to be considered in the EIS

Issues relevant to the proposal are addressed by Assessment Category within which a range of environmental attributes are identified. Specific Assessment Requirements are determined for each environmental attribute relevant to the proposal with the level of detail tailored for that development.

Table 3: Assessment categories and environmental attributes

Assessment category	Environmental attribute and typical issues
Amenity and Environmental Quality	<p>Air quality Ground level concentrations (include construction / traffic), odour, stack emissions, receptors (location and sensitivity)</p> <p>Noise / Vibration Noise / vibration type (include traffic noise), underwater noise, noise level, sensitive receptors and location. Sensitive receptors may include terrestrial and marine fauna.</p> <p>Transport and Traffic Traffic disruptions- commuter and local, public transport, pedestrians / cyclists, changes to traffic flow and volumes - temporary / ongoing, road / maritime safety, car parking, presence of heavy vehicles, impacts to road pavement, marine traffic / shipping</p> <p>Visual amenity Interface with adjoining land, landscape changes, built form, light spill</p>
Biological Environment	<p>Biosecurity Weeds, pest species (including marine pests), diseases and pathogens.</p> <p>Matters of National Environmental Significance Nationally threatened species and communities, migratory species, wetlands of national importance (Ramsar), Commonwealth marine areas</p> <p>Marine Flora and Fauna Marine protected areas, threatened species, communities/ ecosystems, seagrass clearance, biodiversity loss</p> <p>Terrestrial and Aquatic Flora and Fauna Protected areas, threatened species and communities, native vegetation clearance, habitat loss through clearing fire or fragmentation, biodiversity loss</p>
Climate Change and Resource Use Efficiency	<p>Climate Change Adaptation Climate change risk assessment</p> <p>Greenhouse gas emissions Greenhouse gas emissions including emissions reduction targets, NGER reporting, cumulative impacts on state and national GHG inventories and targets.</p> <p>Sustainable use of resources Sustainable procurement, products / materials, energy efficiency</p> <p>Waste Management Waste hierarchy; waste recycling / disposal</p>

Assessment category	Environmental attribute and typical issues
Economic Environment	<p>Local, regional and state economies Economic impact assessment which addresses workforce / employment, existing economic land and marine uses (primary production, tourism, ports, fisheries), infrastructure - utilities (energy, water), telecommunications, ports, rail), displacement, competition, opportunities, temporary and ongoing for existing businesses / industries, property and land values</p>
Hazards and Risks	<p>Bushfire, Floods, Site Contamination Hazard risk management, bushfire, flooding, contamination and dangerous goods</p>
Land Tenure, Protected Areas and Land Use	<p>Land Tenure, Protected Areas and Land Use Land tenure (freehold, pastoral lease, mining, oil and gas, native title, crown land), generalised land use, population centres, major infrastructure and utilities (including marine infrastructure), P&D Overlays and Zones, reserved areas (including marine parks), changes / displacement of land uses</p>
Physical Environment	<p>Coastal and Marine Coastal land systems (dunes, estuaries, beaches, island), and marine water quality</p> <p>Soils, Landform and Geology Erosion and sedimentation, soil compaction and inversion, contamination (spills), land subsidence and acid sulfate soils.</p> <p>Surface Water and Groundwater Surface water quality (sedimentation, wastewater, spills, use of surface water) and groundwater use and quality.</p>
Design	<p>Urban Design and Place-Making Supporting design excellence to create desirable and socially inclusive places.</p>
Social and Community	<p>Aboriginal cultural heritage Known and unknown Aboriginal sites, objects and remains</p> <p>Community wellbeing Social impact assessment which addresses impacts to specific groups, impacts to services, impacts / displacement of residential areas, public safety (including perceptions), recreation and public space amenity</p> <p>Heritage Places and Areas Listed national, state and local heritage sites</p>

5 Content Requirements for the EIS

Section 113 of the PDI Acts sets out the legislative requirements for the content of an EIS.

5.1 Statutory Requirements

The EIS must include the following (subject to any Practice Direction):

1. A statement of the expected, predicted or potential environmental, social and economic effects of the development, whether positive, neutral or negative. The assessment of effects should include all issues identified in the Assessment Requirements and be cross referenced to supporting technical studies.
2. A statement of the expected impact of the development on the climate and any proposed measures designed to mitigate or address those effects
3. A statement of the extent to which the expected, predicted or potential effects of the development are consistent or at variance with the provisions of—
 - a. Any relevant State Planning Policy
 - b. Any relevant Regional Plan(s), including the 30-Year Plan for Greater Adelaide (if applicable)
 - c. The Planning and Design Code
 - d. Any matters prescribed by the Regulations.
4. If the development involves, or is for the purposes of, a prescribed activity of environmental significance as defined by the *Environment Protection Act 1993*, a statement of the extent to which the expected, predicted or potential effects of the development are consistent or at variance with—
 - a. The objects of the *Environment Protection Act 1993*
 - b. The general environmental duty under that Act
 - c. Relevant environment protection policies under that Act.
5. If the development will, or is likely to, significantly impact one or more MNES under the EPBC Act, a statement of:
 - a. The expected, predicted or potential effects of the development on each identified MNES
 - b. The extent to which the expected, predicted or potential effects of the development are consistent or at variance with the provisions of any relevant Commonwealth of Australia conventions, agreements or obligations under international agreements or treaties as they relate to MNES aspects
 - c. The extent to which the expected, predicted or potential effects of the development are consistent or at variance with any relevant Commonwealth plans (such as threat abatement plan and recovery plans), conservation or management principles.
6. If the development is to be undertaken within an area of the State that is specifically subject to a special legislative scheme—a statement of the extent to which the expected, predicted or potential effects of the development are consistent or at variance with the State Planning Policy that specifically relates to that special legislative scheme.

7. A statement of the proponent's commitments to avoid, mitigate and satisfactorily manage and/or control any potential or likely adverse impacts of the development on the environment (including any proposed offsets to reduce residual significant impacts) or any matter that may be directly relevant to a special legislative scheme.
8. Any other particulars in relation to the development required by the Regulations, relevant Practice Direction or by the Minister.

The proponent's commitment to meet conditions proposed to avoid, mitigate and satisfactorily manage and/or control any potential or likely adverse impacts of the development on the physical, social or economic environment, must be clearly articulated in the EIS.

