



Preliminary Environmental Assessment

for the
Young to Wellington Gas Pipeline
ERM Power Pty Ltd



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Version	Date	Author	Reviewed By
0	15 April 2009	Lisa King	Larry Kramer (ERM Power)
1	4 May 2009	Lisa King	Steven Smith, Ray Keable
2	12 May 2009	Larry Kramer (ERM Power)	Lisa King

1. Introduction

1.1 Background

ERM Power Pty. Ltd. (ERM Power) is submitting this Preliminary Environmental Assessment (PEA) for its proposal to construct a natural gas pipeline from Young in central western NSW to the newly approved, yet to be constructed (File No.: S06/01062) Wellington Power Station project (refer Fig. 1). ERM Power will be seeking Project Plan approval for the proposed gas pipeline in accordance with Part 3A of the *NSW Environmental Planning and Assessment Act 1979* (as amended) (EPA Act).

ERM Power has engaged LandPartners Limited (LandPartners) to assist in the preparation of this PEA which provides a preliminary assessment of the key environmental issues pertaining to the proposal.

This report seeks the Director General of the Department of Planning's (DoP) environmental assessment requirements (DGRs), in accordance with Section 75F of the EPA Act.

The DoP has been consulted with respect to the proposal as follows:

1. Telephone conversation between Andy Pittlik (ERM Power) and Scott Jefferies (DoP) in April 2009 about the project in general.
2. Telephone conversation between Steven Smith (LandPartners) and Neville Osborne (DoP) on 20 April 2009 regarding Concept Plan and Project Plan approval processes, content of PEA and planning focus meeting.
3. Telephone conversation between Steven Smith (LandPartners) and Scott Jefferies (DoP) on 21 April 2009 to discuss contents of this report and the need for a "clause 6" letter and planning focus meeting.
4. Submission of a "clause 6 letter" seeking the DoP's advice that the proposal is subject to assessment and approval under Part 3A.
5. Telephone conversation between Lisa King (LandPartners) and Neville Osborne (DoP) on 30 April 2009 to clarify some issues in the "clause 6 letter". The response to this letter has yet to be received and will be forwarded on receipt.

ERM Power also met with three of the four affected local government authorities to discuss the proposal.

1.2 Overview of the Proposal

The proposed pipeline will bring natural gas from the Young gas hub centre on the Moomba to Sydney gas pipeline to the Wellington Power Station. The pipeline will be approximately 220 kilometres (km) in length and travel north/ northeast from Young through the Local Government Areas (LGAs) of Young, Cowra, Cabonne and Wellington Shires.

The pipeline route minimises impacts on the community and environment and should have no impact on areas of cultural heritage significance. Design, construction and operation of the pipeline will be undertaken in accordance with AS2885 Pipeline - Gas and Liquid Petroleum.

The objective of the proposal is to provide an efficient means to deliver natural gas to the Wellington Power Station.

The ERM Power Young to Wellington Gas Pipeline (YWGP) proposal will;

- have a pipeline route which minimises environmental, social and economic impacts on the locality;
- be designed and constructed under the requirements of the Australian Standards and all applicable legislation and policy; and
- be operated safely, efficiently and sustainably.

1.3 The Proponent

1.3.1 Background

ERM Power has a history of more than 25 years in the energy sector. The business was founded as a small business in 1980, and has grown into an integrated energy company with high-performing business streams in gas exploration, transportation, generation, and electricity retail. ERM Power is one of the larger, privately owned, vertically integrated, energy companies in Australia.

1.3.2 Structure

Currently, ERM Power has the following four distinct business streams:

1. Building and Financing Power Stations

ERM Power is a leading developer of gas-fired power stations in Australia. Since 2000, ERM Power has added 2,300 MW of generation; refer to the summary of projects below.

ERM Power Generation Project					Ownership	
Station Name	State	Status	Gas-Fired	MW	ERM	Balance
Oakey	QLD	Operating	Open Cycle Gas Turbine	303	12.5%	Contact Energy and others
Braemar 1	QLD	Operating	OCGT	450	0%	Babcock & Brown Power Origin Energy
Uranquinty	NSW	Operating	OCGT	450	0%	Sumitomo
Kwinana	WA	Operating	Combined Cycle GT	320	30%	
Neerabup	WA	Constructed 75%	OCGT	330	50%	ANZIS Arrow Energy
Braemar 2	QLD	Constructed 90%	OCGT	450	50%	
Planned		Subtotal		2,303		
Braemar 3	QLD	DA Submitted	OCGT	450	100%	
Wellington 1	NSW	DA approved	OCGT	600	100%	
Proposed		Subtotal		1,050		
		Total		3,353		

2. Transporting Gas to Power Stations

ERM Power considers gas pipelines to be strategic assets for its power stations.

The Braemar 1 gas-fired power station has a dedicated pipeline (PPL103) that connects into the Roma to Brisbane Pipeline (RBP) at Condamine. The Braemar 1 Power Station transports gas on the RBP from Wallumbilla to Condamine and then into the Braemar 1 Pipeline, from Berwyndale South and Kenya gas fields onwards to the Braemar 1 Power Station, approximately 90 km.

The nearly complete Braemar 2 Power Station also has a 107 km pipeline (PPL132/136) that connects into the Berwyndale South and Kenya gas fields (but not the RBP) and onwards to the Braemar 2 Power Station. The pipeline has been commissioned and is transporting gas to Braemar 2 for its commissioning.

