

Environment Effects Act 1978

SCOPING REQUIREMENTS

**SHAW RIVER POWER STATION PROJECT
ENVIRONMENT EFFECTS STATEMENT**

JULY 2009



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1 Introduction

1.1 Background and Purpose of this Document

Shaw River Power Station Pty Ltd (“Shaw River Power”), a wholly owned subsidiary of Santos Ltd (“Santos”), proposes to develop a gas-fired power station of 1,500 megawatts (MW) capacity near the town of Orford, approximately 30 km north of Port Fairy in western Victoria.

In light of the potentially significant effects on the environment¹ associated with this proposal, on 7 November 2008, the Victorian Minister for Planning required Shaw River Power to prepare an Environment Effects Statement (EES) under the *Environment Effects Act 1978*. In accordance with section 8B(5) of the *Environment Effects Act 1978*, the Minister specified that the EES is to give particular attention to the investigation of potential environmental effects of the project, including relevant pipeline route alternatives and associated environmental mitigation and management measures, with respect to:

- Greenhouse gas air emissions, other air-borne emissions and solid and liquid waste that might be generated by the project during construction and operation of the power station and gas pipeline;
- Biodiversity and associated ecological values of potentially affected native vegetation, flora and fauna listed under the *Flora and Fauna Guarantee Act 1988*, and migratory species listed under international conventions;
- The landscape, scientific, conservation and amenity values of areas in the vicinity of the project infrastructure;
- Aboriginal cultural heritage in the vicinity of the project infrastructure;
- The capacity of the social infrastructure, housing and community in the vicinity of the project and nearby settlements to absorb the pipeline and power station construction workforce;
- Effects on the amenity of the local community.

The purpose of the EES is to investigate and assess the likely environmental effects of the proposal, in particular the key matters specified by the Minister above. Once completed, the EES should provide a detailed description of the proposal and its potential effects on the biophysical environment, as well as associated economic and social effects.

The Department of Planning and Community Development (DPCD) will manage the EES process.

The first step in the EES process is the preparation of the Scoping Requirements, which set out the scope of the environmental matters to be investigated and documented in the EES.

¹ For the purpose of environmental effect assessment under the *Environment Effects Act 1978*, the meaning of ‘environment’ includes physical, biological, cultural, economic, social and health factors.

Draft Scoping Requirements for the EES were advertised for public comment for a period of three weeks closing 18 June 2009. Public comments were considered before the Minister for Planning finalised the Scoping Requirements for the EES.

While the Scoping Requirements are intended to be complete in their coverage of issues and matters, the EES needs to address any pertinent issues that may emerge during the EES investigations and consultation, or that are otherwise relevant to statutory decisions.

1.2 Overview of the EES Process

The EES process will have the following key steps:

- Preparation of the Draft Scoping Requirements;
- Public comment on the Draft Scoping Requirements;
- Finalisation of the Scoping Requirements;
- Preparation of the EES by the proponent;
- Review of the draft EES by DPCD (in consultation with relevant agencies) in terms of its adequacy for public exhibition;
- Authorisation by the Minister for Planning to exhibit the EES;
- Exhibition of the EES for public comment;
- Appointment of an Inquiry by the Minister for Planning to conduct public hearings and review the EES and any public submissions; and
- Following receipt of the Inquiry report, provision of an Assessment of environmental effects by the Minister for Planning to decision-makers.

Further information on the EES process can be found at DPCD's website www.dpcd.vic.gov.au/planning/ees.

2 The Proposal

The Shaw River Power Station Project comprises a nominal 1,500 MW gas-fired, combined-cycle gas turbine power station to be located in western Victoria near the town of Orford, approximately 30 km north of Port Fairy. The proposed development would enable Santos to maximise the efficient use of its gas reserves in the Gippsland and Otway basins.

The proposed power station would be an intermediate load generator, but it would operate as a baseload generator for extended periods of time. The power station is likely to be developed in three stages, each with a nominal capacity of 500 MW. The stages will be developed progressively, probably over a 10-year period but subject to market demand. The output of the power station would be dependent on market requirements for electricity or gas at any given time.

Gas would be supplied to the power station from Santos's equity gas reserves in the Gippsland and Otway basins, or any other gas reserve that Santos may draw from, via a new high pressure gas pipeline from the Australian Pipeline Trust (APA) (GasNet) Lara to Iona Pipeline (South West Pipeline). The new pipeline is proposed to run from its connection with the South West Pipeline northeast of the Otway Gas Plant, for approximately 100 km to the proposed power station. It is proposed to construct and operate a gas compressor station about 7 km west of the Otway gas plant along the pipeline route.