The design and construction of the proposed development should be flexible enough to incorporate changes to minimise any impacts highlighted by this evaluation.

5.2 Summary of the EIS

The EIS should include a summary of the matters set out in the Practice Direction prepared pursuant to Section 109 of the PDI Act and include mention of all environmental attributes set out in the Assessment Requirements. The reader should be able to obtain a quick but thorough understanding of the proposal and associated environmental impacts. The summary should convey the most important aspects and environmental management commitments relating to the proposed project in accessible, easily understood language.

The summary should aim to construct a narrative around what is being proposed in the EIS, alternatives that were considered, what the broad environmental implications are of the proposal and how they will be managed to provide a net benefit. The summary should be logical and easy to read and need not reflect the precise order of chapters within the EIS itself. Images and graphics are suggested as a means of assisting to succinctly communicate the contents of the summary.

Content should be summarised accurately and objectively. It should report all of the EIS's key conclusions and be consistent with the rest of the EIS. Specific issues and impacts should be addressed at an appropriate level of detail proportionate to their potential for significant impact and depth of study undertaken.

5.3 Introduction to the EIS

The introduction to the EIS should set the context for detailed assessment of the project in subsequent sections of the EIS, and include:

- Background to, and objectives of, the proposed project
- Proponent details, including;
 - Contact information for the proponent or representatives of a proponent organisation for the project, including full name, street and postal address, Australian Business Number, telephone, fax, email and other details as appropriate
 - Identify the legal entities that would develop, manage and operate the project
 - Provide a description of corporate structure including joint ventures, corporate policies and objectives relating to the project, in particular environmental policies
 - Specify mechanisms used to ensure that corporate policies will be implemented and adhered to for the project in addition to requirements for Environmental Management Plans

- Identify key personnel, contractors, and/or subcontractors responsible for preparing the EIS
- Staging and timing of the proposal, including expected dates for construction and operation
- Relevant legislative requirements and approval processes
- Purpose and description of the EIS process

5.4 Need for the Proposal

The EIS should provide a statement of the objectives and justification for the proposal including:

- the specific objectives that the proposal is intended to meet, including market requirements
- expected local, regional and State benefits and costs, including those that cannot be adequately described in monetary or physical terms (e.g. effects on aesthetic amenity)
- a summary of environmental economic and social arguments to support the proposal including the consequences of not proceeding with the proposal.

5.5 Description of the Proposal

The EIS should provide a comprehensive and consolidated description of the proposal for which the proponent is seeking approval, using suitable maps, plans, figures and tables.

The proposal description sets out what the proponent is presenting for assessment and provides the basis for the Commission's evaluation against the Assessment Requirements. As the proposal may have undergone changes since the initial scoping stage (e.g. in response to stakeholder engagement, risk analysis or planning, technical or compliance grounds), it is important that the EIS provides an up to date and comprehensive description of the proposal.

The description of the proposal should address all aspects of the proposed project that are assessed by the EIS, and address the following information:

- Nature of the proposal and location
- Scale and intensity of the project
- Key elements of the receiving environment
- A project plan to outline objectives, constraints, key activity schedule and quality assurance
- Site layout plans (including indicative land division plan if relevant)
- Construction and commissioning timeframes (including staging)
- Description of working hours
- Description of the existing environment (including the immediate and broader location, identifying sensitive receptors and adjacent land uses which may lead to cumulative impacts)
- Description of the current commercial activities occurring in the area
- Details of all buildings and structures associated with the proposal
- Details of any other infrastructure requirements and availability

- Details on the operation of the proposal, including operating hours
- Relevant Zones and Overlays defined by the Planning and Design Code
- Management arrangements for the construction and operational phases (including Environmental Management and Monitoring Plans)
- A contingency plan for delays in construction

5.6 Project Alternatives

Feasible alternatives considered for the proposed project should be presented in the EIS described and evaluated the comparative environmental, social, and economic impacts (including the option of not proceeding).

Each alternative and its potential impacts should be discussed in sufficient detail to enable an understanding of the reasons for preferring certain options and courses of action while rejecting others. This may be used to inform a justification of why the proposed project and preferred options should proceed.

5.7 Summary of Preceding Actions

The EIS should provide a summary of actions and activities that have been undertaken prior to or as part of the preparation of the EIS. These could include prior engagement with the Commission, government agencies, local councils and other stakeholders, engagement with the local community, the process of project development, pre-feasibility studies and any technical reports which may have bearing on the level of detail required by a relevant Assessment Requirement.

5.8 Matters of National Environmental Significance

The EPBC Act ensures that 'nationally significant' animals, plants, habitats and places are identified and any potential significant impacts on them are carefully considered before change in land use or new developments are approved.

There are nine MNES under the EPBC Act:

- Listed threatened species and communities
- Listed migratory species
- Ramsar wetlands of international importance
- Commonwealth marine environment
- World heritage properties
- National heritage places
- The Great Barrier Marine Park
- Nuclear actions
- A water resource, in relation to coal seam gas development and large coal mining development.

If the Commonwealth determines that your project is a controlled action under the EPBC Act, it is recommended that the assessment provide sufficient information about the existing

environment, the action and its relevant impacts, including any avoidance measures, feasible alternatives to the proposed action, mitigation measures, safeguards and offsets.

Whilst there is no current bilateral agreement between the State of South Australia and the Commonwealth that accredits the impact assessed process under the PDI Act, where potentially significant impacts to MNES are identified, it is recommended that these matters be addressed in the EIS to provide a comprehensive assessment (and to ensure the provision of similar documentation for each assessment process).

Opportunities to streamline administrative processes between State and Commonwealth Governments are being actively progressed, which may result in the opportunity to implement project specific assessment arrangements, or provide for more streamlined processes (i.e. similar assessment criteria, notification timing etc).

5.9 Sources of Information

All sources of information (e.g. reference documents, literature services, research projects, authorities consulted) should be fully referenced, and reference should be made to any uncertainties in knowledge. Where judgements are made, or opinions given, these need to be clearly identified as such, and the basis on which these judgements or opinions are made need to be justified. The expertise of those making the judgements including the qualifications of consultants and authorities should also be provided.

Any technical and additional information relevant to the EIS that is not included in the text should be included in appendices.

