Delta electricity

Appendix F
Traffic Assessment

Marulan Gas Turbine Facility

Environmental Assessment

PROJECT APPLICATION

VOLUME 2 | APPENDICES | August 2008

URS

R E P O R T

Marulan Gas Turbine Facility - Traffic Assessment

Prepared for

Delta Electricity

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Project Manager:	Nicole Brewer Associate Environmental Engineer	URS Australia Pty Ltd
Project Director:	Ian McCardle Principal Environmental Scientist	Level 3, 116 Miller Street North Sydney NSW 2060 Australia Tel: 61 2 8925 5500 Fax: 61 2 8925 5555
Author:	Bruce Spry Principal Design Engineer	Date: August 2008 Reference: DE Report Rev_4 Status: FINAL

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Executive Summary

Delta Electricity and EnergyAustralia are proposing to develop two separate gas turbine power generating Facilities at the Marulan Site (referred herein as the "Project"). A gas pipeline and other shared infrastructure servicing both Facilities would also be constructed along with high voltage transmission lines connecting each Facility to the nearby TransGrid 330kV Marulan Switchyard.

URS was commissioned by Delta Electricity to prepare a traffic impact assessment of their proposed Marulan Gas Turbine Facility including an assessment of the cumulative impact associated with the proposed EnergyAustralia Marulan Gas Turbine Facility proposed for the same site.

The assessment of the construction, operation and maintenance of the Delta Electricity Facility concluded the following:

- peak traffic during construction is approximately 32% higher than without the development;
- peak operation traffic during normal operations is approximately 6% higher than without the development; and
- peak operation traffic during times of major Facility maintenance (expected approximately every 6 years for a period of up to 6 weeks) is approximately 11% higher than without the development.

In the peak periods the level of service will be LoS B, which is still acceptable for the standard of road under consideration therefore acceptable levels of service are maintained along Canyonleigh and Brayton Roads during these periods.

It is noted that the assessment, particularly for construction, is very conservative as the traffic volumes for the peak three months of construction were assumed to continue for the entire year.

The assessment also addressed the cumulative impact of the Delta Electricity Facility with the EnergyAustralia Facility. Construction works occurring simultaneously or consecutively for the two Facilities would represent different scenarios with respect to traffic. For this particular study, two scenarios are adopted: Scenario 1 where both Facilities are constructed at the same time and Scenario 2 where each Facility is constructed with a time lag between completion of the EnergyAustralia Facility and the commencement of Stage 1 of the Delta Electricity Facility.

The assessment of construction, operation and maintenance of the two Facilities concluded the following:

- peak traffic during construction is approximately 64% higher than without the development for the worst case Scenario 1 where the two Facilities are constructed at the same time;
- peak traffic during normal operations is approximately 10% higher than without the development; and
- peak traffic during times of major Facility maintenance (expected approximately every 6 years for a period of up to 6 weeks) is approximately 18% higher than without the development.

In the peak periods the level of service will be LoS B, which is still acceptable for the standard of road under consideration, therefore acceptable levels of service are maintained along Canyonleigh and Brayton Roads during these periods.

While the worst case scenario (Scenario 1) is for construction of the two Facilities occurring at the same time, it is noted that the assessment is very conservative for the following reasons:

- traffic volumes for the peak three months of construction traffic were assumed to continue for the whole construction period of 12 months; and
- peak three months of construction traffic were assumed to occur at the same time for both Facilities however, construction of the EnergyAustralia Facility is likely to occur before the construction of the Delta Electricity Facility and therefore it is unlikely that the peak three months for the two Facilities will coincide.

Management measures to limit the impact of additional traffic on the existing road network are provided.

Section 1 Introduction

1.1 Background

Delta Electricity and EnergyAustralia (the Proponents) are proposing to develop two separate gas turbine power generating Facilities at the Marulan Site (referred herein as the "Project"). A gas pipeline and other shared infrastructure servicing both Facilities would also be constructed along with high voltage transmission lines connecting each Facility to the nearby TransGrid 330kV Marulan Switchyard.

