STATE PLANNING COMMISSION

GUIDELINES

For the preparation of an

ENVIRONMENTAL IMPACT STATEMENT

'EnergyConnect' SA-NSW Interconnector
330 kV Electricity Transmission Line
Robertstown – SA/NSW Border

ElectraNet Pty Ltd

Endorsed 27 September 2019

State Planning Commission

Department of Planning, Transport and Infrastructure

www.saplanningportal.sa.gov.au

Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders Street
GPO Box 1815
Adelaide South Australia 5001

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1. BACKGROUND

On 24 June 2019, the Minister for Planning ('the Minister') declared the 330 kV Robertstown – SA/NSW Border Electricity Transmission Line to be assessed as a Major Development pursuant to Section 46 of the *Development Act 1993* (the Act) (published in the Government Gazette on 27 June 2019).

Section 46 of the Act ensures that matters affecting the environment, the community or the economy to a significant extent, are fully examined and taken into account in the assessment of this proposal.

The State Planning Commission (SPC) is responsible for setting the level of assessment required (Environmental Impact Assessment, Public Environmental Report or Development Report) and provides Guidelines for the preparation of the assessment document.

Due to the nature of proposal, the need for a broader assessment and investigation of the following is required:

- The strategic and economic benefits of establishing an interconnector between South Australia and New South Wales (and Queensland and Victoria).
- Impact upon the Murray River Basin, which is a major centre of wildlife habitat, including breeding waterbirds, and the location of large tracts of native vegetation.
- Impact upon the Riverland Biosphere Reserve, which includes Taylorville and Calperum Stations, and which contains one of the largest intact stands of old-growth mallee vegetation, and listed on the Commonwealth Heritage register as an area of Critical Habitat.
- Impact upon the Riverland RAMSAR site, recognised as a wetland of international importance.
- Impact upon threatened fauna and flora species, including the nationally threatened Black-eared Miner.
- Impact on sites, objects and areas of significance to Aboriginal people.
- Visual impact, especially the effect on landscape values and ecotourism.

Following consideration of the potential implications of the proposal, SPC has determined that the proposal will be subject to the processes of an **Environmental Impact Statement** (EIS), as set out in Section 46B of the Act. An EIS was considered appropriate due to a number of issues to be investigated and that it also aligns with the level of assessment assigned by the NSW planning system for the part of the infrastructure located from the NSW border to Wagga Wagga via Buronga.

The *Development Act 1993* requires that an EIS be publically exhibited for a period of at least 30 business days and for a public meeting to be held during this period.

The State Planning Commission has now prepared Guidelines (this document) for the proposed 190km of transmission line and associated structures based upon the significant issues relating to the proposed development. The EIS should be prepared in accordance with these Guidelines and should describe what the proponent wants to do, what the environmental effects will be and how the proponent intends to manage the project.

The EIS should cover both the construction and ongoing operation of the development and, where possible, should outline opportunities to incorporate best practice design and management.

For the purposes of environmental impact assessment under the *Development Act 1993*, the meaning of 'environment' is taken to include an assessment of environmental (biological and physical), social and economic effects associated with the development and the means by which those effects can be managed.

In this context this document is the guidelines as set by the State Planning Commission specifically prepared for this application. The guidelines have been developed to properly define the expected impacts (extent, nature and significance) associated with the proposal in the manner suggested, the proposed mitigation strategies, and on balance whether such impacts are acceptable.

The State Planning Commission has determined, subject to consideration of section 63 of the *Development Regulations 2008* that the proposal will be subject to the processes of an **Environmental Impact Statement** (EIS), as set out in Section 46B of the Act. The Commission's role in the assessment process is now completed. From this point the Minister will continue with the assessment under Section 46 of the Act.

The documentation and analysis from the assessment process will then be used by the Governor in the decision-making process, pursuant to Section 48 of the *Development Act 1993*, to decide whether the proposal can be approved, and the conditions that would apply.

The proponent submitted a Referral for the proposal to the Australian Government Department of Environment and Energy, in accordance with the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Commonwealth has had a decision that the proposal action requires an assessment and approval under the EPBC Act before it can proceed as the proposal action is likely to have significant impacts on protected matters.

The proposal is to be assessed through the South Australian assessment process in accordance with the State/Commonwealth Bilateral Agreement pursuant to s45(2) of the *Environment Protection and Biodiversity Conservation Regulations 2000*. These Guidelines have been prepared with Commonwealth input and their requirements are reflected through the Assessment requirements.

This will provide the Commonwealth Minister for the Environment, or their delegate, with sufficient information to make an informed decision whether or not to approve the proposed action under Part 9 of the EPBC Act.

2. DESCRIPTION OF PROPOSAL

The proponent of the proposed development is ElectraNet, which is an Adelaide based company and the principal owner/operator of the South Australian electricity network. ElectraNet currently connects South Australia's electricity throughout 5,600 kilometres of transmission lines, approximately 30km of underground cables and 91 high-voltage substations. The value of these assets is approximately $2.5 billion.

The proponent seeks to construct a multi-state electricity network connection between South Australia and New South Wales. The proposal is part of a broader project – 'EnergyConnect' – being undertaken in conjunction with the NSW energy utility TransGrid, which is responsible for the proposed line from the SA/NSW Border to Wagga Wagga (in south-eastern NSW). The proposed interconnector may also provide links with the Queensland and Victorian networks.

The proposal consists of a 15 kilometre wide investigations corridor within which a route will be selected following detailed investigation and assessment. The South Australian portion of the works would consist of the following:

- Approximately 10 km of 275kV transmission line supported by steel towers from the existing Robertstown substation to a proposed new substation at Bundey.
- A new substation near Robertstown at Bundey to allow for the transformation of the 275kV line to 330kV.
- Approximately 180km of 330kV transmission line supported by steel towers from the new Bundey substation to the SA/NSW border.
- Associated access tracks.
- Associated telecommunication facilities.
- Associated facilities area for construction and maintenance such as laydown areas and mobile construction camps.

The transmission line requires the installation of steel lattice towers which are 50 – 60 m in height. Tower spacing is expected to be approximately 450 – 600m along an easement that would be approximately 60 - 75

m wide. In areas where access is limited guyed towers and steel monopoles (40 – 50m high) will be used. These are generally spaced approximately 500m apart.