5.10 Consultation process

The EIS must include an appropriate public consultation program, outlined within a Community Engagement Plan. The Community Engagement Plan must detail:

- All legislated notification requirements to be undertaken by the Minister pursuant to the PDI Act and Practice Direction.
- The Proponent's overall engagement and collaboration strategy including scope and guiding principles.
- Engagement undertaken to date on the proposed project.
- Engagement activities proposed throughout the EIS process including performance outcomes, level of public participation, techniques, indicative timeframes, responsibilities and measures for measuring performance.
- A list of affected stakeholders, interest groups and other relevant parties.

The extent to which a proponent consults with relevant persons and organisations is to be proportional to the public interest and significance of the proposed project's potential environmental, social and economic impacts. Early and sustained consultation with all relevant stakeholders is recommended.

Prior to the public release of the EIS, the Community Engagement Plan will be reviewed by the Minister with regard to the principles of the State Planning Commission's Community Engagement Charter. The Minister may require alterations to the Community Engagement Plan to ensure consistency with the Charter and an appropriate level of public participation in the EIS process.

5.11 Required Plans and Forms

- Current Certificate(s) of Title
- Context and locality plans should illustrate and analyse the existing environment and site conditions and the relationship of the proposal to surrounding land and buildings. Plans should be drawn to a large scale to allow presentation on a single sheet and be readily legible, according to standard mapping conventions. Plans should include:
 - Any neighbouring buildings, infrastructure or facilities, including identification of all nearby sensitive receptors and the likely use of existing or proposed neighbouring buildings (e.g. dwelling, farm outbuildings, shop, office)
 - Locations of any watercourses, surface water bodies (including dams), underground water sources, and any other sensitive environmental receptors/areas in the locality
 - Locations of any State heritage places in relation to the site
 - Existing native vegetation, regulated or significant trees
 - Known sites for State or Nationally listed protected or threatened species (including migratory species) or ecological communities on the site, adjoining land and marine environments
 - Existing roads (public and private)
 - Potential areas of habitat for native fauna, including relevant vegetation communities
 - Any other information that would help to set the context for the locality
- Site plans (drawn at a scale of 1:100, 1:200 or 1:1000) clearly indicating all proposed buildings, structures and works
- Elevations (drawn at a scale of 1:100 or 1:200) showing all sides of buildings, structures and works with levels and height dimensions provided in Australian Height Datum.
- Cross sections of the buildings, structures and works, including stockpile and storage facilities showing ground levels, floor levels, ceiling heights and maximum heights in Australian Height Datum
- Floor plans (drawn at a scale of 1:100 or 1:200) for each building or structure demonstrating what is proposed at each floor, with indicative internal layouts.
- Site survey plan demonstrating the development will be contained within relevant allotment boundaries
- Identify known Aboriginal heritage relevant to the project area through a search of Aboriginal Affairs & Reconciliation's central archives and potentially other archives held locally by Aboriginal people
- A schedule of construction materials, finishes and colours
- Location and dimensions of any external advertising displays, including information as to whether signs are to be illuminated or contain a moving display.

5.12 Key Issues and Project Specific Assessment Requirements

The Commission has undertaken a preliminary review of the proposed development, based on the proponent's project scoping application, and identified the following as key issues associated with the development:

- Air quality/gaseous emissions
- Green House Gas (GHG) emissions
- Surface and Groundwater contamination
- Economic benefits to the region and state
- Risk and Hazard Analysis (storage and handling of hazardous materials)
- Land use Interface
- Community Wellbeing / Social Impact Assessment
- Whole-of-Life project considerations, including construction, operation and decommissioning.
- Interdependency management of separate approval processes (assessment requirements under the Petroleum and Geothermal Energy Act 2000 (the PGE Act) to produce syngas which will form the feedstock for the Urea production plant)

A scoping analysis of the environmental attributes associated with these key issues has been undertaken in accordance with the methodology detailed in Section 4.4.1. A summary of the analysis is presented in Table 4. This scoping exercise has informed the level of assessment for each relevant attribute (standard or detailed) and guided the preparation of the project specific assessment requirements presented in Section 6.

The Project Specific Assessment Requirements are reflective of the Assessment Requirements Library available online at [PlanSA](#). The Library is a planning practitioner's resource that provides draft standard and detailed Assessment Requirements, from which the project specific criteria are based. The Library also provides descriptions of each attribute and reference material to assist proponents in preparing an EIS.

The 'Detailed' Project Specific Assessment Requirements reflect the key issues identified above and should be given the greatest level of attention and detail in the EIS.

6 Summary of Project Specific Assessment Requirements

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
Amenity and Environmental Quality (AEQ)				
AEQ1	Air Quality	To ensure the development does not have unacceptable adverse air quality impacts on the surrounding receiving environment, in particular sensitive receivers in proximity to polluting development.	<ul style="list-style-type: none"> Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to, and from, the surrounding environment. This should include any potential impacts on workers accommodation and amenities from the existing coalfields environment. Outline and justify any trade-offs in the design. Provide an air quality impact assessment prepared by an appropriately qualified specialist for all potential sources of dust / particles and gaseous pollutants associated with the construction and ongoing operation (including commissioning, start-up and shutdown procedures) of the proposed development, to identify any known or potential human health and amenity effects of air emissions (including point source and diffuse sources) on the residential population (including temporary or permanent camp accommodation on site) and local businesses and describe how these would be mitigated, minimised, managed and monitored. 	DETAILED
AEQ2	Noise / Vibration	To ensure the development does not have unacceptable adverse noise or vibration impacts on the surrounding environment, in particular sensitive receivers in proximity to noise sources.	<ul style="list-style-type: none"> Provide an impact assessment of noise / vibration from or on the proposed development, prepared in accordance with the Guidelines for the use of the Environment Protection (Noise) Policy 2007* by a suitably experienced, professional acoustic engineering consultant. *Note – this policy is under active review and may soon be replaced by the Environment Protection (Commercial and Industrial) Noise Policy. Describe and illustrate the locations of any vibration sensitive receivers both proposed or existing (including terrestrial fauna). Also describe any other environmental values that could be impacted by noise emitted from or to the development. Describe current background vibration levels at sensitive receivers, including their location, who they are, and how have they been defined. Note – the analysis must clearly identify all types of sensitive receivers, noting that these could include commercial/industrial land uses, and for the protection of the workers at those sites. Describe sources and characteristics of vibration that would be emitted during the construction, commissioning, operation, upset conditions, and closure of the development. 	DETAILED