The power station would supply electricity to the Victorian grid by connecting to the Moorabool-Portland 500 kV overhead transmission line (OHTL) via a new switchyard contained within the boundary of the proposed power station site.

It is expected that Santos will contract with Wannon Water to construct and operate a water supply pipeline from the Port Fairy water reclamation plant (WRP) to the power station site near Orford.

3 Assessment and Approvals Process

3.1 The EES Process

DPCD will oversee the EES process, while the proponent is responsible for preparing the EES, including undertaking the studies and engaging with stakeholders.

In addition, the proponent is required to consult with relevant government agencies, affected parties and the community. A public information and stakeholder consultation program is to be prepared and implemented by the proponent to ensure the public is familiar with the investigations and stakeholders are consulted on pertinent issues.

A Technical Reference Group (TRG) convened by DPCD will advise DPCD and the proponent on the preparation of the EES for the proposal. The TRG comprises representatives of relevant government agencies and Moyne and Corangamite Shire Councils.

The role of the TRG will be to provide advice to DPCD and the proponent, as appropriate, on:

- the scoping requirements for the EES;
- the design and adequacy of technical studies;
- the technical adequacy of the draft EES documentation; and
- coordination of statutory processes.

3.2 Required Approvals

The proposal requires a range of approvals under Victorian legislation including:

- A Planning Scheme Amendment under the *Planning and Environment Act 1987* to provide for the construction of the power station;
- A Works Approval and Licence under the *Environment Protection Act 1970* for the power station; and
- A Licence to construct and operate a pipeline under the *Pipelines Act 2005*.

In relation to Commonwealth legislation, Shaw River Power will refer the Shaw River Power Station Project to the Australian Government Minister for the Environment, Heritage and the Arts for a decision on whether the project requires assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Assessment under the *Environment Effects Act 1978* will inform the approvals decisions, but does not constitute a statutory approval in its own right. It is anticipated that the planning scheme amendment, works approval application and

pipeline licence application would be placed on public exhibition concurrently with the EES.

4 Matters to be addressed in the EES

4.1 General Content and Style of the EES

The main EES report should provide a clear, succinct and well-integrated analysis of the potential effects of the proposal and relevant alternatives, including proposed mitigation and management measures. The EES should consist of the main report supported by technical appendices containing relevant data, technical reports and other sources of the EES analysis.

The EES should enable interested stakeholders and decision-makers to understand the likely environmental effect of the proposed development and to enable an informed judgement on relevant aspects of the proposal.

Overall, the main EES report should include:

- An executive summary of the potential environmental effects of the proposal;
- A description of the proposal's objectives and rationale, as well as its relationship to strategic policies and plans;
- A description of the entire proposal, including associated infrastructure requirements;
- A description of feasible alternatives capable of substantially meeting the proposal's objectives that may also offer environmental benefits;
- Where a preferred alternative is nominated, the basis for this choice;
- An outline of the key approvals required for the proposal to proceed;
- Descriptions of the existing environment, particularly where this is relevant to the assessment of potential effects;
- Detailed predictions of potential effects of the proposal (and feasible alternatives) on environment, social and economic values, relative to the "no project" scenario. This analysis should cover the direct and indirect, combined, short and long term, beneficial and adverse effects and consequences, together with an estimation of the likelihood and degree of uncertainty associated with each prediction;
- Evaluation of the implications of the proposal and relevant alternatives for the implementation of applicable legislation and policy, including the principles and objectives of ecologically sustainable development;
- Measures for avoiding, minimising, managing and monitoring effects, including a statement of commitment to implement these measures; and
- Responses to issues raised during public and stakeholder consultation.

A concise summary document (hard copy A4) needs to be prepared by the proponent for free distribution to interested parties. The EES summary document should include details of the EES exhibition and availability.

Close consultation with DPCD during the investigations and preparation of the EES will be necessary to minimise the need for revisions prior to the Minister for Planning authorising the EES for public exhibition.

More specific detail on the required scope and content of the EES is covered in the following sections.

4.2 Project Description

General

The EES should describe the following aspects of the proposal:

- The proposal's objectives and rationale, including the implications of the project not proceeding;
- The key physical components of the proposal;
- The current use of the power station site, compressor station site and the water and gas pipeline routes;
- Features and land use in the locality of the project site, supported by detailed plans and maps where applicable;
- Expected project construction timetable and staging of the project;
- Arrangements for the accommodation of construction workforces for the water and gas pipelines and the power station, including the location and nature of possible construction camps;
- Necessary works directly associated with the proposal, i.e. infrastructure and services relocation.