Lattice tower require an area of approximately 50m by 50m and require a cast in-situ concrete foundation of 8 – 14m deep and 1200mm in diameter.

A new substation is proposed at Bundey anticipated to be approximately 10 – 15km northeast of the existing Robertstown substation. The total site of the substation will be 1000m by 1000m. The first stage is expected to be 200m by 200m. The substation will consist of gantries, switch gear, 270/330kV transformers, control buildings, lighting and lighting masts with the tallest structure being 25- 30m high.

Construction and maintenance will require development of access tracks and laydown areas to enable tower footing construction and structure erection. Telecommunication for operation of the transmission lines are required through an optical ground wire and by radio links. It is anticipated that two new radio sites will be required to connect into the existing network. Each site will consist of a 20 – 70m radio tower and local telco hut, all contained within a fenced 20m x 20m site. Access tracks to the site will be required. The radio sites will be required in proximity to the alignment. Weather stations may be required. They would be similar design and siting as the radio sites.

The capital expenditure for the SA portion of the development is $400M and is expected to generate 200 construction jobs. The value of the project overall (including the NSW portion) is estimated at $1.5 billion.

3. MAJOR DEVELOPMENT PROCESS AND ROLE OF GUIDELINES

The Major Development assessment process enables the Minister for Planning to utilise impact assessment as a strategic tool.

Impact assessment enables the holistic consideration of proposals that might otherwise be of a nature or scale that is not expected through the regular development assessment process and/or Council Development Plan(s).

The major development assessment process has several steps:

These Guidelines are prepared to inform the preparation of the EIS. They set out the assessment issues associated with the proposal along with their scale of risk as determined by the State Planning Commission.

An EIS must be prepared by the proponent in accordance with the Guidelines and should specifically address each guideline.

Each guideline is intended to be outcome focused and may be accompanied by suggested assessment approaches. These suggestions are not exhaustive, and may be just one of a wide range of methods to consider and respond to a particular guideline.

The EIS should detail any expected environmental, social and economic effects of the development, and the extent to which the development is consistent with the provisions of the Councils Development Plan, the Planning and Design Code, the Planning Strategy and any matter prescribed by the Regulations under the Act.

Whilst not mandatory for this EIS due to it being declared under the Development Act the EIS may wish to address the State Planning Policies given they are now a relevant planning instrument.

The completed EIS is submitted (by the proponent) to the Minister for public release, and is subsequently referred to the relevant Council(s) and government agencies for comment.

An opportunity for public comment will occur when the completed EIS is released. Public exhibition is undertaken for 30 business days. An advertisement will be placed in the *Advertiser* and local newspapers inviting submissions.

Copies of the submissions from the public, relevant Council(s) and government agencies will be provided to the proponent.

The proponent must then prepare a 'Response Document' to address the matters raised during the Public exhibition period.

An Assessment Report is then prepared. The Assessment Report and the Response Document will be available for inspection and purchase at a place determined by the Minister for a period determined by the Minister.

Availability of each of these documents will be notified by advertisements in *The Advertiser* and local newspapers. A copy of the EIS, Response Document and the Assessment Report will be provided to each of the Councils.

When a proposal is subject to the EIS process, from 1 July 2019 the Minister for Planning makes the final decision under Section 48 of the Act having regard to Regulation 11 (3) of the *Planning, Development and Infrastructure (Transitional Provisions) (Code) Variation Regulations 2019*. .

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

- provisions of the appropriate Development Plan or Planning and Design Code
- the Development Act and Regulations
- if relevant, the Building Code of Australia
- The South Australian Planning Strategy, including the Integrated Land Use and Transport Plan
- the EIS, Response Document and the Minister's Assessment Report
- if relevant, the *Environment Protection Act 1993*
- if relevant, the objects of the *Marine Parks Act 2007*
- any other relevant government policy and/or legislation.

The Minister for Planning can at any time indicate that the development will not be granted authorisation. This may occur if the development is inappropriate or cannot be properly managed. This is commonly referred to as an ***early no***.

Commonwealth Government Involvement in the Assessment Process

The proponent submitted a Referral for the proposal (i.e. proposed action) to the Australian Government Department of the Environment and Energy, in accordance with the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

On 17 July 2019, a delegate of the Commonwealth Minister for the Environment made a decision that the proposed action requires assessment and approval under the EPBC Act before it can proceed (EPBC no.2019/8468). This was because the proposed action is likely to have, a significant impact on the following matters protected by the EPBC Act:

- Black-eared Miner (*Manorina melantotis*) – endangered
- Red-lored Whistler (*Pachyephala rufogularis*) – vulnerable
- Regent Parrot (eastern) (*Polytelis anthopeplus monarchoides*) – vulnerable
- Malleefowl (*Leipoa ocellata*) – vulnerable
- Iron-grass Natural Temperate Grassland of South Australia ecological community – critically endangered
- Peer Hill Hop-bush (*Dodonaea subglandulifera*) – endangered
- Silver Daisy – bush (*Olearia pannosa* subsp. p*annosa*) – vulnerable.

The Commonwealth of Australia has an assessment Bilateral Agreement with the State of South Australia (Bilateral Agreement), under section 45 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), accrediting the South Australian Major Development environmental impact assessment process.

It has been determined that the proposal can be assessed through the South Australian assessment process under the requirements of the Bilateral Agreement and therefore, has been formally triggered.

In accordance with the Bilateral Agreement (*Development Act 1993* provisions), the proposal will undergo a streamlined assessment process in co-ordination with the Australian Government Department of the Environment and Energy. This means there will only be one environmental impact assessment document (EIS) prepared, one period of public consultation undertaken and one Response/Supplementary document prepared to satisfy the legislative requirements of each jurisdiction.

Following assessment, the State of South Australia will provide an Assessment Report to the Commonwealth Minister for the Environment and Energy, who will then make a (separate) decision whether or not to approve the proposed action under Part 9 of the EPBC Act.

The Australian Government Department of the Environment and Energy has had input into the preparation of these Guidelines in regard to issues related to the EPBC Act.