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<ul style="list-style-type: none"> • Provide an assessment of the compatibility of the development's vibration impacts with existing or potential land uses in surrounding areas and the cumulative impact of emissions with other known vibration emissions associated with existing development and possible future development. • Describe vibration impacts on fauna, including nocturnal species, and how these impacts will be managed. • Describe and design strategies to mitigate vibration impacts and how environmental management objectives for noise and vibrations would be achieved. If required, revisit project design and construction methodologies to reduce vibration impacts. • Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to the surrounding environment. Outline and justify any trade-offs in the design. • Describe how environmental management objectives for noise and vibrations would be achieved, monitored, audited and reported, and how corrective actions would be managed. 	
AEQ3	Transport and Traffic	To ensure impacts to the safety and efficiency of transport modes and the broader transport and traffic system and infrastructure are avoided or mitigated.	<ul style="list-style-type: none"> • A Transport Impact Assessment should be prepared by a suitably qualified traffic/transport engineer. The assessment should evaluate current and proposed traffic generation and access arrangements including the effect on the road network (including arterial roads and internal coalfield roadways) vehicle parking, and vehicle interface with the road network. • Any assessment must address implications for the entire supply chain (including the full inbound and outbound supply chain linkages) and the traffic and access impact for the construction, operation, maintenance and decommissioning phases. • The assessment must determine the transport system asset improvements, asset management / maintenance requirements, and operational management requirements to accommodate the increase in movements and/or vehicle sizes/mass for affected transport assets and services across all modes for the proposal's construction / implementation and operational phases. The assessment should also consider other users of the internal coalfield road network and how that interface will be managed. 	DETAILED