Power station

The EES should describe the following aspects of the power station:

- The main components and their function, size, capacity, operational life, technical and performance requirements, inter-relationships and method of construction, operation and maintenance;
- The proposed site layout and access arrangements during construction and operation for all stages of the project;
- The switchyard and proposed connection to the national electricity grid;
- Lighting, safety and security requirements.

Pipelines

The EES should describe the following aspects of the pipelines (water supply and high-pressure gas supply):

- Pipeline design and performance specifications, including pipeline dimensions and materials, maximum pipeline capacity, maximum allowable pressure and design life;

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- Location of the proposed pipeline routes and the proposed width of the easement to be acquired (Maps should be sufficiently detailed to identify property boundaries.);
 - Proposed construction techniques, including particular requirements for road and waterway crossings and for sensitive environmental locations;
 - Proposed access arrangements during pipeline construction and maintenance;
 - Size of trenches and extent of areas to be disturbed during construction
 - Rehabilitation standards and techniques including implications for ongoing use of the land within the easement; and
 - Approximate location and nature of all ancillary facilities and any other above-ground structures (including the proposed compressor station).

In general the EES should describe the proposal in sufficient detail to allow an understanding of all stages and components, and assist in determining environmental effects associated with the proposal.

4.3 Assessment of Alternatives

The EES should provide an assessment of feasible alternatives capable of substantially meeting the objectives for the Shaw River Power Station Project, in terms of developing a gas-fired power station in the vicinity of Orford, while minimising potentially significant effects. This assessment should provide an outline of:

- The site selection process for the power station site;
- The gas and water pipeline route selection processes (including the site for the gas compressor station);
- Potentially suitable gas turbine technologies; and
- Relevant options for water supply and wastewater disposal.

Relevant alternatives for the layout and staging of the project should also be discussed.

The analysis of alternatives should take into account the draft evaluation objectives set out in these Scoping Requirements for the EES.

Assessment effort should be directed towards identifying alternatives that offer the potential to deliver suitable social, environmental and economic outcomes.

4.4 Relevant Legislation, Policies and Strategies

The EES should identify relevant legislation, policies and strategies, and assess their specific requirements or implications and for the proposal and its effects.

The EES should outline the relevant legislation, including:

- *Environment Protection Act 1970* (including the principles of environment protection) and relevant State Environment Protection Policies and Waste Management Policies;
- *Planning and Environment Act 1987*, and relevant provisions in the Moyne and Corangamite Planning Schemes;
- *Pipelines Act 2005*;
- *Flora and Fauna Guarantee Act 1988*;
- *Water Act 1989*;
- *Catchment and Land Protection Act 1994*;
- *Heritage Act 1995*;
- *Crown Land (Reserves) Act 1978*;
- *Land Act 1958*;
- *Aboriginal Heritage Act 2006*;
- *Dangerous Goods Act 1985*;
- *Gas Safety Act 1997*.

The proponent will need to identify and address relevant policies, strategies, subordinate legislation and related management or planning processes that may be relevant to the assessment of the proposal. These include: *Victoria's Biodiversity Strategy*; *Victoria's Native Vegetation Management – A Framework for Action*; *Glenelg Hopkins Regional Catchment Strategy* and *Corangamite Regional Catchment Strategy*; relevant environmental and roadside vegetation management strategies in Corangamite and Moyne Shires (including the *Corangamite Rural Roadside Management Plan* and *Corangamite Shire Environment Strategy*).

4.5 Evaluation Objectives

The EES should provide an integrated assessment of the proposal, in terms of the implications of likely effects and associated risks, with respect to:

- key requirements or objectives under statutory provisions, including policy;
- best practice techniques and technologies;
- objectives and principles of ecologically sustainable development and environmental protection.

This integrated assessment may be assisted by the formulation of performance criteria to address particular effects or risks. These criteria might usefully be linked to higher-order objectives for the integrated evaluation of project effects or outcomes. The following draft objectives include a potentially suitable

framework, which could be refined as the EES proceeds. They reflect relevant legislation and government policy (see above), as well as the key environmental issues identified to date.