There is also a gas hub at Braemar that connects the Braemar 1 and Braemar 2 pipelines (for one power station unit of gas flow). This hub also connects into a 50 km pipeline (PPL102) that connects into the Arrow Daandine and Tipton West gas fields.

ERM Power is also currently constructing a 30 km gas pipeline for its Neerabup Power Station, north of Perth in Western Australian.

3. Fuel Exploration (natural gas)

ERM Gas Pty. Ltd. (ERM Gas) was initially established in 2007 to secure and manage major gas supply and transport contracts for power generation projects. ERM Gas has since built a highly experienced commercial and technical team with expertise in all aspects of the gas value chain. The total value of the long-term contracts ERM Gas has negotiated and implemented exceeds \$200 million per annum.

ERM Gas has also moved upstream and acquired prospective greenfield and farmin (an arrangement where the company buys in or acquires an interest in a lease owned by another operator) acreage, for long-term growth in gas fuel supply and to allow an increased operation of generation assets.

4. Selling Power to Large Customers (retail)

ERM Power's retail focus is on large corporate and industrial customers. ERM Power's successful growth has been due to it meeting the needs of large energy users through personal, expert service, and tailored energy and trading solutions. ERM Power's portfolio includes more than 100 active customers, and is approaching \$1 billion in contracted revenue.

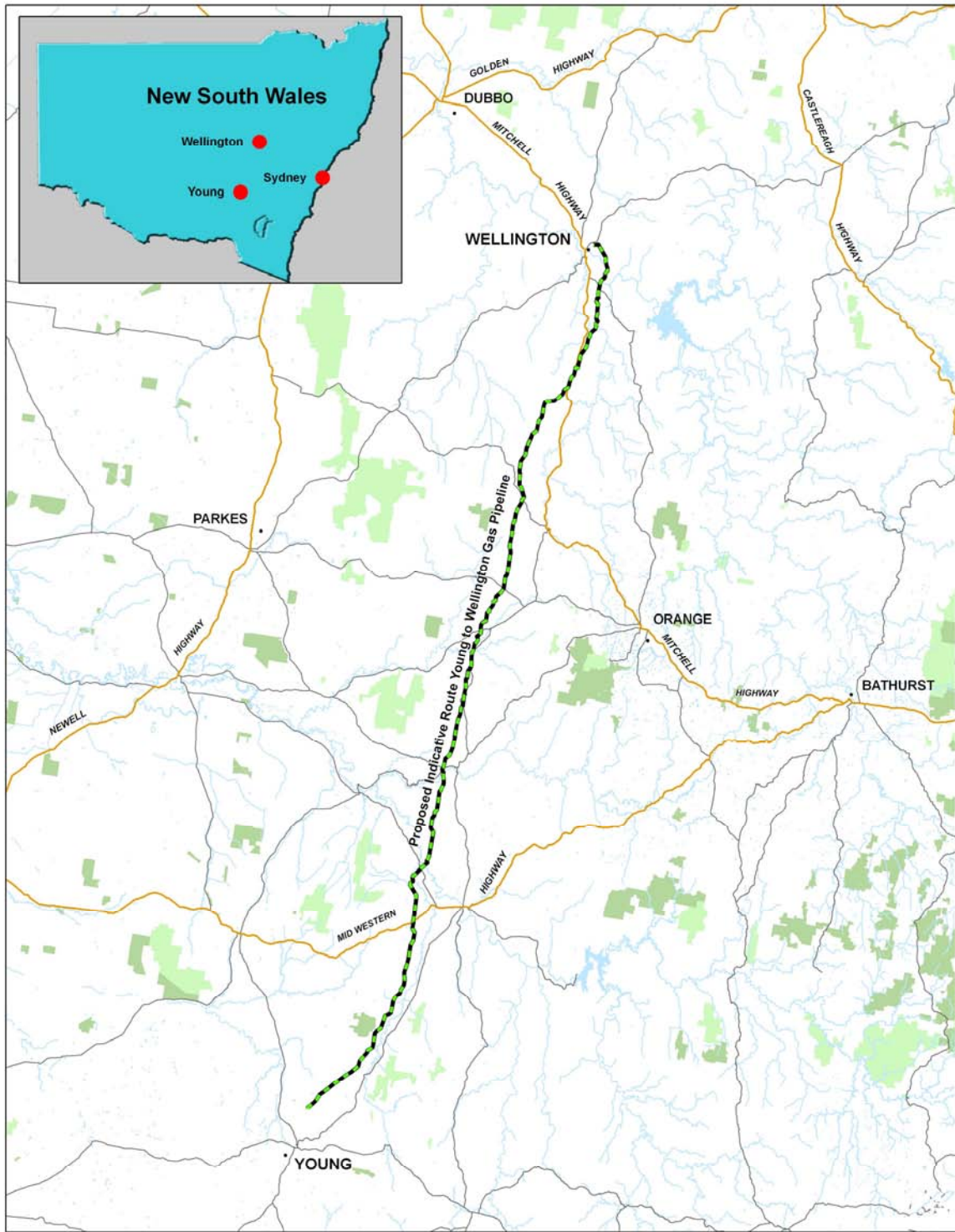
1.4 Purpose and Content of this Report

This report provides an initial assessment of the key environmental issues associated with the proposal to construct a natural gas pipeline from Young to Wellington in NSW.

This report is structured as follows:

1. The need and justification for the proposal (Section 2),
2. A brief description of the proposal (Section 3),
3. The planning and assessment framework to be considered (Section 4); and
4. The preliminary key environmental issues to be addressed in the Environmental Assessment (Section 5).