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<ul style="list-style-type: none"> The assessment must also include a pathway to use of the railway including financing/funding and operating model, should the railway be proposed to be utilised. 	
AEQ3	Visual Amenity	To ensure adverse effects on visual amenity, landscape and open space values are avoided or minimised and opportunities to enhance these values are maximised.	<ul style="list-style-type: none"> Provide a description of the landscape character, features and values of the development area and its environs. Describe the effects of the development on visual amenity and landscape quality for residents and visitors for both near and distant views, from important viewing points, including from the land and sea. This should include construction, operations and closure / rehabilitation aspects of the proposal and address light spill from the development. Provide a visual analysis of the development from key viewpoints, including photomontages or perspectives showing the proposed and likely future development. Describe the rationale for the major design elements of the proposed development and measures to mitigate their visual impact. Describe how the design and construction of all buildings and structures will be controlled to ensure cohesive visual amenity, including details of construction materials, colours and landscaping for all buildings and structures. Describe the use of screening / amenity / landscape plantings and potential broad scale revegetation, including the opportunities for the use of locally endemic species. 	STANDARD
Biological Environment (BE)				
BE1	Biosecurity	To ensure that construction and operation of the development avoids the introduction or spread of biosecurity threats including pest or nuisance animal and plant species, diseases and pathogens.	<p>Terrestrial</p> <ul style="list-style-type: none"> Describe the extent and significance of existing exotic, pest or nuisance plant and animal species, diseases and pathogens in the development's terrestrial and aquatic environs. Identify the potential for the introduction or dispersal of new exotic, pest or nuisance plant and animal species, diseases and pathogens, and the associated implications for native species, habitat, agricultural land and other environmental values. Propose measures to remove, control and limit the introduction or spread of exotic, pest or nuisance plants and animals, diseases and pathogens on 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			the development site and any areas under the proponent's control (e.g. decontamination of vehicles, mobile plant, equipment and materials), having regard to the effectiveness of such mitigation measures in the past. This includes declared plants and animals under relevant State and Commonwealth legislation.	
BE2	Marine Flora and Fauna	To ensure that the nature and scale of the development avoids or minimises adverse effects on biodiversity, threatened and protected marine flora and fauna species, their ecological communities and habitat	Not Applicable	N/A
BE3	Terrestrial Flora and Fauna	To ensure that the nature and scale of the development avoids or minimises adverse effects on biodiversity, threatened and protected terrestrial and aquatic flora and fauna species, their ecological communities and habitat.	<p>Flora and Native Vegetation</p> <ul style="list-style-type: none"> Describe the location, extent, condition and significance of native vegetation, including listed threatened flora species and ecological communities in the development's environs, and identify those that may need to be cleared or disturbed during construction and / or maintenance. Identify and characterise any wetlands or groundwater dependant ecosystems that may be affected by altering the hydrogeological environment. Describe the development activities with the potential to impact on native vegetation and listed threatened flora species and ecological communities, and provide an assessment of how those impacts will be avoided, mitigated or offset. Prepare a Native Vegetation Clearance Data Report prepared by an Accredited Consultant approved by the Native Vegetation Council. The assessment should undertake a survey of the vegetation and fauna (including EPBC Act Listed threatened species and communities), detail compliance with the impact mitigation hierarchy and describe how the significant environmental benefit would be achieved. Detail potential impacts of fire on native vegetation, and the effects of fire risk management processes during construction, operation and maintenance. Outline measures to mitigate effects on native vegetation by addressing the mitigation hierarchy, including any compensatory activities in already degraded areas and use of existing easements. Refer to guidelines produced by the Native Vegetation Council and outline the likely 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<p>effectiveness of any mitigation measures adopted during both construction and maintenance.</p> <p>Fauna</p> <ul style="list-style-type: none"> Describe the location, extent, condition and significance of native fauna populations (including aquatic and subterranean fauna such as stygofauna) and listed threatened and migratory fauna species in the development's environs, and identify those that are likely to be disturbed during construction and / or maintenance. Describe the development activities with the potential to impact on native fauna species and listed threatened and migratory fauna species and habitats, and provide an assessment of how those impacts will be avoided or mitigated. Identify all potential sources of light pollution from the construction and operation of the proposed development. Describe their impacts on native fauna, including nocturnal species, and how these impacts will be managed. Detail appropriate buffer distances that would be required between the proposed development and threatened species, including feeding areas, nesting sites and roosting sites. Identify the potential impact of fire / explosion on native fauna, and the effects of fire risk management processes during both construction, operation and maintenance. 	
Climate Change and Resource Efficiency (CCRE)				
CCRE1	Climate Change Adaptation	To ensure that development and design are climate resilient and risks from climate change are reduced.	<ul style="list-style-type: none"> Undertake a climate risk assessment of the relevant potential impacts on the development of projected climate change over the lifetime of the development (e.g. increasing temperatures, extreme heat and heat waves, decline in rainfall, increased drought, extreme rainfall events, harsher fire weather, and sea level rise). Identify any adaptive management strategies required in response to the climate risk assessment. Examine the potential cumulative effects of climate change from a risk management perspective (including adaptive management strategies). 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<ul style="list-style-type: none"> Where relevant, outline the potential effects of, and identify strategies to protect against, extreme weather events, and allowances from a risk management perspective, including adaptive management. 	
CCRE2	Greenhouse Gas Emissions	To ensure the development minimises greenhouse gas emissions associated with its construction and operation so as to meet South Australia's goal to reduce greenhouse gas emissions by more than 50% below 2005 levels by 2030 and achieve net zero emissions by 2050.	<ul style="list-style-type: none"> Undertake a detailed greenhouse gas emissions assessment prepared by a suitably qualified environmental expert for the development which describes: <ul style="list-style-type: none"> the carbon footprint of the proposed urea production plant project. Quantify the emissions expected to be abated for each avoidance and mitigation measure. Compare preferred measures for emission controls and energy consumption with best practice International environmental management in the relevant industry sector. Describe how the project will contribute to South Australia's emissions targets i.e. 100% renewable energy goal by 2030, 50% emissions reduction below 2005 level by 2030 and zero net emissions by 2050. 	DETAILED
CCRE3	Sustainable Use of Resources	To ensure opportunities to procure and use resources efficiently and sustainably are maximised, supporting South Australia's transition to the circular economy	<ul style="list-style-type: none"> Describe the sustainability objectives of the development and the approach and methodology used to achieve these objectives. Describe design guidelines for aspects of the development (including transport options) that would be adopted to ensure sustainability. Describe how sustainability of the development will be audited. Prepare a sustainability assessment prepared by a suitably qualified environmental expert. The assessment should measure the ecological footprint of the development and address sources of greenhouse gas emissions, the use of renewable or alternative technologies, materials and resources minimisation, energy and water efficiency measures, greenhouse gas reductions and other sustainability initiatives during construction and operational phases. 	DETAILED
CCRE4	Waste Management	To ensure that waste generated, transported or received as part of the development is managed in accordance with the waste hierarchy and in a manner that protects all environmental values.	<ul style="list-style-type: none"> Prepare a waste management and minimisation plan (for demolition, construction and operation where relevant), detailing the sources of waste, the location of waste storage (including separation of waste streams, such as recyclables, hard waste and e-waste) and disposal facilities on the site or development -related sites (e.g. laydowns) and provide details of how these facilities will be serviced. 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
Land, Regional and State Economies (LRSE)				
LRSE1	Local, regional and state economies	To ensure adverse economic impacts arising from construction and operation of the development are avoided or mitigated, and net economic benefits to the region and state are created	<ul style="list-style-type: none"> Provide a full economic analysis of the development including the long-term economic viability and efficiency of the operational aspects of the development, incorporating a regional impact analysis (RIA) and cost-benefit (risk return) analysis (CBA). <p>The RIA should focus on the direct impact of the project on the local, regional and state economies. The identification of economic impacts should include the prediction of spending on goods, services, taxes etc. during construction and operation of the project and the distribution of income generated by the project.</p> <p>The CBA should assess the impact of the project on the economic welfare of the economies of interest by estimating a dollar value for as many economic, social and environmental benefits and costs as can reasonably be predicted.</p>	DETAILED
Hazards and Risks (HR)				
HR1 HR2 HR3 HR4	Bushfire Flooding Site and Groundwater Contamination Dangerous Substances	To ensure the risk of, and adverse impacts from natural and man-made hazards from the development are avoided, minimised or mitigated to protect people, property and the environment.	<ul style="list-style-type: none"> Undertake a hazard analysis and risk assessment in accordance with AS/NZS ISO 31000:2018 Risk management guidelines and with HB203:2006 Environmental risk management principles and processes. <p>The risk assessment should describe the potential risks to people and property that may be associated with the proposed project for all components of the development.</p> <ul style="list-style-type: none"> The hazard analysis should address (where relevant) bushfire, flooding, site and groundwater contamination, dangerous substances and hazardous materials, electromagnetic fields and emergency management. The hazard analysis and risk assessment must also address existing hazards (and their potential impacts) presented by the coalfields to construction and operations personnel (e.g. spontaneous combustion, smoke, soil/slope stability, remnant coalfield infrastructure/workings, etc.). Prepare a Hazard Management Plan that considers the risks and hazards associated with all components of, and activities associated with, the proposed development. The plan should address public and workplace safety, emergency response strategies and identify third party restricted and exclusion zones. 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<ul style="list-style-type: none"> • Prepare a Fire Hazard Management Plan that considers requirements both during the construction and operations phases, including measures to minimise fire risk at and to/from the site, resources and training required, sources of water to fight fires (and how this water will be accessed), options to utilise and coordinate with other operations in the region/area, and cost recovery. • Describe the application of the major hazard facility provisions of the Work Health and Safety Regulations 2012 to the development. • Undertake a Quantitative Risk Assessment of the major hazard facility to identify the hazards associated with the facility, determine the potential frequencies and consequences of the identified hazards, determine the systems availability of the protection systems and quantify the risks associated with a facility. 	
Land Use and Site Conditions (LUSC)				
LUSC1	Land tenure, protected areas and land use	To ensure that the impacts of development on environmental, social and economic values of adjoining land uses, land tenures and protected areas are avoided or minimised.	<ul style="list-style-type: none"> • Provide details of the existing land uses (including relevant Planning Code Overlays and Zones), land tenures and protected areas at, overlapping or adjoining the development site. • Provide details of the development (activities or structures) with the potential to impact on existing land uses, land tenures and protected areas that overlap, adjoin or are in the region of the development. • Outline potential land use interface and tenure impact on, and from, the coalfield (and its ongoing management) as an existing land use. • Describe existing or potential native title rights, claims and interests which may be impacted by the development. Describe in general terms the potential impacts of the development on existing or adjoining land use. • Describe (where relevant) potential impacts of the development for Crown land, pastoral leases, petroleum and mining tenements and Native Vegetation Heritage Agreements or any other relevant land tenures (including leases and licences). • Provide an assessment of local impacts to adjoining land uses identified in the scoping application (e.g. property access (fencing, gates), privacy and enjoyment, conduct of regular or seasonal activities (e.g. grape vintage, sowing, harvesting, mustering, spraying, lambing) and describe any measures to mitigate these impacts. 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
Physical Environment (PE)				
PE1	Coastal and Marine	<p>To ensure the natural features and processes of coastal systems are protected so that the environmental values of the coast are maintained.</p> <p>To ensure the quality and productivity of marine waters, sediment and biota are protected so that environmental values are maintained.</p>	<ul style="list-style-type: none"> Not Applicable 	N/A
PE2	Soils, Landform and Geology	To ensure development is undertaken in a manner that protects the productivity and quality land including, soil, subsoil and landform and avoids impact to other environmental values.	<ul style="list-style-type: none"> Provide a detailed description of the soils, landform and geology in the area of the development including the potential for water and wind erosion, soil salinity, acid sulfate soils and soil contamination. Describe the development activities with potential to impact on soils and ground stability. Address the implications of seismicity in the area in relation to both the construction and operation of the development. Identify the risks of contamination of land from spills of fuel (or other toxic substances). Describe measures for the prevention and containment of spills, describe the contingency plans to be implemented in the event of spills, and comment on their expected effectiveness. Ensure that appropriate soil contamination investigations have been undertaken and that soil generated from earthworks is managed in accordance with EPA guidelines, including for re-use on site or removal of material off-site for re-use, treatment or disposal. Provide details of the key principles, inclusions and responsibilities of a Soil Erosion and Drainage Management Plan (SEDMP). 	STANDARD
PE3	Surface Water and Groundwater	To ensure the quality of groundwater and surface water is protected so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.	<p>Surface water</p> <ul style="list-style-type: none"> Describe existing surface water environmental conditions upstream and downstream of the site (including seasonal variations and variations with flow) of waterbodies, watercourses, drainage channels, wetlands and floodplains. Water quality, any existing site contamination and potential sources of surface water pollution should be addressed. Describe present and potential users and uses of water in areas which may be affected by the development, including residential, municipal, agricultural, industrial, recreational and environmental uses of water. 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<ul style="list-style-type: none"> • Describe the legislative, regulatory and planning contexts for surface water that apply to the development. • Describe the potential for pollution (e.g. sediment plumes, spills to land and water, discharge of stormwater and wastewater, dewatering) of water bodies, watercourses, drainage channels, wetlands and floodplains during construction and operation. Identify locations where discharge to surface waters or land may occur during construction, operation or decommissioning of the development. • Describe potential alteration to surface water flows as a result of the development (including to waterbodies, watercourses, wetlands, floodplains, beds and banks) and include details of the nature of the works. Discuss the implications of these changes for downstream water uses and describe how these impacts will be minimised. • Describe the options for supplying water to the development including potable water (if relevant) and temporary demands during the construction period. Describe on-site storage and treatment requirements for wastewater from accommodation and/or offices and workshops. • Identify the risks of contamination of land from spills of fuel (or other toxic substances). Describe measures for the prevention and containment of spills, describe the contingency plans to be implemented in the event of spills, and comment on their expected effectiveness. • Describe the proposed mitigation measures to protect the environmental values for surface water quality, how the relevant standards and indicators may be achieved, to protect surface water during construction and operation. Provide details of proposed wastewater and stormwater management, as well as any water sensitive design features as part of the development. If required, revisit project design and construction methodologies to reduce impacts surface water quality to demonstrate that the Water Quality EPP will be met. <p>Groundwater</p> <ul style="list-style-type: none"> • Describe the known groundwater related environmental conditions including quality and significance of groundwater in the area of the development and any surrounding area potentially affected by the proposed development's activities. • Describe the legislative, regulatory and planning contexts for groundwater that apply to the development. 	