The proposed draft objectives to guide the evaluation of potential effects of the proposal, in the context of the objectives and principles of ecologically sustainable development, are:

- To provide for the development of base load and intermediate load power generation capacities in the context of government policy objectives to maintain a secure, efficient and affordable supply of energy while reducing the intensity of greenhouse gas emissions from the energy sector;
- To avoid or minimise effects on species and communities listed under the *Flora and Fauna Guarantee Act 1988* to the extent practicable, to avoid or minimise effects on other indigenous species and communities, and to comply with net gain requirements for biodiversity outcomes;
- To protect catchment values, including soil protection, surface water quality, stream flow, aquatic health and groundwater values, to the extent practicable;
- To protect Aboriginal and non-Aboriginal cultural heritage to the extent practicable;
- To avoid or minimise noise, visual and other adverse amenity effects, as well as health and safety implications, on local residents during the construction and operation of the power station, compressor station and gas and water pipelines;
- To minimise the disruption of existing land uses, infrastructure, traffic and local communities, including in relation to the availability of housing and the potential need to upgrade infrastructure;
- To provide a transparent framework with clear accountability for managing environmental effects and risks associated with the project to achieve acceptable outcomes;
- To enable outcomes consistent with ecologically sustainable development over the short and long term, having regard to the likely overall economic, social and environmental effects.

4.6 Existing Environment

The EES should incorporate a general description of the features of the environment and landscape character in the vicinity of the proposal and relevant alternatives.

The description of the existing environment should be sufficiently detailed to provide a firm and reliable basis for impact prediction, especially with respect to key environmental assets and values that may be affected.

5 Potential Environmental Effects

5.1 General Approach

The EES documentation should be prepared in the context of the principles of a systems approach and proportionality to risk, as set out in the Ministerial Guidelines.²

The EES must assess potential environmental effects as a result of the construction and operation of the Shaw River Power Station. The assessment of environmental effects in the EES, at least in the case of significant risks, should include:

- Potential effects on individual environmental assets, in terms of magnitude, extent and duration of change in the values of each asset;
- Relationships between different effects;
- The likelihood of effective avoidance and mitigation of potential adverse effects;
- The likelihood of adverse effects and associated uncertainty of available predictions;
- Implications of likely effects for implementation of statutory provisions, including policy, as well as consistency with principles and objectives of ecologically sustainable development.

Potential effects of the relevant alternatives need to be systematically identified and assessed in the EES. The depth of investigation of alternatives should be proportionate to their potential to both meet the aims of the proposal in the context of relevant evaluation objectives and performance criteria (Section 4.5).

The scope of field investigations and modelling to be conducted should be discussed with DPCD and the TRG. Ultimately it is the proponent's responsibility to ensure that adequate studies are undertaken and reported, particularly where there are specific information requirements to support statutory applications.

² A *systems* approach involves the consideration of potentially affected environmental systems and interacting environmental elements and processes. This would enable potential interdependencies to be identified, helping to focus relevant investigations and identify opportunities to avoid, mitigate or manage adverse effects. An inter-disciplinary approach should be adopted where appropriate.

A *risk-based* approach should be adopted in the assessment of environmental effects so that suitable, intensive, best practice methods can be applied to accurately assess those matters that involve relatively high levels of risk of significant adverse effects and guide the design of strategies to manage these risks. Simpler or less comprehensive methods of investigation may be applied to matters that can be shown to involve lower levels of risk.

Implementation of a risk-based approach means that a staged study design may be appropriate. The initial phase of investigation should characterise environmental assets that may be affected, potential threats arising from a project, and the potential environmental consequences. This phase should enable the design of any necessary further studies proportionate to the risk to analyse the consequences and likelihood of adverse effects.

Specific effects and aspects of investigation are set out below under relevant categories of potential effects. However, the proponent will need to address any other issues that may emerge and warrant assessment during the investigations and preparation of the EES.

5.2 Power Supply and Greenhouse

Objective: To provide for the development of base load and intermediate load power generation capacities in the context of government policy objectives to maintain a secure, efficient and affordable supply of energy while reducing the intensity of greenhouse gas emissions from the energy sector.

Power

At a broad level, the EES should address the economic implications of the Shaw River Power Station Project either proceeding or not for the National Electricity Market and the security and diversity of Victoria's power supply.

Greenhouse

The EES should assess the direct implications of the proposal for greenhouse gas (GHG) emissions and the energy efficiency associated with the proposal.