This report seeks the DGRs, in accordance with Section 75F of the EPA Act.



— Proposed Indicative Route
 — Highways
 — Main Roads
 National Park
 State Forest

Proposed Indicative Route Young to Wellington Gas Pipeline		LOCALITY MAP	
Cartographic Data: Department of Lands 2001 - 2006 State Forest: GeoInformation Australia 2006 National Parks: National Parks & Wildlife Service 2006			Client: ERM Power Drawn by: SJA Approved by: JMK Date: 05-05-2009 File: BR94317-02-11a
This plan was prepared for the purpose and exclusive use of ERM POWER and is not to be used for any other purpose. This plan is conceptual, and is not a detail design. This map is not guaranteed to be free from error or omission. LandPartners Limited disclaims liability for any and all errors or omissions made on the basis of the information in this map, and any consequences of such errors or omissions.	Scale: 1:750,000 @ A3 Coordinate System: MGA94 Zone 55		Level 3, 99 Melbourne Street South Brisbane QLD 4101 PO Box 3916 South Brisbane QLD 4101 T: 61 7 3842 9000 F: 61 7 3842 9001 E: brisbane@landpartners.com.au W: www.landpartners.com.au

Figure 1. Locality Plan

2. Need and Justification for the Proposal

2.1 Need for the Proposal

The proposed pipeline is needed to:

1. transport sufficient quantities of natural gas for use in the Wellington Power Station project;
2. store natural gas to enable the power station to operate effectively in the National Electricity Market (NEM); and
3. provide the delivery of such gas at the necessary pressure.

2.2 Justification

The proposed alignment is considered the route that meets the proposal's objectives and needs while best minimising any negative impacts on the community, society, the environment, landowners and other relevant stakeholders.

The existing Young to Bathhurst and Young to Dubbo gas pipelines are not of sufficient size to allow the increase in gas transportation required for the Wellington Power Station to operate effectively in the NEM.

2.3 Alternatives Considered

2.3.1 Do Nothing Option

The "do nothing" option does not allow the economic transportation of natural gas to the Wellington Power Station. Without gas, the power station cannot function.

2.3.2 Other Alternatives

ERM and LandPartners have investigated a number of alternate routes.

The route proposed has been refined to the preliminary route shown on Figure 2 (green dashed line) after initial site visits, mapping using satellite imagery, and consideration of existing datasets pertaining to a suite of site characteristics including:

1. Creeks & Rivers
2. Location of Communities & Residences
3. Existing Services & Infrastructure
4. Property Boundaries
5. Land Tenure
6. Geology
7. Landscapes
8. Land Use
9. Mining Tenure
10. Topography
11. Vegetation

2.3.3 Preferred Option

The preferred preliminary route is shown on Figure 2. This route will be further refined through further inspections and consultation with relevant stakeholders. The route of least impact, generally in accordance with the preliminary route shown on Figure 2, will then be assessed as part of the Environmental Assessment process.