4. ENVIRONMENTAL IMPACT STATEMENT (EIS)

The EIS should be presented in terms that are readily understood by the general reader. Technical details should be included in the appendices.

The report must include the following:

Assessment of expected environmental, social and economic effects
The assessment of effects should include all issues identified in these Guidelines and cross referenced to supporting technical references.

Consistency with Government policy
The *Development Act 1993* requires the EIS to state the consistency of the expected effects of the proposed development:

- with the relevant Development Plan, Planning and Design Code and Planning Strategy.

- with the objects of the *Environment Protection Act 1993*, the general environmental duty and relevant environment protection policies, and
- with the objects of the *River Murray Act 2003*, the Objectives for a Healthy River Murray and the general duty of care.

Avoidance, Mitigation, Management and Control of adverse effects
The proponent's commitment to meet conditions proposed to avoid, mitigate, satisfactorily manage and/or control any potentially adverse impacts of the development on the physical, social or economic environment, must be clearly stated as part of the EIS.

The design of the proposal should be flexible enough to incorporate changes to minimise any impacts highlighted by this evaluation or post-operation monitoring programs.

The report should include the following:

Summary
The EIS should include a concise summary of the matters set out in Section 46B of the *Development Act 1993* and include all aspects covered under the headings set out in the Guidelines, in order for the reader to obtain a quick but thorough understanding of the proposal and the resulting environmental impacts.

Introduction
The introduction to the EIS should cover the following:
- background to, and objectives of, the proposed development
- details of the proponent
- 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.

Need for the Proposal
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.

Description of the Proposal
The description of the proposal should include the following information:
- the nature of the proposal and location
- a project plan to outline objectives, constraints, key activity schedule and quality assurance
- site layout plans (including indicative land division plan, if relevant)
- the construction and commissioning timeframes (including staging)
- a description of the existing environment (including the immediate and broader location)
- a description of the current land use activities occurring in the area
- details of all buildings and structures associated with the proposed development
- details of any other infrastructure requirements and availability
- details of the construction methods to be used
- details on the operation of the proposed development, including proposed maintenance programs
- the relevant Development Plan zones
- management arrangements for the construction and operational phases (including Environmental Management and Monitoring Plans)
- a contingency plan for delays in construction.

The proposal should also include information on alternative route alignments investigated and justification provided as to their potential suitability/unsuitability.

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. The plan should be drawn to a large scale and be readily legible. The plan(s) should indicate:
  - any neighbouring buildings, infrastructure or facilities, including identification of all nearest sensitive receptors and the likely use of existing or proposed neighbouring buildings (e.g. dwelling, farm outbuildings, shop, office)
  - location of any watercourse, dams, underground wells and/or any other environmentally sensitive areas
  - location of any state heritage and cultural heritage in relation to the site
  - existing native vegetation, regulated or significant trees
  - known sites for protected, threatened or vulnerable species, including migratory species, on the site, the adjoining land and riverine environment
  - existing roads and access tracks (public & private)
  - any other information that would help to set the context for the locality

- **Site plan(s)** (drawn at a scale of 1:100 or 1:200) clearly indicating all proposed buildings, structures and works.

- **Elevations** (drawn at a scale of 1:100 or 1:200) showing all sides of the 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 height in Australian Height Datum.

- **Route survey plan** that shows indicative easement corridor and the location of towers within easement.

- Any **technical or engineering drawings** and specifications including geotechnical data, details of cut and fill and depth to groundwater.

Specialist Reports and Details

- 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), compliance with the mitigation hierarchy and any significant environment benefit proposed.

- A **Cultural Heritage Management Plan** (CHMP) prepared by an appropriately qualified heritage expert that includes an assessment of the potential impact of the proposal on Aboriginal culture heritage. The CHMP must outline measures to be taken before, during and after the proposed development in order to manage and protect Aboriginal cultural heritage. The CHMP should include a cultural heritage survey identifying areas of Aboriginal significance. This survey should identify any archaeological, anthropological or historical sites, or sites of significance according to Aboriginal tradition.

- A **transport and access impact assessment** prepared by a suitably qualified traffic and access planner/engineer. The assessment should evaluate current and proposed access arrangements including the effect on the arterial road network and car parking, as well as vehicle interface with the local road network. Any assessment must include the traffic and access impact for the construction

period as well as any ongoing operations and maintenance including details of the traffic/transport vehicle sizes/movements outside of normal gazetted heavy vehicles.

- A **waste management and minimization plan (for construction and operation)** detailing the sources of waste including spoil and removed vegetation, the location of waste management storage areas (including the separation of waste streams, such as recyclables, hard waste and e-waste) and disposal facilities located on site or within laydown areas and provide details of how these facilities will be serviced.

- A **noise assessment** prepared by a suitably experienced, professional acoustic engineering consultant[1] to moderate external and environmental noise disturbance and amenity impacts for residents and other sensitive uses within the immediate area as a result of the proposed development (primarily during construction).

- Details of any proposed **wastewater management**, including segregation, collection, treatment, storage, reuse and disposal of wastewater.

- A **construction environmental management plan** (CEMP) that describes how construction will be managed to mitigate negative environmental impacts to the environment, and public health and the amenity, and how those environmental management requirements will be implemented. Any CEMP should include consideration of a soil erosion and drainage management plan such as details of proposed stormwater management, including any opportunities for retention and reuse.

- A **fire hazard management plan** that considers requirements both during the construction and operational 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.

- A **operational environmental management plan** (OEMP) that describes how operations, in particular maintenance regimes, will be managed to mitigate negative impacts to the environment, and public health and the amenity, and how any ongoing environmental management requirements will be implemented. Any OEMP should include risk management plan which includes consideration of minimising maintenance works during fire danger season.

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.

- It is **RECOMMENDED** that the EIS consider issues that may generate concerns based on inaccurate or outdated perceptions. The information provided should explain key concepts in a factual manner. This can help to provide base level information to assist with community understanding of the proposal.