In particular, the EES will need to:

- Estimate the GHG emissions resulting from the construction and operation of the power station, compressor station and water and gas pipelines, taking into account potential fugitive emissions to the extent practicable;
- Identify any measures to be implemented for minimising and managing GHG emissions in the context of relevant legislation and strategies, including the Victorian Government's Position Paper: *The Greenhouse Challenge for Energy* (December 2004);
- Address any relevant requirements of *State Environment Protection Policy (Air Quality Management)* and the *Protocol for Environmental Management - Greenhouse Gas Emissions and Energy Efficiency in Industry* (EPA Publication 824).

5.3 Biodiversity and Habitat

Objective: To avoid or minimise effects on species and communities listed under the Flora and Fauna Guarantee Act 1988 (Vic) to the extent practicable, to avoid or minimise effects on other indigenous species and communities, and to comply with net gain requirements for biodiversity outcomes.

The EES should provide an assessment of any potential effects of project construction and operations on biodiversity and other conservation values. This should take into account native vegetation clearing within the direct footprint of the power station, gas pipeline, compressor station and water pipeline, as well as

native vegetation clearing required for site access by construction vehicles and for other temporary works areas (works depots, materials storage areas etc). Specifically, the EES should:

- Assess any effects the proposal may have on ecological communities or individual species of particular conservation or other significance, including any species or communities listed under the *Flora and Fauna Guarantee Act 1988*. Apart from clearing of native vegetation and direct habitat disturbance, this assessment should take into account possible indirect effects from noise, dust, lighting etc;
- Assess the potential effects on other indigenous flora and fauna and biodiversity values of affected areas;
- Address any requirements arising from Victoria's *Biodiversity Strategy* and *Victoria's Native Vegetation Management – A Framework for Action*. In particular, the EES should address how vegetation removal has been avoided, and minimised, as well as identifying relevant offsets for unavoidable clearing of native vegetation;
- Assess the effect of pipeline construction and easement maintenance, as well as the construction of the power station, on wetlands, waterways, habitat areas and wildlife corridors, including the risk of weed invasion;
- Assess any effect of the project on other conservation values, sites or areas of wilderness, scientific or other special conservation significance;
- Specify any intended measures to minimise and mitigate disturbance to habitats and species, and specifically those with high conservation status;
- Assess the effectiveness of proposed mitigation and habitat compensation measures; and
- Outline a plan of vegetation rehabilitation for disturbed areas, including the identified off-set options for achieving 'net gain' of native vegetation under the *Victoria's Native Vegetation Management – A Framework for Action*.

5.4 Water

Objective: To protect catchment values, including soil protection, surface water quality, stream flow, aquatic health and groundwater values, to the extent practicable

Soil Protection

The EES should provide a clear description of the proposed easement works and their management, including:

- The intended approach for removal of soil layers, erosion control and reinstatement of disturbed land in a productive state;
- The proposed general approach for determining rehabilitation requirements within the various landholdings, including:

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- Consultation and agreement with land owners;
 - Site access for stock movements during construction;
 - Site drainage;
 - Time to achieve initial vegetative cover;
 - Mix and density of plant species for permanent cover;
 - Weed and pathogen control.

Surface Water and Water Supply

The EES will need to address all relevant requirements for managing discharges and protecting water quality, in the context of the *State Environment Protection Policy (Waters of Victoria)*, and other water-related policies and strategies. The EES should assess potential effects related to surface drainage, water quality, and the hydrology of floodplains and waterways in the surrounding area. The level of detail of investigation should take account of the local conditions and the occurrence of surface water in the area, particularly wetlands. The investigation should also take account of the differing water quality supply needs at the power station, eg. for firefighting, cooling, toilet facilities.

Specifically, the EES should:

- Assess the existing hydrological conditions in and around the power station site and water pipeline and gas pipeline routes (including the compressor station site);
- Assess the potential effects of the power station on the quantity and quality of surface runoff, as well as on the hydrology and health of local waterways and wetland environments in the surrounding area;
- Assess the implications of the proposal for surface water hydrology, including potential effects, if any, on floodways and risks arising from site inundation;
- Assess the potential risk of adverse effects on beneficial uses of surface water;
- Identify the environmental mitigation measures to minimise the effects of the construction of the power station and pipelines on surface waters and any monitoring requirements.