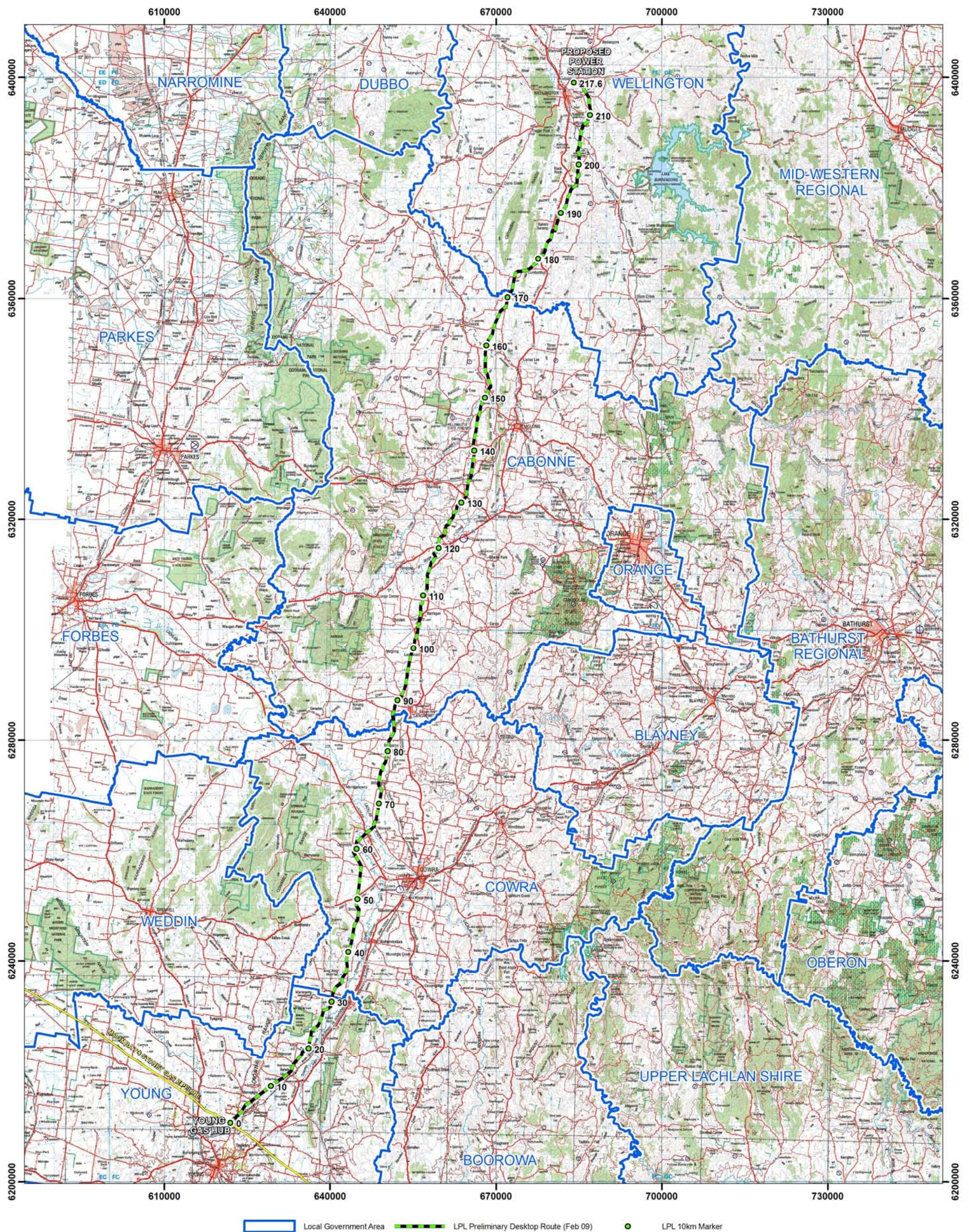


Figure 2. Preliminary (green dashed) route. Note this route is subject to further refinement following further inspection and consultation.

3. Description of the Proposal

3.1 Pipeline Route

The proposed 220 km gas pipeline commences at the Young compressor/ gas hub facility of the Moomba to Sydney Gas Pipeline (MSP) where it heads in a north by north east direction to the Wellington Power Station. The pipeline skirts major towns such as Cowra, Molong and Wellington. The route was selected to avoid, wherever possible, areas of environmental significance, construction/ topographical constraint or community/ landowner concern.

The preliminary pipeline route (refer Fig. 2) will be further refined after additional inspections and consultation with landowners, the community and other stakeholders as required.

3.2 Pipeline Design

The pipeline will be designed in accordance with AS2885 Pipeline Gas and Liquid Petroleum, in particular Part 1 – Design and Construction.

ERM Power has managed the design and construction of four gas pipelines in Australia to date and is well equipped to appropriately manage the pipeline design components of this project.

3.3 Pipeline Construction

3.3.1 Construction Activities

The pipeline will be constructed in accordance with AS2885 Pipeline Gas and Liquid Petroleum, in particular Part 1 – Design and Construction. A Construction Environmental Management Plan (CEMP) will be prepared prior to construction.

Pipeline construction will encompass a range of activities including, but not limited to:

1. Land access
2. Surveying
3. Fencing
4. Preparing temporary compounds, laydown yards, site offices etc.
5. Traffic management
6. Clearing and grading of the right of way (RoW)
7. Trenching
8. Bored and/ or directional drilling
9. Pipe stringing
10. Pipe welding
11. Pipe coating
12. Pipe laying
13. Backfilling and compacting
14. Hydro-testing

15. Placing of Witness Marker Signs and
16. Revegetation and rehabilitation.

The impacts of any and all of these activities will be addressed in the Environmental Assessment.

3.3.2 Crossings

The preliminary route requires approximately 25 road crossings and approximately 29 named waterway crossings. The two major rivers are the Lachlan, near Cowra, and the Macquarie, near Wellington.

Crossings will be by an open cut, bored or horizontal directional drill (HDD) technique. The most appropriate technique, any associated impacts and required mitigation for crossings will be addressed as part of the Environmental Assessment. Chosen crossing techniques will also consider local or state authority requirements.

3.4 Commissioning and Operation

The pipeline will be operated in accordance with AS2885 Pipeline Gas and Liquid Petroleum, in particular Part 3 – Operation and Maintenance.

3.4.1 Commissioning

Commissioning encompasses a range of activities such as instrumentation calibration, hydrostatic testing, performance testing, baseline intelligent pig run, pipeline drying, and purging and loading. The impacts of any and all of these activities will be minimal.

3.4.2 Operation

Operational activities involve monitoring and maintenance of both the pipeline and the easement RoW.

Monitoring activities would include regular inspections of:

- The cathodic protection system
- RoW revegetation/ rehabilitation success
- Gas flow metering
- RoW erosion, weed outbreak or landuse incursions
- Above ground infrastructure

Maintenance activities will include:

- Painting or lubricating of above ground infrastructure such as signs, fences, valves etc.
- Pigging of the pipeline
- Corrosion repair
- RoW maintenance

The impacts of any and all of these activities will be minimal.

3.5 Project Timing

The Young to Wellington pipeline is required to be operational about three months prior to commencement of the plant testing of the Wellington Power Station project. It is expected that the notice to commence design and construction of the gas pipeline would occur as soon as possible following the Part 3A approval. ERM Power's target decision date for approval is 1 September 2009.

4. Planning and Assessment Process

4.1 Environmental Planning and Assessment Act 1979

4.1.1 Part 3A

Clause 75B of the EPA Act identifies projects to which Part 3A applies as:

*(1) General This Part applies to the carrying out of development that is declared under this section to be a project to which this Part applies:
(a) by a State environmental planning policy...*

Clause 6 of State Environmental Planning Policy (Major Project) 2005 (SEPP Major Projects) identifies Part 3A projects as:

*(1) Development that, in the opinion of the Minister, is development of a kind:
(a) that is described in Schedule 1 or 2...*

Schedule 1 identifies the classes of development that are Part 3A projects which includes as stated in Item 26A:

Development for the purposes of a pipeline in respect of which:

*(a) a licence is required under the Pipelines Act 1967, or
(b) an application for a licence is made under that Act on or after the commencement of this clause, or
(c) a licence was granted under that Act before the commencement of this clause.*

A license is required for the proposal under the *Pipelines Act 1967* and an application will be made by ERM Power in due course.