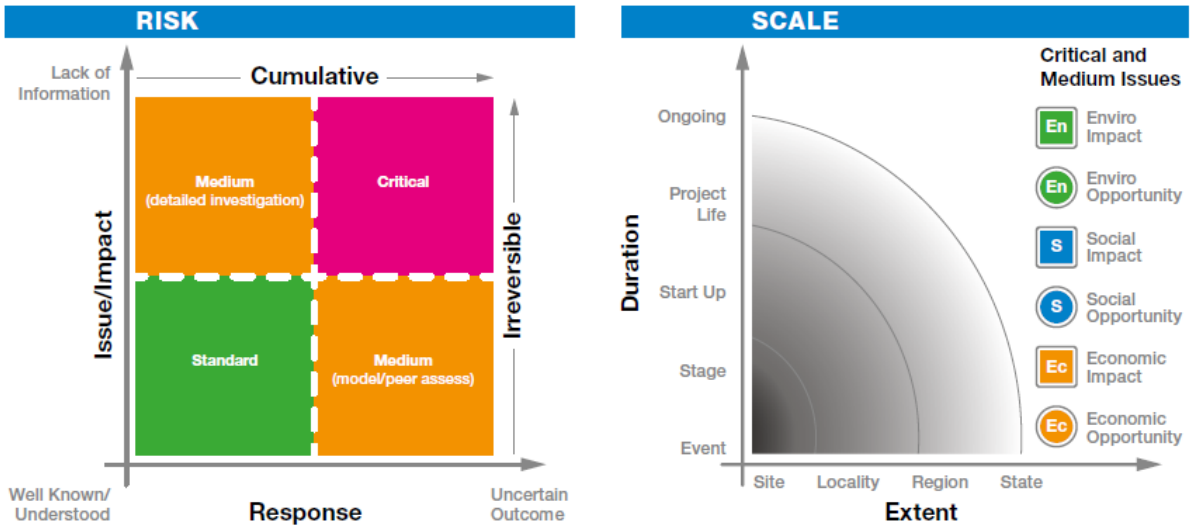
[1] An acoustic engineer is defined as a person eligible for full Member status of both Engineers Australia and the Australian Acoustical Society

5. ASSESSMENT

Impact assessment is an important tool that enables the consideration of projects that might otherwise struggle to be addressed properly or fairly under the 'normal' assessment system.

In setting these Guidelines, the State Planning Commission has considered the scale of issues associated with the project and determined whether they represent issues or opportunities. The potential impacts and issues have then been organised according to the level of work and type of attention required by the proponent: either standard, medium or critical:

- Where the issue is well known and the response is well understood then the risk assessment is classed as '**standard**'
- Where work is required to address the issue but the risk is likely to be manageable with additional information then the risk assessment is classed as '**medium**'.
- Where information about the issue is lacking and the response is unclear, the issue is classed as '**critical**'.



The issues and impacts identified by the Commission as requiring standard, medium or critical level assessment are listed below. Each requirement includes a description of the issue/impact and a description of the action or investigation needed.

To assist with the assessment of the EIS the proponent is requested to provide a table (as an appendix) that cross references each Guideline requirement (action or investigation needed) with the relevant section and page of the EIS.

NOTE: The investigative requirements of the EIS do not negate the need for the proponent to obtain all necessary licences, permits and/or management plans prior to undertaking any investigations or works in relation to this EIS. It also does not negate the need for the proponent to comply with any legislative obligations or duty of care under the relevant legislation.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			Risk		Scale		Level of assessment
No	Issue/Impact	Description	Issue/Impact	Response	Duration	Extent	
1	Matters of National Environmental Significance (MNES) under the EPBC Act	The proposal has been deemed a controlled action due to potential impacts on MNES. • Black-eared Miner (*Manorina melantotis*) – endangered • Red-lored Whistler (*Pachycephala rufogularis*) – vulnerable • Regent Parrot (eastern) (*Polytelis anthopeplus monarchoides*) – vulnerable • Malleefowl (*Leipoa ocellata*) – vulnerable • Iron-grass Natural Temperate Grassland of South Australia ecological community – critically endangered • Peer Hill Hop-bush (*Dodonaea subglandulifera*) – endangered • Silver Daisy – bush (*Olearia pannosa* subsp. *pannosa*) – vulnerable	Based on the information provided by the proponent, there is potential for significant impacts on MNES, specifically threatened species (or their habitat) and ecological communities.	The current plan does not provide a detailed description of the alignment in relation to the effect on MNES and measures to avoid or mitigate impacts during construction and ongoing operation.	During construction and ongoing.	National implications.	The receiving environment & MNES are highly sensitive to change. The MNES require further survey and assessment, including investigating alternative alignments of the entire corridor, in particular through or outside of Taylorville and Calperum, and in relation to potential impacts of bird strike and fire. = **CRITICAL** *NB – this is a mandatory component of the SA/ Commonwealth Bilateral Agreement*
2	Land Use and Economic Effects	The proposal will have an impact on the State's economy during construction and operations and may result in immediate and long terms effects on land owners and surrounding uses. The commissioning of the infrastructure will have an impact on the electricity market within South Australia and a possible flow on effect with regard to renewable energy generation. Both the construction and use of the proposed infrastructure will result in employment and will have other economic flow on effects.	Potential impacts include: • Improved grid stability / reliability • Greater price competition. • Greater efficiency (especially due to access to additional markets). The proposal may however have the effect of encouraging additional generation capacity using valuable primary production land. The proposal is expected to have a positive impact in terms of employment and contribution to the local economies during construction.	The current plan does not provide an in depth analysis of: • Impacts of the interconnector on the electricity market. • Impacts of employment generation. • The economic benefits and • The flow on effects of additional land used for energy generation.	Ongoing.	Regional, State and National	More information required on: • Strategic energy related benefits. • Employment opportunities • Multiplier/flow on effects. • Impact of the flow on effect on land uses in the vicinity of the substation. **= CRITICAL**
3	Effect on Conservation Values	The proposed development traverses an area which contains significant and extensive tracts of remnant habitat (including one of the largest stands of old-growth Mallee vegetation in Australia) and has high conservation values. It is also within close proximity of the floodplain habitat of the River Murray and areas of cultural significance to Aboriginal people.	Based on the information provided by the proponent, there is potential for significant impacts on conservation values (from a regional and national perspective).	The current plan does not provide a detailed description of the various alignment options and the effects on conservation values.	During construction and ongoing.	Regional, State and National	The receiving environment is potentially negatively impacted by the infrastructure. Need for further assessment including investigating alternative alignments and offset opportunities. **= CRITICAL**