Of particular relevance to the pipelines, the following must also be addressed:

- Evaluation of preferred creek crossing methods and alternatives (eg direct crossing versus directional drilling) for different waterways;
- Potential risk of contaminated soils being disturbed during construction and proposed management practices to prevent effects on waterways;
- Potential risks of landslip and erosion along the pipeline infrastructure corridor;

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- Contingencies for failure of control measures, such as during heavy rainfall or flooding;
 - Potential sources of water for hydrostatic testing of pipeline and potential disposal options for test water;
 - Environmental management practices to be employed at creek crossings in relation to disturbance of stream beds and banks, construction and removal of temporary barriers and crossings, release of diverted stream flow to watercourse during crossing construction, management of drill mud during directional drilling and maintenance of sediment control facilities;
 - Contingency plans for crossings subject to horizontal directional drilling in the event of unforeseen geotechnical and hydrological conditions;
 - Environmental management practices to be employed generally along the pipeline route for disturbed areas on construction easement to prevent sediment movement into watercourses.

Groundwater

The EES should assess the potential effects of pipeline construction and the construction of the power station on groundwater, in the context of the *State Environment Protection Policy (Groundwaters of Victoria)*. Specifically, the EES should include:

- Assess potential risks to existing hydrogeological conditions along the pipeline route that may be adversely affected by pipeline construction (including adjoining areas), particularly in relation to any significant sites, features or resources, including sub-surface channels;
- Identify proposed mitigation measures to minimise the effects of the project on groundwater quality and beneficial uses and any monitoring requirements.

5.5 Cultural Heritage

Objective: To protect Aboriginal and non-Aboriginal cultural heritage to the extent practicable.

Aboriginal Cultural Heritage

The potential effects of the project on known and as yet unidentified Aboriginal sites and places of archaeological and/or cultural heritage significance should be assessed in the EES. The assessment should consider the knowledge, values and views of local Aboriginal communities (including traditional owners and relevant Registered Aboriginal Parties).

The EES should:

- Clearly document both the consultation and investigation undertaken or proposed to be undertaken with respect to Aboriginal cultural heritage including the preparation of a cultural heritage management plan under the *Aboriginal Heritage Act 2006*;

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- Identify particular sites of Aboriginal cultural significance and areas of sensitivity by drawing upon existing sources, field surveys and appropriate consultation;
 - Assess potential effects of the proposed development on significant sites;
 - Propose a process for identifying unknown sites during the earthworks for construction; and
 - Provide recommendations for measures to preserve, record, treat or remove/relocate relics.

Any assessment should be done in accordance with the relevant legislation in particular the *Aboriginal Heritage Act 2006*. The EES also needs to identify native title interests and briefly outline the process by which these interests are being addressed.

Post-Contact Cultural Heritage

The EES should identify, assess and document all post-contact places of cultural significance within the study area. The EES should assess significance in terms of place types, periods and heritage values.

The EES should:

- Provide an inventory of any post-contact heritage places of significance in the affected areas. Survey work may be required to ensure that the inventory is a thorough listing of all heritage places in the study area;
- Assess the extent and significance of effects of the project on any post-contact cultural heritage values;
- Outline any proposed management measures such as site protection measures, site recording and documentation, and excavation procedures, and any requirements pursuant to either the Moyne or Corangamite planning schemes and the *Heritage Act 1995*.

Any details of newly discovered heritage places should also be submitted to relevant heritage organisations for consideration for inclusion in heritage lists such as the Victorian Heritage Register or Heritage Inventory, or in the Moyne or Corangamite planning schemes.

5.6 Amenity

Objective: To avoid or minimise noise, visual and other adverse amenity effects, as well as health and safety implications, on local residents during the development and operation of the power station, compressor station and gas and water pipelines.

Noise

The EES should:

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- Characterise existing ambient noise conditions at the power station site, nearest residences and other sensitive locations susceptible to noise from the power station;
 - Identify the appropriate permissible day, evening and night-time noise limits in the vicinity of the power station within the context of the relevant EPA noise guidelines. (*Interim Guidelines for Control of Noise from Country Victoria N3* provides a basis for permissible noise limits from industrial premises, in order to protect local amenity; these guidelines use the assessment techniques of State Environment Protection Policy (N-1) to address any tonal, intermittent or impulsive characteristics of the noise);
 - Identify and characterise noise generated by relevant components of the power station and from activities at the site (including transport) for both construction and operations phases of the project. (This should take into account any tonal or impulsive characteristics of noise.);
 - Specify the proposed hours of operation for the power station;
 - Identify and optimise noise mitigation measures for the power station and associated activities for project construction and operations phases;
 - Assess residual noise effects in relation to the permissible noise limits for the power station for different periods of the day. (This assessment should make no allowance for noise attenuation from the existing blue gum plantations surrounding the power station site.);
 - Provide details on the likely noise effects from construction of the water and gas pipelines and the operation of the compressor station on nearby dwellings and other sensitive receivers and any restrictions on operating hours or other measures to ensure construction noise effects comply with relevant noise criteria;
 - Outline noise monitoring procedures and remedial action in the event that noise levels exceed noise objectives for the project.