URS was commissioned by Delta Electricity to prepare a traffic impact assessment of their proposed Marulan Gas Turbine Facility, including an assessment of the cumulative impact associated with the proposed EnergyAustralia Marulan Gas Turbine Facility proposed for the same site.

1.1.1 Context of Assessment

The Environmental Assessment for the Marulan Gas Turbine Facilities is divided into three parts:

1) **Marulan Gas Turbine Facilities** jointly proposed by Delta Electricity and EnergyAustralia seeking Concept Approval for the project as a whole and concurrent approval for the site preparation works;

2) **Delta Electricity Marulan Gas Turbine Facility Environmental Assessment** seeking Project Approval for Stage 1 (Open Cycle Plant) and Concept Approval for Stage 2 (Combined Cycle Plant); and

3) **EnergyAustralia Marulan Gas Turbine Facility Environmental Assessment** seeking Project Approval for an Open Cycle Plant.

1.1.2 Scope of this Assessment

This document addresses the assessment for **Application 2** above for the Delta Electricity Facility. This traffic and transport assessment addresses the traffic related impacts associated with:

- the existing use and operation, construction (post-site preparation works) and maintenance of the proposed Delta Electricity Gas Turbine Facility at the site located near Marulan, NSW as well as
- the cumulative impact with the proposed EnergyAustralia Gas Turbine Facility proposed for the same site.

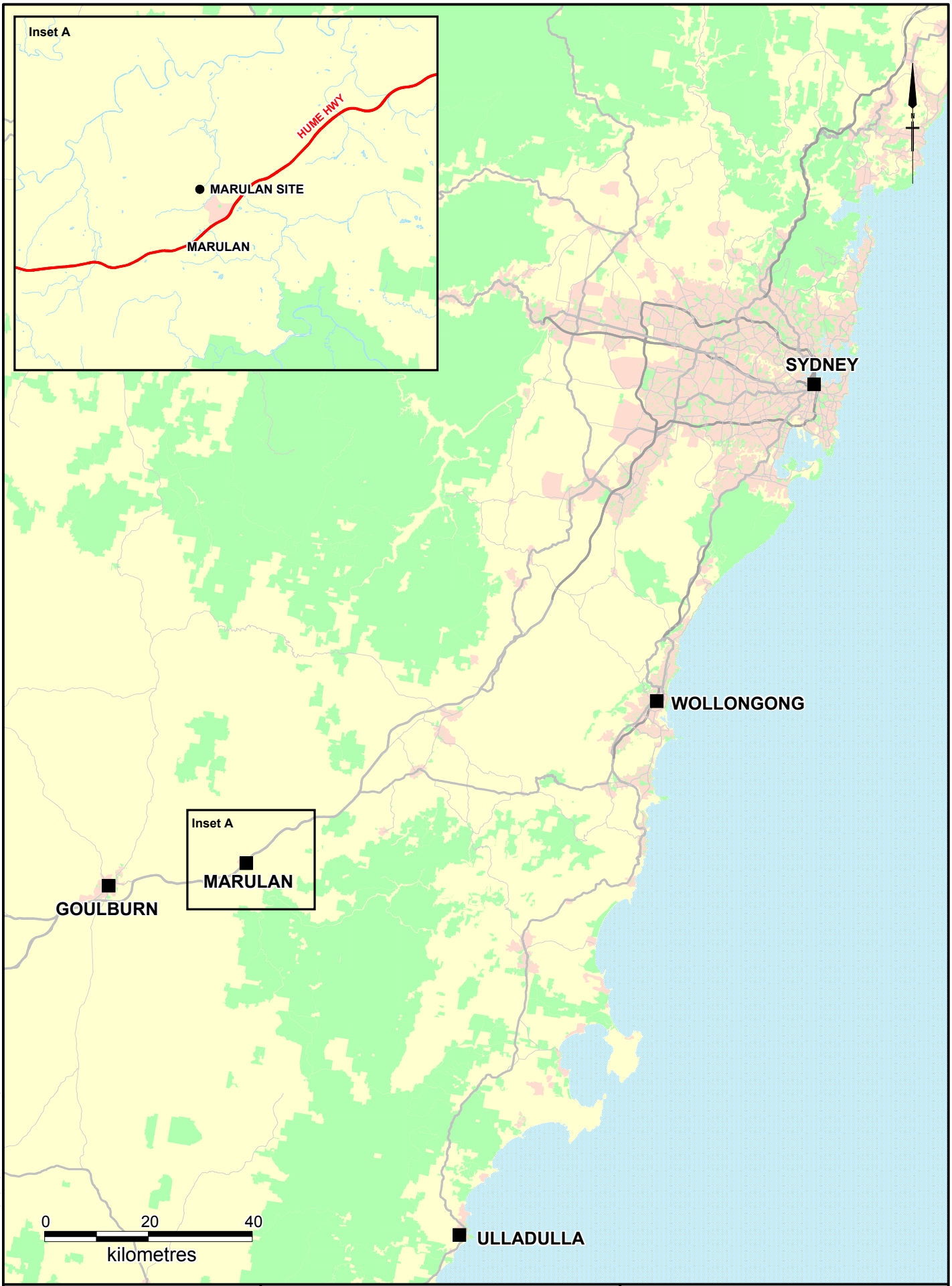
The assessment of the site preparation works (bulk earthworks and access road) is addressed in Application 1. The EnergyAustralia Gas Turbine Facility assessment is addressed in Application 3.