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<ul style="list-style-type: none"> Describe present and potential users and uses of groundwater water in areas potentially affected by the development, including residential, municipal, agricultural, industrial, recreational and environmental uses of water including groundwater dependent ecosystems (GDE). Describe the potential changes to hydrology (including water quality), as a result of the proposal, and the implications of these changes. Water quality impacts should consider any parameters (e.g. metals, non-metal inorganics) considered important for existing groundwater users / uses in the vicinity of the projected area of impact. Where groundwater would be taken by the development, quantify the volume of water that would be taken, the timeframe over which the take would occur and the potential impact on groundwater users. Describe stormwater and wastewater (both process wastewater and sewage) management and the potential impact on groundwater resources in particular with regard to fuel and chemicals used in construction and / or operation of the development. Describe measures proposed for management of stormwater and wastewater during construction and operation to avoid impacts to groundwater. <p>Discharge of Wastewater</p> <ul style="list-style-type: none"> Identify the quantity, quality and location of all potential discharges of water and contaminants by the proposed project, including treated process wastewater and sewage during construction phase and operational activities. Describe whether the discharges would be from point sources (whether uncontrolled and controlled discharges) or diffuse sources (such as irrigation to land of treated process wastewater/sewage effluent) and describe the receiving environment (such as land or surface waters). Provide a risk assessment of the potential impacts on waters, in the near-field or far-field, resulting from controlled or uncontrolled discharges from the site. 	
Design (DQ)				
DQ1	Urban Design and Place-Making	To ensure development promotes the value and quality of good design across South Australia's built environments, and that contributes to healthy neighbourhoods, supports innovation and the integration of smart and sustainable technologies.	<ul style="list-style-type: none"> Describe how the project incorporates best practice sustainability and WSUD features into the design, taking into account the applicable to the setting and future climate. 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
Social and Community (SC)				
SC1	Aboriginal Cultural Heritage	Avoid adverse effects on Aboriginal cultural heritage values and maximise opportunities to appropriately complement and preserve these values.	<ul style="list-style-type: none"> • Describe location and design options considered, reasons for selection and how the proposed location and /or design avoids and / or mitigates potential impacts and risks to known and unknown Aboriginal heritage. Where impacts to Aboriginal heritage cannot be avoided, provide detailed justification for this. • An on-ground cultural heritage survey undertaken by qualified heritage experts (ideally an anthropologist and an archaeologist) in consultation with the RARB/Traditional Owner representatives. Where practical, this survey should cover the entirety of the project area. • The subsequent Aboriginal heritage report should: <ul style="list-style-type: none"> ○ be prepared by a suitably qualified heritage expert ○ clearly outline the results of the heritage survey, including the location of Aboriginal heritage within the project area, as well as any areas where unrecorded sub-surface Aboriginal heritage is likely to occur ○ consider the results of the AAR central archives search results, as well as any other searches of local archives or other relevant databases ○ consider the views of the RARB, or where no RARB is appointed, Traditional Owner representatives. Note that any sensitive or restricted information relating to Aboriginal heritage must remain confidential, and should not be publicly disclosed ○ consider both the archaeological and anthropological/ethnographic values of the area, based on relevant literature, previous heritage assessments etc. ○ consider the project's potential impacts to known and unknown Aboriginal heritage ○ provide recommendations for the management of Aboriginal heritage during project works, in light of the above 	DETAILED