This report forms part of an application for approval as described in Section 75E of the EPA Act. The Environmental Assessment requirements for the application are requested pursuant to Section 75F.

4.1.2 Environmental Planning Instruments

Section 75O(3) of the EPA Act states:

In deciding whether or not to give approval for the concept plan for a project, the Minister may (but is not required to) take into account the provisions of any environmental planning instrument that would not (because of section 75R) apply to the project if approved. However, the regulations may preclude approval for a concept plan for the carrying out of a class of project (other than a critical infrastructure project) that such an instrument would otherwise prohibit.

The following Environmental Planning Instruments (EPIs) pertain to the site and the proposal. These may be considered by the Minister and will be addressed in the Environmental Assessment.

State Environmental Planning Policies

1. State Environmental Planning Policy No. 44 – Koala Habitat Protection
2. State Environmental Planning Policy No. 55 – Remediation of Land
3. State Environmental Planning Policy (Major Projects) 2005
4. State Environmental Planning Policy (Rural Lands) 2008
5. State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (SEPP) No. 44 encourages the conservation and management of natural vegetation areas that provide habitat for koalas to ensure permanent free-living populations will be maintained over their present range. The policy applies to 107 LGAs including Cabonne Shire.

Local councils cannot approve development in an area affected by the policy without an investigation of core koala habitat. Accordingly an investigation of the presence or absence of koalas and their habitat over that part of the route to which the policy applies (i.e. Cabonne Shire) will be included in the Environmental Assessment.

SEPP No. 55 introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed.

The presence or absence of known contaminated sites will be investigated in the Environmental Assessment. If remediation is required it will be prescribed in accordance with the *Managing Land Contamination: Planning Guidelines* (DUAP & EPA, 1998).

SEPP Major Projects defines certain developments that are major projects under Part 3A of the EPA Act and determined by the Minister for Planning. The proposed pipeline is of a type described in SEPP Major Projects – Schedule 1.

SEPP Rural Lands aims to facilitate the orderly and economic use and development of rural lands for rural and related purposes. The policy applies to LGAs that are not listed in clause 4. Wellington, Young, Cabonne and Cowra Shires are not listed in clause 4, therefore the policy applies. The Rural Planning Principles, clause 7 of the SEPP, will be considered, wherever relevant to the proposal, in the Environmental Assessment.

SEPP Infrastructure provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. The SEPP supports greater flexibility in the location of infrastructure and service facilities along with improved regulatory certainty and efficiency.

Pipelines are permissible without consent, pursuant to clause 53 of SEPP Infrastructure, if the pipeline is subject to a licence under the *Pipelines Act 1967*. The proposed pipeline is not yet licensed although a licence will be sought in due course. Additionally, the proposal is a project to which SEPP Major Projects applies, as described above, therefore approval under Part 3A is required.

Regional Environmental Plans

None applicable

Local Environmental Plans

1. Young Local Environmental Plan 1991-Urban Lands
2. Young Local Environmental Rural Plan 1993
3. Cowra Local Environmental Plan 1990
4. Cabonne Local Environmental Plan 1991
5. Wellington Local Environmental Plan 1995

The proposed pipeline route is confined to land zoned for agricultural purposes in the respective Local Environmental Plans (LEPs) listed above. The pipeline is permissible with consent in these zones under each LEP.

4.2 Other NSW and Commonwealth Legislation

A range of other legislation, both state and commonwealth may apply to the route or the proposal. Comments on the relevance of each Act are also given.

LEGISLATION	APPLICATION	Proposal RELEVANCE
NSW		
<i>Contaminated Land Management Act 1997</i>	Requires notification of known contaminated land	The route has avoided any known contaminated sites.
<i>Environmentally Hazardous Chemicals Act 1985</i>	Licenses use or disposal of environmentally hazardous chemicals or declared chemical wastes	Licenses, if required, will be sought prior to construction.
<i>Fisheries Management Act 1994</i>	Protects aquatic threatened species, populations or ecological communities, and their habitats	Waterway crossings will be assessed for the presence of any threatened aquatic species and the route realigned or appropriate mitigation implemented if necessary.
<i>Heritage Act 1977</i>	The site does not have recognised heritage value.	The route avoids known items of significant cultural heritage. The route will be further assessed for the presence of any heritage items and the route realigned or appropriate mitigation implemented if necessary.
<i>Local Government Act 1993</i>	Not subject to Part 4 assessment.	Not applicable.
<i>National Parks and Wildlife Act 1974</i>	Protects native flora and fauna, NPWS estate and Aboriginal sites and objects.	The route does not traverse any NPWS estate.
<i>Native Vegetation Act 2003</i>	Regulates the clearing of native vegetation	The preliminary route does not appear, on desktop assessment, to require any native vegetation clearing. This will be further assessed during site inspection and the