			Risk		Scale		Level of assessment
4	Effect on Native Vegetation	The proposed development traverses a significant stands of native vegetation including possibly threatened species and ecological communities.	Based on the information provided by the proponent, there is potential for significant impacts on native vegetation including threatened species and ecological communities (by way of vegetation clearance / disturbance and edge effects).	The current plan does not provide a detailed description of the alignment in relation to the effect on native vegetation.	Primarily during construction.	Regional, State and National	The receiving environment is potentially negatively impacted by the infrastructure. Need for further assessment on the location, extent, condition and impact on native vegetation, threatened species and ecological communities and any opportunity for offsetting. = **CRITICAL**
5	Effect on Native Fauna	The proposed development traverses habitat that supports significant populations of native fauna.	Based on the information provided by the proponent, there is potential for impacts on fauna habitat (including Mallee and Riverine communities).	The current plan does not provide a detailed description of the alignment in relation to the effect on native fauna.	During construction and ongoing.	Regional, State and National	The receiving environment is highly sensitive to change. Need for further assessment on the location, extent, condition and impact on native fauna and any opportunity for offsetting. = **CRITICAL**
6	Effect on Cultural Heritage Values	The proposed development has the potential to impact on sites / locations of Indigenous or Non-indigenous heritage through disturbance during construction. Native Title implications associated with Crown land.	The proposed development may have impacts on recorded and unrecorded Aboriginal heritage sites, objects and remains, as well as the state heritage-listed sites, which may be located within the alignment.	The current plan does not provide a detailed description on existing Aboriginal and other heritage matters, or management of such heritage matters that may arise during the construction phase.	Construction	State	Issue is well understood, but more specific information is required = **CRITICAL**
7	Route Selection investigations	The proposed route is anticipated to be a 60 - 75m wide corridor within a wider 15km corridor. There are multiple route options within the corridor. A multi criteria analysis proposed for route selection.	Based on the information provided there is a number of environmental, social, land use and engineering constraints that impact route selection.	The current plan does not provide detailed rationale and justification of the route selection.	Design	Local and Regional	Need for further information, including multi criteria analysis of each alternative route and details of the preferred route. =**CRITICAL**
8	Visual Impact	Impact landscape and visual amenity values. The effect of large number of lattice towers (i.e. approximately 475 towers - typically 50 metres in height and spaced 450 – 600 metres apart) along a 190 kilometre alignment, which would represent a significant visual element in the landscape.	Effect on the amenity of local communities, tourism values / experiences and landscape quality (especially iconic natural landscapes and wilderness).	The current plan does not provide an analysis of the visual impact on the adjacent land users and scenic vantage points (for near and distant views).	Ongoing	Local and Regional	Further information required. The receiving environment is potentially negatively impacted by the infrastructure. = **MEDIUM**
9	Effect on Communities	The proposed development has the potential to affect the local community during construction and through the establishment of a large linear structure.	The introduction of a large powerlines may affect local communities.	The currently plan provides little detail on the effects of communities.	During construction and ongoing.	Local	More information is required, but impacts would be manageable. = **MEDIUM**
10	Hazard Risk	The construction and operation of a high voltage powerline involves a range general and specific risks.	Associated risks include: • Erosion and land contamination. • Fire. • Aircraft safety.	The current plan provides little detail of a risk assessment.	During construction and ongoing.	Local	Issue is well understood, but more specific information is required on level of risk. = **MEDIUM**

			Risk		Scale		Level of assessment
			• Road safety. • Bird / bat strike.				
11	Alternatives	There are a number of alternatives that require exploring.	Based on information provided a wide range of future scenarios have been investigated.	The current plan provides limited detail about alternative explored.	Design	Local Regional State	More information on alternative options explored and rationale as to the assessment of these. = **MEDIUM**
12	Effect on the physical environment	The proposed development has the potential to disturb landforms and soils and to affect storm water run-off.	Construction activities and the establishment of a permanent access track has the potential to cause erosion (wind and water), sedimentation and the alteration of natural drainage patterns.	The current plan does not provide a detailed description of the alignment in relation to disturbance to the physical environment.	Primarily during construction.	Local	Issue is well understood, but more specific information is required. =**MEDIUM**
13	Introduction/spread of exotic plant and animal species	The proposed development has the potential to establish a corridor for the spread of introduced or nuisance plants and animals.	The establishment of an easement and access track could introduce or increase the abundance of pest plants or animals (especially rabbits, birds, foxes, cats and dogs). Increased abundance of some native species could also affect local populations (especially the Yellow-throated Minor).	The current plan does not provide a detailed description of the alignment in relation to the effect on introduced plant and animal species.	Ongoing	Local and Regional	Need for further recent information (or updated existing information). = **MEDIUM**
14	Traffic Effects	The proposal requires access for the transportation of infrastructure and construction material to site and ongoing access for maintenance purposes.	During construction local traffic may be affected, especially for the delivery of materials and infrastructure	The current plan does not provide a detailed description of traffic impacts and how they would be managed.	During construction and ongoing.	Local and Regional	More information is required, but impacts would be manageable. **= STANDARD**
15	Construction, Operation and Maintenance Effects	The construction and operation of the proposal would require a range of impacts to be minimised, mitigated and monitored through an environmental management plan framework.	A range of standard and specific impacts would need to be adequately addressed (including consultation with stakeholders and the adoption of a risk analysis approach and relevant industry standards).	The current plan provides limited information on the proposed construction and operational management techniques and measures.	During construction and ongoing.	Local and Regional	More information is required, but impacts would be manageable. = **STANDARD**
16	Legislation, Policies and Strategies	A range of planning, environmental and energy related statutory requirements would need to be met for the construction and operation of the proposed development.	The proposal will need to comply with relevant State and Australian government legal requirements, policy directions and strategic objectives.	The current plan does not provide a detailed description of all relevant requirements.	During construction and ongoing.	N/A	Issue is well understood, but more specific information is required. **= STANDARD**

CRITICAL ASSESSMENT

Commonwealth Assessment Requirements

***Environment Protection and Biodiversity Conservation Act 1999* - Matters of National Environmental Significance**

The Commonwealth Minister for the Environment has determined (EPBC no.2019/8468) that the proposed action is likely to, or may have, a significant impact on the following protected matters (matters of national environmental significance (MNES)):

- Black-eared Miner (*Manorina melantotis*) – endangered
- Red-lored Whistler (*Pachyephala rufogularis*) – vulnerable
- Regent Parrot (eastern) (*Polytelis anthopeplus monarchoides*) – vulnerable
- Malleefowl (*Leipoa ocellata*) – vulnerable
- Iron-grass Natural Temperate Grassland of South Australia ecological community – critically endangered
- Peer Hill Hop-bush (*Dodonaea subglandulifera*) – endangered
- Silver Daisy – bush (*Olearia pannosa* subsp. *pannosa*) – vulnerable.