Visual Amenity

The EES will need to include an assessment of the potential effects of the proposal on the landscape character of affected areas and on the visual amenity of residents in the vicinity.

The EES will need to:

- Describe the landscape characters of the power station site, gas compressor station site, water pipeline route and gas pipeline route and the surrounding areas, their significance and sensitivity to change;
- Identify the main features of the proposal which may give rise to visual effects;
- Assess the potential changes to the landscape, and associated visual effects of the proposal, including the effects of lighting required at the power station during the night and the loss of any significant stands of trees along the pipeline route;

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- Assess visual effects from key vantage points in the vicinity of the power station site including from dwellings, roadsides, sites of topographical prominence and sites of natural, scientific, cultural, recreational or aesthetic values. (This assessment should take into account: the likely future effectiveness of screening provided by existing vegetation in the area around the power station site and along roadsides; anticipated harvesting of existing plantations; and opportunities for revegetation/landscaping);
 - Assess the landscape's ability to absorb visual changes associated with the various stages of the project from all relevant viewpoints; and
 - Specify any intended measures to minimise and mitigate the visual effect of the project (including reducing light spill at night-time and maintaining or enhancing the effectiveness of existing vegetation screening), and integrate the power station with the surrounding landscape.

Air Quality

The EES should assess the potential effects of the proposal on ambient air quality in the vicinity of the power station site, gas compressor station site and the water and gas pipeline routes. This assessment should include the matters below.

Power station

- Describe climatic conditions in the vicinity of the power station site, drawing upon local meteorological records;
- Describe existing ambient air quality conditions near the power station and gas compressor station site taking into account the locations of dwellings;
- Identify potential sources of air emissions associated with the operation of the power station and gas compressor station taking into account relevant operating scenarios that may affect the composition and quantity of emissions;
- Predict likely effects on air quality under different weather conditions and relevant operating scenarios and potential for emissions to affect domestic water supplies;
- Assess potential health effects on the local community from power station and gas compressor station emissions;
- Identify and optimise control measures required to minimise and/or control air emissions to comply with air quality criteria, both for the construction and operational phases of the Shaw River Power Station Project;
- Address any relevant requirements of *State Environment Protection Policy (Air Quality Management)* and the *State Environment Protection Policy (Ambient Air Quality)*;
- Outline a monitoring and reporting program to enable sound air quality management and ensure public accountability;
- Assess the potential for dust generation from the construction of the power station and gas compressor station, identify relevant mitigation measures and describe potential effects on local residents.

Pipelines

- Assess the potential for dust emissions from construction of the pipelines (water supply and high-pressure gas pipeline);
- Identify dust mitigation measures proposed to be implemented during pipeline construction;
- Describe the potential residual effects on residents in the vicinity of the pipeline routes.

Hazard management

The EES should identify potential effects and risks from the transport, storage, disposal and usage of hazardous materials (including natural gas) associated with and generated by the project, along with measures proposed to avoid and control any possible adverse effects and risks.

The following aspects should be addressed:

- A preliminary hazard analysis, including identification of appropriate measures to prevent or control accidental releases of hazardous materials at the power station or along the gas pipeline;
- An outline of the security and safety objectives and principles to be adopted in managing risks to the local community;
- An overview of the objectives and management principles to be adopted for the preparation of a detailed emergency plan (including emergency response and recovery/cleanup procedures) in consultation with the relevant emergency services.

5.7 Communities, Land Use and Infrastructure

Objective: To minimise the disruption of existing land uses, infrastructure, traffic and local communities, including in relation to the availability of housing and the potential need to upgrade infrastructure.

Community Effects

The EES should assess the potential effects of the proposal on nearby landholders and surrounding communities. This assessment should include settlements and towns that could experience significant social effects as a result of the Shaw River Power Station Project. The short-term effects during the construction period and the long-term effects during the operational phase should be identified.