Development information used throughout the study has been supplied by Delta Electricity and for the cumulative impact with information supplied by EnergyAustralia. The assessment was conducted by URS Traffic Engineers by field inspection of the routes to the Marulan site.

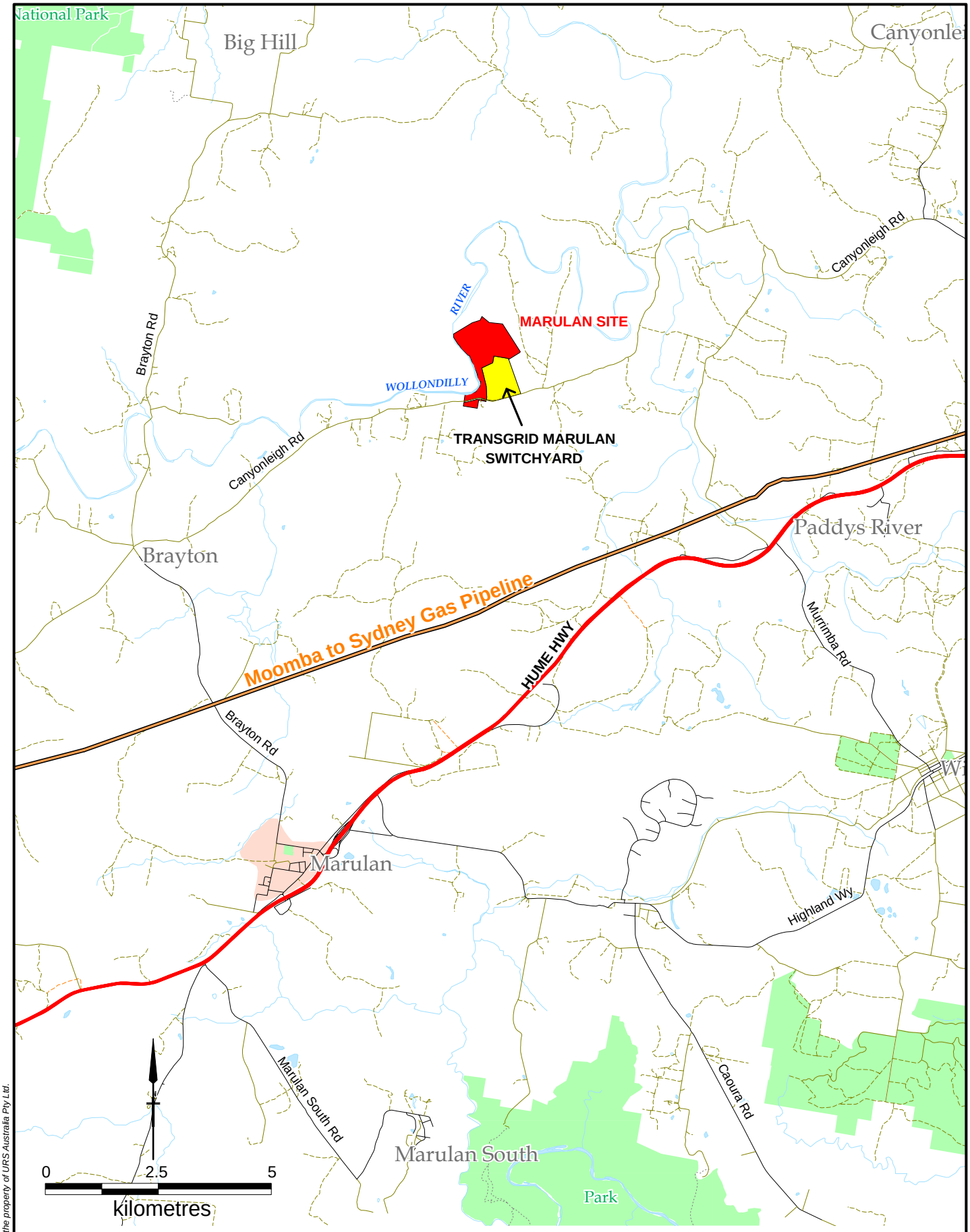
1.2 Site Location

1.2.1 Marulan Site

The Marulan site is located on Canyonleigh Road, Brayton, approximately 12 kilometres northeast of the village of Marulan. The site is 19.6 kilometres from the Marulan Highway turnoff and 10 kilometres from the Canyonleigh-Brayton Road turnoff (refer to Figure 1-1 Regional Road Network and Figure 1-2 Marulan Access Road).



Client: DELTA ELECTRICITY AND ENERGYAUSTRALIA	Project: MARULAN GAS TURBINE FACILITIES	Title: **REGIONAL LOCATION MAP**
URS	Drawn: AJW | Approved: NB | Date: 09/01/2008	Figure: **1-1**
	Job No: **43177371** | File No: 43177371-001J.wor	



Client: DELTA ELECTRICITY AND ENERGYAUSTRALIA	Project: MARULAN GAS TURBINE FACILITIES	Title: **LOCAL CONTEXT MAP**
URS	Drawn: AJW; Approved: NB; Date: 26/03/2008 Job No: **43177371**; File No: 43177371-001k.wor	Figure: **1-2**

Section 1 Introduction

1.3 Project Overview

1.3.1 Delta Electricity Facility

The development of Delta Electricity's Facility would comprise the following main elements:

- gas turbine Facility including ancillary equipment, process control system and administration facilities; and
- associated infrastructure within the Site i.e., connection to the electricity transmission line, connection to the gas inlet receiver, internal roads and water storage.

The implementation of the proposed gas turbine Facility would be carried out in two stages:

Stage 1 Two open cycle gas turbines with a total capacity in the range of 250 to 350 MW. Each turbine could have a capacity in the order of 125 to 175 MW depending on final equipment selected.

Stage 2: Conversion to a combined cycle Facility to generate electricity for intermediate/base load electricity demand. The proposed capacity of the Stage 2 combined cycle plant is in the range of 400 to 450 MW.

1.3.2 EnergyAustralia's Facility

The development of EnergyAustralia's Facility would comprise the following main elements:

- two gas turbine generators together with associated ancillary equipment and water, fuel and control systems;
- roads, drainage, and workshop, control and administration facilities; and
- external infrastructure connections associated with electricity import and export, gas supply, road access and telecommunications.

Construction would be undertaken in a single stage.