LEGISLATION	APPLICATION	Proposal RELEVANCE
		construction phase and management implemented if required.
<i>Noxious Weeds Act 1993</i>	No likelihood of spread or need for control of noxious weeds, no relevant control notices.	Weed control measures will be in place during construction and operation.
<i>Occupational Health and Safety Act 2000</i>	Promotes and regulates the health, safety and welfare of workers	OH&S will be incorporated into project planning and the construction phase. Construction safety is also factored into route selection.
<i>Pesticides Act 1999</i>	Controls and regulates the use of pesticides	Pesticide use, if required, will be in accordance with regulations during construction and operations.
<i>Pipelines Act 1967</i>	Requires licensing of certain pipelines.	A license will be sought by ERM Power prior to construction.
<i>Protection of the Environment Operations Act 1997</i>	Regulates and licenses pollution.	Licenses will be sought prior to construction if required.
<i>Roads Act 1993</i>	Regulates the carrying out of activities on public roads.	The NSW Roads and Traffic Authority (RTA) will be consulted if work is required in public road reserves.
<i>Rural Fires and Environmental Assessment Legislation Amendment Act 2002</i>	The site is not mapped as bushfire prone land.	Fire risk will be addressed in preparing the CEMP during construction and the operating EMP during the operating phase.
<i>Soil Conservation Act 1938</i>	Provides for the conservation of soil resources and farm water resources and for the mitigation of erosion.	Erosion and sedimentation control will be incorporated into construction works.
<i>Threatened Species Conservation Act 1995</i>	Conserves threatened species, populations and ecological communities (and their habitats) of animals and plants	It is unlikely that threatened species, populations or communities will be impacted upon by the proposal. Desktop assessment and route selection has avoided all areas of significant flora and fauna. Additional assessment will be made during site survey.
<i>Waste Avoidance and Resource Recovery Act 2001</i>	Promotes waste avoidance and resource recovery.	Waste will be managed in accordance with the NSW Waste Avoidance and Resource Recovery Strategy 2007.
<i>Water Act 1912</i>	Licenses and permits use of water. Regulates water pollution.	No extraction of water is likely. If it is, relevant licences or permits will be sought.
<i>Water Management Act 2000</i>	Protects, enhances and restores water sources, their associated ecosystems,	No extraction of water is likely. If it is, relevant licences or permits will be sought.

LEGISLATION	APPLICATION	Proposal RELEVANCE
	ecological processes and biological diversity and their water quality.	
<i>Wilderness Act 1987</i>	Investigation, protection and management of wilderness	No declared wilderness areas will be affected.
Commonwealth		
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	Protects Aboriginal and Torres Strait Islander heritage.	The route has been selected so as to avoid any recorded sites of cultural heritage significance. Other unrecorded sites or items in the locality will be identified through consultation with the local Aboriginal community and other stakeholders during the final route survey and construction phase.
<i>Australian Heritage Council Act 2003</i>	Protects non-Indigenous heritage.	The route has been selected so as to avoid any recorded sites of Non-Indigenous heritage. Other unrecorded sites or items in the locality, if present, will be identified through consultation with the local community and other stakeholders during the final route survey and construction phase.
<i>Environmental Protection and Biodiversity Conservation Act 1999</i>	Protects matters of national environmental significance (NES).	There are no known impacts by the proposal on NES matters. Further investigations will be undertaken during the final route survey and construction phase.
<i>Native Title Act 1993</i>	Enables native title claims over relevant lands.	The proposed route will avoid any active Native Title areas.

5. Environmental Assessment

5.1 Overview of Assessment Process

The assessment process will expand upon the methodology used in selecting the proposed route, which includes:

1. Desktop constraints assessment and mapping to determine the preliminary preferred route;
2. Route inspection to further refine the route in terms of specific site constraints or issues;
3. Consultation with relevant agencies, landowners and other stakeholders to identify any issues not determined to date;
4. Identification of key environmental issues by undertaking a qualitative risk assessment of all identified environmental issues. Key issues will be those that present a high or extreme risk;
5. Review of existing studies pertaining to the route and the key environmental issues and extrapolation of findings if possible;
6. Undertake a gap analysis to determine any knowledge deficiencies;
7. Undertake any additional field studies, assessments etc. if required;
8. Complete Environmental Assessment and prepare report,
9. Lodge the Part 3A application and Environmental Assessment for adequacy assessment.

5.2 Key Environmental Issues

Desktop constraints assessment and mapping, described above as step 1, has been undertaken for the proposed route shown on Figure 2. A set of constraints maps produced from this process has been prepared.

Review of the selected routes and identified constraints has determined a number of environmental issues that may pertain to the proposal. A preliminary assessment of these issues is given in the following sections.

5.2.1 Flora and Fauna

Preliminary Findings

Vegetation mapping for the study area has been acquired from the Department of Environment and Climate Change (DECC). Review of the mapping and satellite imagery for the locality has established location of the route so as to avoid any areas of significant vegetation. The land over which the pipeline is situated is mainly agricultural; grains, sheep or cattle.

Potential Impacts

Potential impacts could include:

1. Clearing of native vegetation and removal of fauna habitat;
2. Spread of weeds during construction; and
3. Disturbance, injury or death of native animals due to increased vehicle movements, trenches, night lighting, ill effects from exposure to construction plant and materials.

The review to date indicates that there is little likelihood of significant impact on native flora and fauna.

Assessment Methodology

Additional inspections along the route will be undertaken so as to avoid, if any, significant areas of native flora or any impacts on native fauna. Waterway crossings will be inspected where accessible to determine any likely impacts on aquatic ecosystems.