The proposal is to be assessed through the South Australian assessment process in accordance with the State/Commonwealth Bilateral Agreement pursuant to s45(2) of the *Environment Protection and Biodiversity Conservation Regulations 2000*. These Guidelines have been prepared with Commonwealth input and their requirements are reflected through the Assessment requirements specified in the section below.

This will provide the Commonwealth Minister for the Environment, or their delegate, with sufficient information to make an informed decision whether or not to approve the proposed action under Part 9 of the EPBC Act.

State and Commonwealth Assessment Requirements

CRITICAL ASSESSMENT

Land Use and Economic Effects

Assessment Requirement 2: The proposal will have an impact on the State's economy during construction and operation and may result in immediate and long term effects on land owners and surrounding uses.

Land use

2.1 *Identify the types and extent of land tenure in broad terms, including reference to Crown Land. Outline any implications for Native Title and Native Heritage Agreements along the proposed route.*

2.2 *Identify the main land uses in the area (eg. conservation, Bookmark Biosphere Reserve, Heritage Agreements, mining, agriculture, pastoralism, tourism, recreation, existing infrastructure).*

2.3 *Identify the level of interference to landowners, land uses and activities in the immediate and surrounding environs.*

2.4 *Describe the implications, if any, of securing any easements.*

2.5 *Describe the potential effect on property values.*

2.6 *Outline any mitigation measures to alleviate or avoid impacts on land owners and land uses, and refer to any compensation programmes.*

2.7 *Assess any cumulative impacts of the proposal in relation to other infrastructure projects proposed for the region (such as the increase in renewable energy generation anticipated) and discuss the effect of loss of land for primary production purposes.*

Economic

2.8 *Provide a full economic analysis of the proposal including details on the economic effects of the proposal in terms of provision of an additional 'interconnection' and the local and broader employment generation from construction activities of the proposed development, including the 'multiplier effect'.*

2.9 *Describe the potential positive and negative economic effects on household, business and industrial energy consumers in the State.*

2.10 *Describe potential employment opportunities and the expected impacts on communities.*

2.11 *Identify any potential economic effects on tourism and recreation.*

2.12 *Identify any secondary economic effects, including the potential to attract new industries (such as renewable energy generation) and commercial ventures in areas benefiting from increased power supply. Describe and positive and negative effects of this, including current generation assets.*

2.13 *Identify any economic implications for the State and the region if the proposal does not proceed.*

Effect on Conservation Values

Assessment Requirement 3: The proposed development traverses a corridor which contains significant and extensive tracts of remnant habitat (including one of the largest stands of old-growth Mallee vegetation in Australia) and has high conservation values. It is also within close proximity of the floodplain habitat of the River Murray.

3.1 *Identify the potential effects and measures to avoid and or mitigate the proposal on the local, regional, state or national conservation status of individual species and vegetation communities during both construction and maintenance (including species listed in the* SA National Parks and Wildlife Act 1972 *and the Commonwealth* Environment Protection Biodiversity Conservation Act 1999*).*

3.2 *Identify the potential effects and measures to avoid and or mitigate the proposal on the local, regional, state or national conservation status of sites, objects and areas of significance to Aboriginal people during both construction and maintenance.*

Effect on Native Vegetation

Assessment Requirement 4: The proposed development traverses significant stands of native vegetation.

4.1 *Describe the location, extent, condition and significance of native vegetation, including individual species and communities in the proposal's environs. Include reference to areas that have Heritage Agreements under the* Native Vegetation Act 1991*.*

4.2 *Describe the location, extent, condition and significance of native vegetation species and communities that may need to be cleared or disturbed during both construction and maintenance.*

4.3 *Describe the ability of communities or individual species to recover, regenerate or be rehabilitated during both construction, operation including maintenance.*

4.4 *Identify the habitat value of native vegetation and the potential for habitat fragmentation during both construction and maintenance (and decommissioning), including a description of the effects of any fragmentation that may occur over the life of the transmission line.*

4.5 *Detail any changes in biological diversity that may result at the interface between the powerline easement and existing vegetation (i.e. the "edge effect") during construction and over the life of the transmission line, including maintenance.*

4.6 *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. Make reference to guidelines produced by the Native Vegetation Council and outline the effectiveness of any mitigation measures adopted during both construction and maintenance.*

4.7 *Identify the potential impact of fire on native vegetation, and the effects of fire risk management processes during both construction and maintenance.*

Effect on Native Fauna

Assessment Requirement 5: The proposed development traverses habitat that supports significant populations of native fauna.

5.1 *Describe the location, extent, condition and significance of native fauna populations, including individual species and communities in the proposal's environs.*

5.2 *Describe the location, extent, condition and significance of native fauna species and populations that may be affected during both construction and operation.*

5.3 *Describe the ability of populations or individuals to recover during both construction and operation.*

5.4 *Identify the effect of habitat fragmentation including, if any, the potential for any hybridisation of fauna.*

5.5 *Detail any changes in biological diversity (i.e. hybridisation) resulting at the interface between the powerline easement and existing habitat (i.e. the "edge effect") during both construction and over the life of the transmission line, including maintenance.*

5.6 *Outline measures to mitigate the effects on native fauna, including any compensatory activities in already degraded areas and use of existing easements.*

5.7 *Identify the potential impact of fire on native fauna, and the effects of fire risk management processes during both construction and maintenance.*

Effect on Cultural Heritage Values

Assessment Requirement 6: The proposed development has the potential to impact on sites / locations of Indigenous or Non-indigenous heritage through disturbance during construction.