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<ul style="list-style-type: none"> • A Cultural Heritage Management Plan (CHMP) must be prepared by an appropriately qualified heritage expert in consultation with the RARB/Traditional Owner representatives that: <ul style="list-style-type: none"> ○ addresses the potential for the project to impact known and unknown Aboriginal heritage ○ outlines measures agreed with the RARB/Traditional Owner representatives to be taken in order to manage and protect Aboriginal cultural heritage wherever possible ○ establishes processes for the management and protection of Aboriginal heritage before, during and after the proposed development, which may include: <ul style="list-style-type: none"> ▪ establishment of avoidance or 'no-go' zones to avoid known heritage or areas of identified high risk ▪ establishment of bunting or fencing around known Aboriginal heritage ▪ conditional access areas (e.g. limits on heavy machinery in particular areas) ▪ the engagement of Aboriginal heritage monitors to observe ground disturbing works in high risk areas - noting that the location and details about the heritage must not be made public. • includes an Aboriginal heritage discovery protocol, outlining the steps that will be taken in the event of an Aboriginal heritage discovery. 	
SC2	Community Wellbeing / Social Impact Assessment	To ensure adverse effects on the community near the development are avoided or minimised including with regard to community cohesion, access to services and facilities and health impacts and capitalise on opportunities to enhance benefits for communities.	<ul style="list-style-type: none"> • Provide a social impact assessment (SIA) of the development which addresses: <ul style="list-style-type: none"> ○ the existing social environment of communities potentially impacted by the project ○ the potential social impacts (both positive and negative) of the project, and how they will be managed and monitored 	DETAILED
SC3	Heritage Places and Areas	To ensure that the nature and scale of the development does not compromise the recognised heritage significance of a heritage place or heritage area.	<ul style="list-style-type: none"> • Provide details of the location, nature and known potential heritage values of all historic heritage potentially affected by the development particularly State and Commonwealth-listed places and areas. 	STANDARD

Library Ref	Environmental Attribute	Objective	Method of Investigation	Level of Assessment
			<ul style="list-style-type: none"> • Provide an assessment of potential impacts from the development on all State heritage and other listed historic heritage places and areas. • If Commonwealth, National and World Heritage places have been identified, undertake an assessment of potential impacts to heritage values. • Provide design, management and site protection strategies (prepared by an appropriately qualified heritage consultant in accordance with the PDI Code if relevant) to avoid, mitigate or manage negative impacts on heritage values and enhance any positive impacts. 	

Table 4: Scoping Analysis for Level of Assessment

Library Ref	Environmental Attribute	Description	Scale of Impact	Nature of Impact	Sensitivity of Receiving Environment	Level of Assessment
Amenity and Environmental Quality (AEQ)						
AEQ1	Air Quality	<p>Construction environmental Impacts (dust from site works, reworking previously disturbed area).</p> <p>Emissions from the operation of the Urea plant, including storage, transport movements.</p> <p>Emissions from the former coal fields</p>	<p>Unknown. To be determined by air quality modelling assessment against Schedules 2 and 3 of the <i>Environment Protection (Air Quality) Policy 2016</i> for identified pollutants and odour in accordance with the EPA's <i>Ambient Air Quality Assessment 2016</i> publication.</p>	<p>Direct Impact</p> <p>Air Quality (atmospheric emissions and fugitive dust) impacts from the urea production plant on sensitive receivers including, Copley, Leigh Creek and any onsite accommodation.</p> <p>Air Quality Impacts from the former coal fields on the proposed development.</p> <p>A level of studies and investigations to be carried out by technical specialists.</p>	<p>Sensitive human receiver located in Copley 9km south.</p> <p>Impacts on temporary construction camp and any ongoing requirement for onsite accommodation.</p>	DETAILED
AEQ2	Noise / Vibration	<p>Construction environmental Impacts (construction vehicles and machinery). Ongoing noise/vibration impacts from operation of the UREA production plant and transportation activities.</p>	<p>Unknown. Noted that the previous mining use would have influence the noise environment within the locality. Noise and Vibration impact within locality including the settlement of Copley. Impacts to be determined via noise/vibration study.</p>	<p>Direct Impact</p> <p>Noise and Vibration impact within locality including the settlement of Copley. Impacts dependant on environment</p> <p>Impacts to be determined via noise/vibration study.</p>	<p>Sensitive human receiver located in Copley 9km south.</p> <p>Fauna.</p> <p>Impacts on temporary construction camp and any ongoing requirement for onsite accommodation.</p>	DETAILED
AEQ3	Transport and Traffic	<p>Construction environmental Impacts (heavy vehicles).</p> <p>Operational impacts dependant on proposed method of transport/shipping of Urea product. Road and/or rail considerations.</p> <p>Unauthorised site access.</p>	<p>Unknown. To be determined by a transport impact assessment.</p>	<p>Direct Impact</p> <p>Increase traffic volumes of light vehicles as well as heavy vehicles including high productivity vehicles and oversize/overmass vehicles.</p> <p>Potential reactivation of the rail line and its interface with roads.</p>	<p>Impacts on users of the Outback highway, nearby settlements/townships and potentially wider region dependant on proposed transport/shipping arrangements.</p>	STANDARD