Impacts on flora and fauna will be assessed in accordance with the requirements of the Threatened Species Assessment Guidelines (DECC, 2007). The Environmental Assessment will include a framework for further assessment (if required), mitigation, management and monitoring of any impacts on flora and fauna.

5.2.2 Noise and Vibration

Preliminary Findings

The proposed route occurs in a predominantly rural landscape. Existing noise and vibration arises mainly from road traffic and agricultural activity.

The pipeline, once constructed, will not increase noise.

Potential Impacts

Noise:

Noise during construction of the pipeline will be from use of machinery, vehicles, blasting if required and from general construction activities and workers. The route has been sited away from residences or townships (at least 600m) wherever possible, which will minimise impacts from construction noise.

Vibration:

Any vibration that may occur is expected to be minimal and should be short lived and mainly caused by truck deliveries.

Assessment Methodology

Noise assessment will consider the criteria provided in the Noise Control Guideline: Construction Site Noise (SPCC, 1985). Vibration assessment will consider the criteria contained within Assessing Vibration: a Technical Guideline (DEC, 2006).

5.2.3 Air Quality

Preliminary Findings

Ambient air quality along the proposed pipeline route is considered good due to the area mainly being rural.

Potential Impacts

Minor impacts on air quality will arise during construction including dust, emissions, odours and vapours produced by vehicles or plant, which will impact on adjacent residents, flora and fauna.

Assessment Methodology

Air quality assessment will consider the concentration criteria for certain pollutants, including particulate matter, given in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DECC, 2005).

5.2.4 Aboriginal and European Heritage

Preliminary Findings

The pipeline route avoids any sites of cultural heritage significance recorded on the DECC Aboriginal Heritage Information Management System (AHIMS). It is 8 km west of the Yuranigh Aboriginal Grave Site.

A search of the Australian Heritage Database (AHD) has not identified any European heritage sites within proximity of the route.

Potential Impacts

It is possible that some sites of cultural heritage may be found that are not known or recorded on the AHIMS or other heritage databases (including the Historic Heritage Information Management System, HHIMS).

Assessment Methodology

The route has been selected so as to avoid any recorded sites of cultural heritage significance. In addition, consultation with relevant stakeholder organisations and individuals has commenced. Any issues identified during this process will be factored into route design and management. Ongoing consultation will be undertaken during construction.

5.2.5 Land Use

Preliminary Findings

The pipeline has been designed to date to mainly traverse private, agricultural land. This land should be capable of accommodating pipeline construction without significant adverse effect to agricultural production. Vineyards, stud farms and orchards have been avoided. There are no State Forests or Nature Reserves crossed by the pipeline.

Potential Impacts

Potential impacts during the construction will result in short term loss of access and changes to current and future use of the land. Commercial agreement will be obtained from each affected landowner.

Assessment Methodology

Extensive landowner liaison will be undertaken. Any specific landowner concerns regarding land use impacts will be addressed on an individual basis. Information regarding future public land use obtained from the affected Councils will be factored into the final route. To date, consultation has been undertaken by ERM Power with three of the four affected Councils.

The Environmental Assessment will include a methodology to mitigate, manage and monitor the impacts on land use.

5.2.6 Social and Economic Impacts

Preliminary Findings

The proposed route has been located so as to avoid major and minor towns in the locality to reduce negative impacts on the social and economic well being of residents.

Potential Impacts

During construction there will be a low level of negative social and economic impact including loss of amenity, loss of access to sites, increased demand on services. Positive impacts will include increased employment opportunities, injection of revenue into local communities from the project and project workers and future access to an alternative energy supply i.e. natural gas.

Assessment Methodology

Liaison with the four affected local Councils is being undertaken to identify the economic and/ or social impacts from the proposal. Management of any actual or perceived negative impacts will be addressed during construction. Liaison with the Councils will be ongoing during the construction phase.

5.2.7 Visual Amenity

Preliminary Findings

The proposed route traverses a predominately rural landscape and will by-pass all towns. The pipeline will be buried and generally will not be visible.

Potential Impacts

Construction activities of the pipeline can impair the visual amenity of nearby residences and businesses. The route has been located so as to minimise this impact. Any visual impact will be local and short term.

Assessment Methodology

Sites of potential visual impact will be determined during final route survey. Visual impacts will be discussed with affected parties during the construction phase. Any visual complaints will be addressed.

5.2.8 Traffic and Access

Preliminary Findings

The pipeline is proposed in an area that experiences relatively minor levels of rural traffic.. Areas of high traffic, such as towns, have been avoided. Approximately 25 named road crossings are proposed.

Potential Impacts

There will be an increase in the volume and type of traffic during construction of the pipeline. Any disruption to traffic flows will be minimised.

Assessment Methodology

Construction vehicle movements will be determined and appropriate mitigation strategies devised. Traffic management will be an important component of project planning and implementation. Consultation with the NSW Roads and Traffic Authority and the local Councils will be undertaken to determine requirements for all relevant road crossings. Traffic Management Plans will be prepared prior to construction to ensure required access.

The Environmental Assessment will include a framework for further assessment (if required), mitigation, management and monitoring of any traffic impacts.

5.2.9 Soils and Geology

Preliminary Findings

The geological characteristics of the proposed route have been identified. The route passes through a variety of geologic landforms and soil landscapes. Additional geological assessments will be undertaken at specific spots prior to the final route construction to avoid as much hard rock as possible.

Potential Impacts

Potential impacts on geology and soils may include erosion or sedimentation due to disturbance of soils during construction. There is also an ongoing risk of compaction of soil and subsidence over the trench during construction..