The proposed gas turbine facility for EnergyAustralia would comprise two open cycle gas turbines. Each turbine could have a capacity in the order of 175MW, producing a total nominal Facility output of 350MW.

1.3.3 Joint / Shared Infrastructure

The Project includes the construction of linear infrastructure, including:

- a gas pipe line;
- access roads; and
- transmission lines.

An indicative route for the transmission lines and access road on the Marulan site is shown in Figure 1-2, the exact layout and position will be finalised during the detailed design stage.

The exact location of the gas pipe line will be finalised at the detailed design stage and, subject to the Minister's determination, will be subject to a future, separate project application. Delta Electricity and EnergyAustralia are currently considering route options for the gas pipe line within an identified corridor of land, with further studies and assessment underway. When identified route options for the gas pipeline have been considered, easements or other appropriate rights of tenure will be negotiated.

Section 2 Existing Environment

2.1 Existing context

The regional road network is dominated by the Hume Highway (State Highway 31) which runs between Sydney and Melbourne. The town of Marulan is located some 130 kilometres south west of Sydney and 20 kilometres east of the regional centre of Goulburn. Both Facility sites would be accessed from Brayton Road that leaves Marulan and heads to the north west.

Approximately four kilometres north of Marulan, Canyonleigh Road branches to the east off Brayton Road and passes the TransGrid Switchyard site. A further two kilometres along Canyonleigh Road beyond the TransGrid Switchyard is the entry road to the Site initially utilising an easement over the entry road to the University of Sydney property (refer to Figure 1-1 and 1-2).

2.2 Existing road environs

Brayton Road is a 6.5 metre wide sealed road from Marulan to the junction with Canyonleigh Road. There are overhead transmission lines and a pedestrian pavement alongside the road at this location.

Two kilometres from the Hume Highway junction there is a narrow two lane bridge. The load capacity of the bridge is currently unknown. There are several other narrow points that are located at approximately five and nine kilometres along the route on Brayton Road and Canyonleigh Road.

Approximately 3.5 kilometres west of Marulan overhead power lines cross Brayton Road. Culverts along this section of Brayton Road are generally narrow, extending approximately only one metre beyond the sealed width of the roadway. The majority of these structures are faulty and shallow.

At approximately five kilometres along the route from Marulan, the road further narrows to five metres in some sections.

The route to the Marulan Site leaves Brayton Road at Canyonleigh Road. Initially Canyonleigh Road is a 5.5 metre wide sealed road but as the distance away from Brayton Road increases the road changes to a gravel surface.

A traffic island separates the two traffic directions along Canyonleigh Road at the junction.

The grade along this route is generally less than 3 % to 5 %. Other features along the route include drainage culverts, cattle grids and as the route approaches the switchyard, there are several overhead high voltage wires and towers.

Brayton Road spans two local government areas: Upper Lachlan Shire Council and Goulburn Mulwaree Council.

Section 2 Existing Environment

Figure 2-1 Brayton Road showing narrowing over bridge culvert

Figure 2-2 Brayton Road - Canyonleigh Road intersection where median is to be removed

Section 2 Existing Environment

Figure 2-3 Brayton Road showing overhead powerlines

Figure 2-4 Canyonleigh Road showing faulty pipe culverts

Section 2 Existing Environment

2.3 Traffic

Historical Average Annual Daily Traffic (AADT) is not available for either Canyonleigh Road or Brayton Road in the relevant locations for the Project. However, analysing data from adjacent stations within the network shows a clear and consistent trend that indicates the number of vehicles using these roads in the relevant locations. This analysis show a growth of 4.0 % which has been used to estimate the traffic over a 10 year period, from 2008 to 2018 (**Table 2-1**).

The period 2009-2011 covers the construction period under two development scenarios (refer to **Section 3**). The years 2012 and 2013 are typical years in which the facilities are in full operation. 2018 is a typical year in which one of the Facilities undergoes a major maintenance shut-down.