6.1 *Identify any effects on Aboriginal sites of archaeological or anthropological significance (including but not limited to those listed in the Register of the National Estate and the SA Register of Aboriginal Sites and Objects). Indicate any consultation with local Aboriginal organisations that have an in interest in the area.*

6.2 *Identify any effects on post European settlement sites of archaeological or anthropological significance (especially but not limited to those listed in the Register of the National Estate, State Heritage Register or Interim List for the State Register and lists of places of local heritage value)..*

6.3 *Outline measures adopted to avoid or minimise impacts on Aboriginal and European sites of archaeological or anthropological significance.*

Route Selection

Assessment Requirement 7: The proposed route is anticipated to be a 60 to 75m wide corridor within a wider 15km assessment corridor.

7.1 *With regard to the Assessment Requirements required by this document (such as native fauna, vegetation, conservation values, cultural heritage and hazard risk) provide details, including a multi-criteria analysis, on the alternate routes investigated and rationale as to why the final route was chosen.*

MEDIUM ASSESSMENT

Visual Impacts/Interface with adjacent land uses

Assessment Requirement 8: The effect of large number of lattice towers (i.e. approximately 475 towers - typically 50 metres in height and spaced 450 – 600 metres apart) along a 190 kilometre alignment, which would represent a significant visual element in the landscape.

8.1 *Describe the effects of the proposal on the visual amenity and landscape quality for residents, visitors and tourists (especially near the River Murray Valley, major road crossings and other sensitive landscapes). Refer to construction, operation, maintenance and decommissioning aspects of the proposal, and outline the methodology adopted for classifying landscapes and assessing visual and landscape impacts.*

8.2 *Describe alternative measures for minimising potential loss of visual amenity (e.g. structural design and placement, screening) and detail any compensatory and site rehabilitation measures that will be undertaken to minimise visual impacts as a result of vegetation clearance.*

Effect on Communities

Assessment Requirement 9: The proposed development has the potential to affect the local community during construction and through the establishment of a large linear structure.

9.1 *Describe the proximity of the proposed transmission line to townships and dwellings, and describe any potential impacts of the proposal on quality of lifestyle.*

9.2 *With reference to assessment requirement 6 above, outline potential impacts on any other use of the land by Aboriginal people, or on cultural values held by Aboriginal people that relate to the areas affected by the project.*

9.3 *Describe any community consultation processes conducted by the proponent for the proposal and indicate community attitudes towards the proposal, where identified.*

9.4 *Describe the impact of the increase in workforce during and post construction on the nearby towns and the region as a whole. In particular the impact on local business and also effects on accommodation supply and demand.*

9.5 *Address any potential effects of electromagnetic fields, corona discharge and electric shocks on public health.*

9.6 *Identify any potential effects on TV and radio reception, telecommunication, broadband and mobile phone networks.*

9.7 *Identify any potential effects on airfields and aircraft movements, and consult with the Civil Aviation Safety Authority Australia, the Renmark Paringa Council (Renmark Aerodrome) and Loxton Waikerie Council (Waikerie & Loxton Aerodromes) about the requirements for structures within the vicinity of airfields.*

Hazard Risk

Assessment Requirement 10: The construction and operation of a high voltage powerline involves a range general and specific risks.

10.1 *Evaluate the fire risk of power line and construction/maintenance equipment/vehicles and timing of maintenance to avoid fire danger season.*

10.2 *Evaluate the risk to electricity supply and infrastructure from fires, lightning, flooding, winds, sabotage etc.*

10.3 *Describe any hazardous materials, with reference to storage, use, handling and disposal of these materials during construction and operation.*

10.4 *Outline any risks to farming and horticultural practices, including those arising from irrigation, aerial spraying and night operations.*

10.5 *Examine presence of towers and associated infrastructure adjacent public roads to investigate potential impacts on public and road safety.*

10.6 *Identify any safety risk associated with the use or transport of farming machinery and other equipment in the vicinity of towers, guy wires and power lines.*

10.7 *Describe risk minimisation, management and response requirements.*

10.8 *Describe the likelihood of bird strike and the management of such a hazard.*

Alternatives

Assessment Requirement 11: There are a number of alternatives that require exploring.

11.1 *Provide a brief comparative social, environmental and economic analysis of broader alternatives that could meet the proposed objectives at the State level and in the Riverland region. For example, power supply options and technologies, demand management and upgrades of existing lines.*

11.2 *Provide a comparative analysis of alternative routes and the short, medium and long term social, environmental and economic advantages and disadvantages of each.*

11.3 *Identify alternative design and construction techniques to meet the proposed objectives (eg. undergrounding, tower design and placement), with reference to any hazards/risks and the social, environmental and economic advantages and disadvantages of each.*

11.4 *Assess the 'do nothing' option.*

Effect on the physical environment

Assessment Requirement 12: The proposed development has the potential to disturb landforms and soils and to affect storm water run-off.

12.1 *Describe the nature and condition of the existing physical environment in the proposal's environs, including reference to geology, geomorphology, soils, hydrology and atmosphere.*

12.2 *Identify any risks and implications of causing or exacerbating land degradation, especially soil erosion and the impacts of dust emissions during construction and ongoing maintenance.*

12.3 *Identify the potential for pollution (including, but not limited to, sedimentation) of wetlands, watercourses, drainage channels and groundwater (especially at crossing points during construction), including the implications of this pollution.*

12.4 *Describe potential changes to hydrology (e.g. drainage patterns or groundwater characteristics), including the implications of these changes.*

12.5 *Address greenhouse gas emissions from construction, operation and maintenance of the transmission line.*

12.6 *Outline mitigation measures and their likely effectiveness in minimising or avoiding disturbance to the physical environment (including surface and underground waters) during construction and maintenance.*

Introduction/spread of exotic plant and animal species

Assessment Requirement 13: The proposed development has the potential to establish a corridor for the spread of introduced or nuisance plants and animals

13.1 *Describe the extent and significance of existing exotic plant and animal species, and diseases in the proposal's environs.*

13.2 *Identify the potential for the introduction or dispersal of new exotic plant and animal species, and the associated implications for native species, habitat and agricultural land.*

13.3 *Identify the potential for increased distribution and abundance of existing exotic plant and animal species, and the associated implications for native species, habitat and agricultural land.*

13.4 *Identify any risk of spread of disease (such as Phytophthora and Mundulla Yellows), and the implications of this spread.*

13.5 *Outline mitigation measures and their effectiveness in reducing or avoiding the introduction or spread of exotic plant/animal species and diseases (eg. decontamination of plant, equipment and materials), having regard to the effectiveness of such mitigation measures in the past.*

STANDARD ASSESSMENT

Traffic Effects

Assessment Requirement 14: The proposal requires access for the transportation of infrastructure and construction material to site and ongoing access for maintenance purposes.