Library Ref	Environmental Attribute	Description	Scale of Impact	Nature of Impact	Sensitivity of Receiving Environment	Level of Assessment
				A level of studies and investigations to be carried out by technical specialists. Restricted access to maintain public safety		
AEQ3	Visual Amenity		Unknown. To be confirmed via a visual impact assessment	Perceived Impacts & Direct visual impact from proposed built form, lighting, and flaring.	Societal value	STANDARD
Biological Environment (BE)						
BE1	Biosecurity	Site works resulting in introducing pests and diseases to the site	Probability is unlikely and impact would be low based on current site condition and proposed land use.	Direct Impact Potential for the introduction of pests of diseases into the environment. Limited level of studies and investigations required.	Impact is likely to be low. Site has been mined for over 70 years and coupled with historic anthropogenic disturbance.	STANDARD
BE2	Marine Flora and Fauna	N/A	N/A	N/A	N/A	N/A
BE3	Terrestrial Flora and Fauna	Impact of construction and operation on flora and fauna within the project footprint.	Site has been mined for over 70 years and coupled with historic anthropogenic disturbance. Ecological assessments have been undertaken in 2017, 2018, 2019 and 2021 to determine the presence of native flora and fauna species within PEL 650. Scale of impact would likely be low, however should be confirmed as part of a new ecological assessment.	Direct Impact Site has been mined for over 70 years and coupled with historic anthropogenic disturbance. Ecological assessments have been undertaken in 2017, 2018, 2019 and 2021 to determine the presence of native flora and fauna species within PEL 650. Nature of impact would likely be low, however should be confirmed as part of a new ecological assessment.	TBC based on further ecological assessment.	STANDARD

Library Ref	Environmental Attribute	Description	Scale of Impact	Nature of Impact	Sensitivity of Receiving Environment	Level of Assessment
Climate Change and Resource Efficiency (CCRE)						
CCRE1	Climate Change Adaptation	Impact of climate change on the proposal	Unknown	Indirect Impact A level of studies and investigations to be carried out by technical specialists.		STANDARD
CCRE2	Greenhouse Gas Emissions	Impact of proposal on State level targets	Unknown	Indirect impacts To be confirmed via Greenhouse Gas assessment		DETAILED
CCRE3	Sustainable Use of Resources	Project Whole-of-life impacts on the use of resources.	Unknown	Direct impacts Sustainability Assessment		DETAILED
CCRE4	Waste Management	Project Whole-of-life waste generation and management	Unknown	Direct Impact Waste management and minimisation plan in line with the waste hierarchy.		STANDARD
Land, Regional and State Economies (LRSE)						
LRSE1	Local, regional and state economies		Impact on local economy during construction and ongoing operation. Strategic benefits to the State.	Direct and Indirect Impacts Economic Impact assessment / Detailed studies and investigations to be carried out by technical specialists.		DETAILED
Hazards and Risks (HR)						
HR1	Bushfire	Potential impact of bushfire on the proposed development, and/or potential for the proposed activities increase risk of bushfire.	Unknow pending bushfire management assessment.	Direct Impact Requirement for a bushfire management plan.	To be confirmed.	STANDARD
HR2	Flooding					STANDARD

Library Ref	Environmental Attribute	Description	Scale of Impact	Nature of Impact	Sensitivity of Receiving Environment	Level of Assessment
HR3	Site and Groundwater Contamination	Existing known site contamination based on previous site investigations. Potential impact on various project infrastructure.	Previous site contamination investigations identified areas of environmental concern, outlining the nature and extent of existing site contamination and the actual or potential risk to human health or the environment.	Direct Impact A level of studies and investigations to be carried out by technical specialists - identify and address exposure pathways.	Potential impacts will vary for each project element/ land use. i.e. impacts on camp accommodation v industrial facilities.	DETAILED
HR4	Dangerous Substances	Use, production, and storage hazardous materials	Development application report identifies potential impacts in terms of hazardous materials however hazard analysis required to confirm scale of impact.	Hazard analysis required to confirm nature of impacts.	Unknown – requires confirmation based on risk/hazard assessment.	DETAILED
Land Use and Site Conditions (LUSC)						
LUSC1	Land tenure, protected areas and land use	Project site compromises Crown Leases and petroleum licences.		Direct Impact		STANDARD
Physical Environment (PE)						
PE1	Coastal and Marine	N/A	N/A	N/A	N/A	N/A
PE2	Soils, Landform and Geology	Land movement or Seismicity – because of the project, or natural earthquake compromising the Urea production plant.	Unknown – Would require further assessment.	Direct Impact A level of studies and investigations to be carried out by technical specialists. Could be addressed in a hazard analysis.	Unknown – requires confirmation based on risk/hazard assessment.	STANDARD
PE3	Surface Water and Groundwater	Requirement for a water source during construction and operation of the Urea plant. Risk posed to any surface water and/or groundwater sources from the construction and operation of a Urea plant	Unknown. Further information required.	Direct Impact Potential depletion of surface water supplies, potential adverse impact on surface water users, and potential impact on surface water dependent ecosystems.	Users of surface water and groundwater sources within the region. Dependant ecosystems.	STANDARD

Library Ref	Environmental Attribute	Description	Scale of Impact	Nature of Impact	Sensitivity of Receiving Environment	Level of Assessment
				<p>Treatment requirements for wastewater and surface water generated onsite.</p> <p>Potential for water quality impacts from surface water and process water.</p> <p>A level of studies and investigations to be carried out by technical specialists.</p>		
Design (DQ)						
DQ1	Urban Design and Place-Making	Built from elements	Limited	Negligible impact	N/A	STANDARD
Social and Community (SC)						
SC1	Aboriginal Cultural Heritage	Potential for project activities to result in damage, disturbance, or interference with any Aboriginal sites.	Unknown. Any potential impacts will be managed via for Ministerial authorisation - Section 23 of the Aboriginal Heritage Act 1988.	<p>Direct Impact</p> <p>Potential for damage, disturbance, or interference to Aboriginal sites.</p>		DETAILED
SC2	Community Wellbeing / Social Impact Assessment	Capacity of the Leigh Creek township and broader region to service proposed development.	<p>Impact on local community during construction and ongoing operation.</p> <p>Strategic benefits to the State.</p>	<p>Direct and Indirect Impact</p> <p>Social Impact Assessment / Detailed studies and investigations to be carried out by technical specialists.</p>		DETAILED
SC3	Heritage Places and Areas	Unknown	Unknown	Unknown.	Unknown	STANDARD