These data represent the base traffic growth without either Facility being present. By the year 2018 the estimated traffic will be 1064 vehicles per day, which represents an operational Level of Service 'B', that is, between 900 and 2300 vehicles per day.

Table 2-1 Predicted Weekday Traffic Flow in Canyonleigh and Brayton Roads – No Development

YEAR	2009	2010	2011	2012	2013	2018
No Development						
Daily Traffic Flow	747	777	808	841	874	1064
Midblock Level of Service (LoS)	A	A	B	B	B	B

Section 3 Construction Staging

It has been assumed that the construction of the Delta Electricity Facility will be undertaken in the following main stages: site preparation and Stage 1 plant construction and then a further stage to convert the initial open cycle plant constructed in Stage 1 to a combined cycle plant in Stage 2. It has been assumed that the construction of the EnergyAustralia Facility will be undertaken in the following main stages: site preparation and plant construction. The timing of the construction of these two plants is unknown at this time. The overlap in the staging of the construction will affect the predicted peak traffic conditions so it is assumed that traffic will be generated under the following conditions:

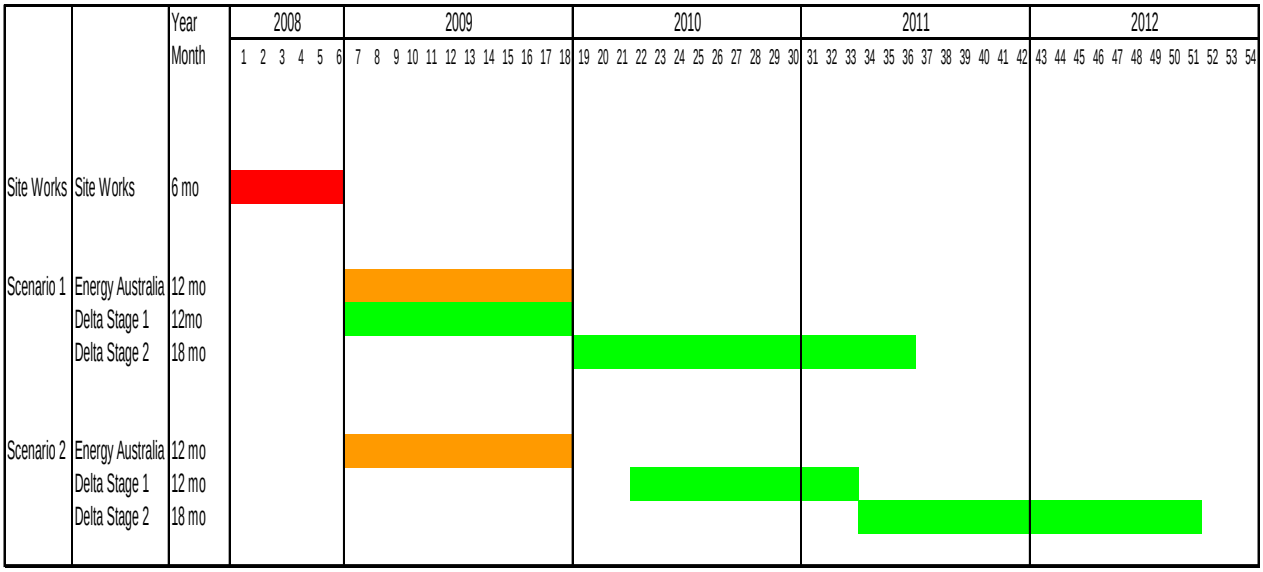
- The siteworks are assumed to be undertaken at the same time for both Facilities, regardless of the timing of the Facility construction, and to take approximately 6 months to complete. This scenario is addressed in the *Traffic Assessment for Site Preparation Works* for the *Concept Application*.
- The EnergyAustralia Facility would be constructed in one stage and is assumed to take 12 months to complete. The Delta Electricity Facility would be constructed in two stages that are assumed to take 12 months for the first stage and 18 months for the second stage.