The assessment of community effects should include:

- The existing social conditions in the vicinity of the power station site, including the settlement pattern, demographic characteristics and the distribution of residents in the vicinity of the site;

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- Local community attitudes towards the project and concerns expressed during community consultation conducted by the proponent about valued aspects of the locality that could be adversely affected;
 - Potential effects on the local community during the construction stage, including the accommodation of a large construction workforce near the project site. (The nature, location and approvals required for proposed construction camps should be described); and
 - Proposed measures to address potential community effects, including contingency approaches if infrastructure/housing demands associated with other projects in the region present a capacity issue for the Shaw River Power Station Project.

Note that economic effects of the project that may either arise from or give rise to economic effects are addressed in section 5.9 Ecologically Sustainable Development.

Traffic

The EES should identify:

- Likely traffic movements and effects arising from the construction and operation of the project components, in particular heavy vehicle movements;
- Routes to be used by heavy vehicles particularly during the construction of the power station, compressor station, water pipeline and gas pipeline;
- Potential effects on local traffic and bus routes;
- Traffic management and safety measures required for traffic generated during the construction and operational phases, including the management of public access where pipe-laying works approach or cut public roads;
- Functional design parameters for any necessary road and traffic works;
- Arrangements for notifying emergency response agencies of works that are underway.

Land use effects

The EES should identify the likely effects of the Shaw River Power Station Project on existing and potential future land use in the vicinity of the power station site, compressor station site and the gas and water pipelines, as well as proposed measures for addressing those effects. In particular the EES should address:

- Potential disruption to agricultural production and other local land uses such as tourism enterprises in the vicinity of the pipeline routes and the power station site during construction;
- Strategic planning implications, if any, of other industrial development being attracted to the locality because of the Shaw River Power Station Project.

The EES should describe, justify and assess any planning scheme measures or other measures to address land use related issues in areas adjoining the proposed development.

5.8 Environmental Management Framework

Objective: To provide a transparent framework with clear accountability for managing environmental effects and risks associated with the project to achieve acceptable outcomes.

The EES should incorporate a framework for managing the environmental risks and outcomes of the proposal, including:

- The framework of statutory approvals and agreements that will underpin environmental management plans and measures;
- The Environmental Management System to be adopted (eg. based on ISO 14001), including organisational responsibilities and accountabilities;
- Proposed environmental indicators, objectives and monitoring programs to guide management actions;
- An overview of environmental management plans for the construction and operational phases, and also decommissioning, where relevant;
- A summary of environmental management measures proposed in the EES to address specific issues, including key environmental commitments of the proponent to monitor and mitigate adverse effects and enhance environmental performance;
- The proposed program for evaluating environmental outcomes, reviewing and revising environmental management plans, as well as the auditing and reporting of performance;
- Arrangements for management of and access to baseline and monitoring data, to ensure the transparency and accountability of environmental management as well as to contribute to the improvement of environmental knowledge.

5.9 Ecologically Sustainable Development

Objective: To enable outcomes consistent with ecologically sustainable development over the short and long term, having regard to the likely overall economic, social and environmental effects.

Economic Effects

The EES should address potentially significant economic effects, adverse and beneficial, arising from the Shaw River Power Station Project. The EES should identify both the short-term effects during construction and the long-term effects during the operational phase. The EES should describe:

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- Regional employment opportunities to be created directly by the project, as well as indirect employment consequences (positive and negative),
 - Local and regional economic benefits, taking into account the extent to which supplies and services for construction and operation would be sourced locally or regionally;
 - Local and regional adverse impacts including cost implications for State and local infrastructure, e.g. increased road maintenance costs, additional emergency response facilities, additional demands on social services etc;
 - Effects on agricultural production and other industry sectors such as tourism in the vicinity of the power station and along the gas and water pipeline routes.

Ecologically Sustainable Development

The EES should provide an integrated analysis of the Shaw River Power Station in respect to the principles of ecologically sustainable development, taking into account the economic benefits and costs as well as the residual environmental impacts.

5.10 Consultation and Communications

The proponent is to prepare and implement a plan for communicating and consulting with the public and stakeholder groups during the course of the EES preparation. This plan should describe the methods used for engaging with local stakeholders in the assessment of social and economic effects. The final plan is to be made publicly available and will be published on the DPCD web site.

The EES should:

- Outline the outcomes of consultation undertaken during the preparation of the EES, the issues and suggestions of stakeholders or members of the public (by theme and source, rather than individually) and the response made by the proponent in the context of either the EES studies or the refined proposal; and
- Outline a program for community consultation and communications during pipeline construction and during the construction and operation of the power station and gas compressor station, including opportunities for local stakeholders to engage with the proponent to address and respond to potential stakeholder concerns