Assessment Methodology

The route has been located so as to avoid any serious geological impact. Further route surveys will investigate local geological characteristics prior to final route selection and construction.

The CEMP will include a framework for mitigation, management and monitoring of any impacts on soils or geology.

5.2.10 Water Quality, Hydrology and Groundwater

Preliminary Findings

Approximately 29 named waterway crossings are required on the proposed preliminary route. The two major rivers to be crossed are the:

- Lachlan River, near Cowra; and
- Macquarie River, near Wellington.

Any known swampy grounds or flood plains have been noted or avoided.

Potential Impacts

Potential impacts could include sedimentation of waterways, changes to flow during construction, disturbance and/or damage to aquatic ecosystems and channel structure and pollution of ground and surface water.

Assessment Methodology

Waterway crossings will be identified and investigated where accessible during the final route survey and during construction. Each waterway crossing will be classified as either minor or major in accordance with their site characteristics, conservation status and the level of construction required. The assessment will be undertaken with consideration of the NSW water quality and river flow objectives (DEC, 2006a) for each catchment.

The Environmental Assessment will include a framework for mitigation, management and monitoring of any water quality impacts.

5.2.11 Waste, Energy and Resource Use

Preliminary Findings

The pipeline will require use of various natural resources such as water, energy and natural resources such as sand, gravel etc. Waste will be produced at all stages of the construction process.

Potential Impacts

Potential impacts include increased use of scarce resources particularly water. Water is required for general use during construction as well as in large amounts for hydro testing post construction.

The project will require electricity at compound and other sites.

There will be increased production of waste both from construction and from temporary offices and camp sites if required.

Assessment Methodology

Waste management, recycling and resource use will be addressed in detail at the construction stage through the preparation of the CEMP. Resource use and waste management will be in accordance with the NSW Waste Avoidance and Resource Recovery Strategy 2007 (DECC, 2007a).

5.2.12 Contaminated Land

Preliminary Findings

A preliminary investigation of contaminated sites recorded by the affected Councils has shown that there are none within the vicinity of the proposed route.

Potential Impacts

Impacts from exposure or disturbance of contaminated land will be minimised by avoiding known contaminated sites.

Assessment Methodology

If Council, landowners or other stakeholders identify any contaminated sites during the construction phase the CEMP will include a framework for mitigation, management and monitoring of any contaminated sites.

5.2.13 Services and Utilities

Preliminary Findings

It is anticipated that all required services will be available to the proposed pipeline.

The route has been selected to avoid conflict with major service transmission, telephone and fibre optic lines. In a few places the route runs parallel to service lines but will be located on a separate easement with appropriate offsets.

Potential Impacts

Impacts on the community and service providers relating to the increased use of services and utilities by the proposal is considered minimal.

Potential injury to workers working in proximity to service lines can be addressed during construction.

Assessment Methodology

Liaison with service providers will be undertaken. Agreement will be reached with utility providers near the pipeline route.

The CEMP will include a framework for further mitigation, management and monitoring of any impacts from or to services or utilities.

5.2.14 Hazards, Risks and Public Safety

Preliminary Findings

The proposal has few hazards or risks that would impact on the community. These would mainly occur during construction. These hazards and risks are well known and are part of the Construction Management Plan (CMP).

The pipeline will be designed in accordance with Australian Standards which set the requirements to minimise any danger from gas leakage or explosion.

Potential Impacts

Potential hazards and risks on the construction contractor may include:

- Bushfire
- Prolonged rain
- Flooding
- Occupational health and safety incidents

Assessment Methodology

Construction and operation activities will be assessed using the qualitative risk assessment process described in AS2885 to determine activities that constitute an extreme or high risk. Actions to mitigate these risks will also be provided.

The CMP and Operational Management Plan (OMP) will include a framework for further assessing, mitigating, managing and monitoring hazards and risks.

5.2.15 Climate Change

Preliminary Findings

Anthropogenic climate change is exacerbated by vegetation clearing (reduction of CO₂ sequestration), burning of fossil fuels (releases CO₂) and emission of various other greenhouse gases.

Potential Impacts

The proposal will contribute to anthropocentric climate change during construction through the manufacturing and delivery processes, vegetation clearing, trenching pipeline commissioning, operation and maintenance.

The impact is considered slight.

Assessment Methodology

An assessment of the climate change implications, positive and negative, of the proposal will be included in the Environmental Assessment. The assessment will follow relevant guidelines prepared by the DECC and/ or the Commonwealth Department of Climate Change.

5.2.16 Key Environmental Issues

Following the preliminary assessment above, the key issues, i.e. those with the greatest risk of significant impact from the proposal, are identified as:

1. Land Use;
2. Soils and Geology; and
3. Water Crossings.

The key environmental issues listed above will be further addressed in detail in the Environmental Assessment.

6. References

Department of Environment and Conservation (DEC) 2006, *Assessing Vibration: a Technical Guideline*, DEC, Sydney.

DEC 2006a, *NSW Water Quality and River Flow Objectives*, accessed at <http://www.environment.nsw.gov.au/ieo/>

Department of Environment and Climate Change (DECC) 2005, *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*, DECC, Sydney.

DECC 2007, *Threatened Species Assessment Guidelines*, DECC, Sydney.

DECC 2007a, *NSW Waste Avoidance and Resource Recovery Strategy 2007*, DECC, Sydney.

State Pollution Control Commission (SPCC) 1985, *Noise Control Guideline: Construction Site Noise*, SPCC, Sydney.