14.1 *Describe all components of transport and storage of infrastructure (including towers and substation kit) and construction materials to site. Include reference to anticipating timing, sources of materials, routes, number and methods of transport (e.g by shipping, vehicle and/or helicopter).*

14.2 *Describe all traffic increases during construction and operational phases and traffic management measures.*

14.3 *Describe any construction, operational and maintenance traffic requirements that are outside of the current gazetted heavy vehicle movements.*

14.4 *Identify any potential effects of construction traffic on communities including noise and dust.*

14.5 *Describe any requirements where traffic infrastructure requires temporary or permanent modifications and access requirements that may be required on arterial and /or local roads to enable/facilitate construction and ongoing associated traffic and vehicles.*

Construction, Operation and Maintenance Effects

Assessment Requirement 15: The construction and operation of the proposal would require a range of impacts to be minimised, mitigated and monitored through an environmental management plan framework.

15.1 *Describe construction techniques and the timing of construction, with reference to any climatic and temporal implications for the biophysical environment. This should include reference to potential land degradation, pollution and implications for the breeding seasons of native species.*

15.2 *Outline the sources of waste and methods of disposing waste material, including reference to management of vegetation removed, indication of temporary and final locations for spoil and other waste and the possibilities for reuse or re-cycling of all waste streams. Provide details of a waste management plan.*

15.3 *Describe the likely impact and measures for the control of dust, vibration, noise, emissions, drag out (i.e. onto public roads) and litter during both construction and maintenance.*

15.4 *Describe the location of surface water and groundwater infrastructure and the potential for groundwater interception when digging footings and how dewatering might be managed (if required).*

15.5 *Describe sources of water for construction, including for the construction worker's accommodation camps, concrete batching plant and dust suppression.*

15.6 *Describe the impacts and proposed management of stormwater during construction and operation, including any opportunities for retention and reuse. Provide details of a soil erosion and drainage management plan.*

15.7 *Identify the risks of contamination of surface and groundwater 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.*

15.8 *Address the implications of seismicity in the area in relation to both the construction and operation of the transmission line.*

15.9 *Outline the approximate size of the construction workforce including any need for any construction workers camps or accommodation. Describe the location and management of accommodation camps including sources of water and power, and the management of waste, wastewater and noise impacts.*

15.10 *Outline any on site infrastructure required during construction (eg. borrow pits, site compounds, concrete batching facilities etc.) including the management and decommissioning of these areas.*

15.11 *Describe the location(s) where mobile concrete batching plants would be used and the management of wastewater, dust emissions and noise from such plant.*

15.12 *Describe the rehabilitation of the areas needed for construction including lay down, concrete batching and construction worker's accommodation areas.*

15.13 *Outline the proposed environmental management measures that would be adopted to deal with the identified construction, operational and maintenance effects. Include reference to any baseline studies, monitoring programmes, training programmes and reporting mechanisms (internally and to public authorities). Outline the effectiveness of mitigation measures for perceived and recognised impacts. Include consideration of previously demonstrated best practice or approaches which may have been used for similar works in similar habitats, which may be of benefit and/or have been endorsed for their proven low impact effects. Equally, innovative or new approaches should also be included.*

Planning and Environmental Legislation and Policies

Assessment Requirement 16: A range of planning, environmental and energy related statutory requirements would need to be met for the construction and operation of the proposed development.

16.1 *Describe the proposed transmission line in terms of its consistency with the relevant Development Plans, Planning and Design Code, the Planning Strategy and the State Planning Policies.*

16.2 *Describe the proposed transmission line in terms of its consistency with relevant State and Commonwealth legislation.*

16.3 *Outline any other Commonwealth or State Government initiatives that may relate to the proposed transmission line, including greenhouse issues, principles of ecologically sustainable development, power generation, and the conservation or protection of the biological environment. Describe the proposal in terms of its consistency with these initiatives.*

16.4 *Identify any potential implications of the proposed transmission line for International Conventions and Agreements to which the Commonwealth of Australia is a party.*

APPENDIX 1 – USEFUL DOCUMENTS

Legislation

- *Development Act 1993*
- *Development Regulations 2008*
- *Environment Protection Act 1993*
- *Native Vegetation Act 1991*
- *River Murray Act 2003*
- *Natural Resources Management Act 2004*
- *Native Title Act 1994*
- *Aboriginal Heritage Act 1988*
- *National Parks and Wildlife Act 1972*
- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.*

Strategy & Policy

- Development Plans and Planning and Design Code
    - Renmark Paringa Council
    - District Council of Loxton Waikerie
    - Berri Barmera Council
    - Mid Murray Council
    - Regional Council of Goyder
    - Land not within a Council Area
- Region Plans
    - Murray and Mallee Region Plan
    - Mid North Region Plan
    - Far North Region Plan
- State Planning Policies, 2019
- Environment Protection (Noise) Policy, 2007
- Environment Protection (Water Quality) Policy, 2015
- Environment Protection (Air Quality) Policy, 2016
- South Australia's Waste Strategy 2015 – 2020, Office of Green Industries SA
- Building Code of Australia

Guidelines

- Stormwater Pollution Prevention Code of Practice for the Building and Construction Industry, 1999
- Guide for applications to clear native vegetation, 2017
- EPA Concrete batching guidelines, 2016
- EPA Construction environmental management plans guidelines, 2018