Construction works for the EnergyAustralia and Delta Electricity Facilities could occur either together or sequentially. Several scenarios can be foreseen for construction that will influence traffic generation. Of the scenarios considered, two scenarios provide limits as to the expected traffic during construction and operation of the two facilities:

- Scenario 1: Two Facilities constructed at the same time, including EnergyAustralia and Delta Electricity Stage 1 followed some time after completion of Stage 1 by Delta Electricity Stage 2.
- Scenario 2: EnergyAustralia Facility is constructed first with some time lag to the construction of Delta Electricity Stages 1 and 2.

Of the two scenarios, Scenario 1 represents the worst case in terms of peak traffic volumes. The relationship of the elements of these two scenarios are represented graphically in **Table 3-1**.

Table 3-1 Construction Scenarios



Section 4 Assessment of Delta Electricity Facility

4.1 Construction traffic generation

4.1.1 Delta Electricity Facility construction

The number of predicted construction vehicle movements is summarised in **Table 4-1**. Construction traffic generation has been based upon usual construction practices and activities and the anticipated levels of staffing that are expected within each development stage.

Table 4-1 Construction Traffic Generation

Stage	Duration (Months)	Per Month		Per Week		Per Day	
		HV	LV	HV	LV	HV	LV
Average	12	528	2112	132	528	24	96
Peak	3	1056	4224	264	1056	48	192

HV=Heavy vehicles
LV= Light vehicles

The table shows that the traffic volumes that are expected to occur in the peak three month period are double the expected monthly average over a twelve month period. For the purposes of this assessment, the peak traffic volumes have been adopted as this represents the worst case. The peak daily construction traffic including heavy vehicles (HV) and light vehicles (LV) totals 240 vehicles per day (i.e. 48 +192 = 240).

4.1.2 Construction Water Requirements

The construction phase (approximately 12 to 18 months for each Facility) water requirement is estimated to be 6-8 kL per day. This requirement takes into account the following assumptions:

- personnel levels;
- minor allowances for wet trades during construction (bricklaying/blocklaying, rendering to small areas only, (for example, control rooms);
- all concrete mixing off-site (i.e. not allowed for in estimates);
- no on-site construction camp or canteen facility (i.e. mess rooms, showers/toilet facilities only);
- no consumption for fire fighting purposes considered; and
- no allowance for water sprays for dust control.

It is noted that water sprays for dust control could be considerable, depending on a number of aspects such as the condition of the road network and prevailing weather conditions. Water requirements for the construction of the Facilities could be up to 100 kL per day during hot dusty windy weather.

It is assumed that traffic generated from construction water delivery would be in the order of 4 trucks per week but in adverse weather conditions could be in the order of 3 trucks per day. This is not a significant increase compared to other construction traffic and has not been considered further in the traffic assessment.

4.1.3 Over-dimensional and over-mass transport

The large gas turbine, generator and high voltage transformer components are to be imported into Australia and transported to site by special road convoy. A total of six over-dimensional and/or over-

Section 4 Assessment of Delta Electricity Facility

mass escorted truck convoys of pre-assembled gas turbine, generator and transformer units would occur in each stage for each Facility. Typically the components might be up to 14 m in length and 5.0 m in width, 5.5 m in height and weigh up to 300 tonnes.

It is anticipated the majority of heavy plant items would be transported from the Sydney or Wollongong metropolitan area along State Route 69 then Hume Highway (SH31) during the construction stage. However, the supplier and transporter may also elect to transport the heavy plant items from Melbourne.

When assessing the route to carry the heavy plant items, the following issues are addressed:

- horizontal and vertical carriageway alignments;
- horizontal and vertical clearances to overhead obstructions (power lines, bridges, vegetation);
- bridge approaches;
- vehicle loading capacities on structures;
- roadside furniture (traffic signal hardware, directional signposting, lighting, poles); and
- temporary stop locations.

Along the Brayton Road portion of the access route, widening of the route will be required to enable passage of oversize vehicles. Further assessment and planning is required in the detailed design phase to identify and cater for any necessary remedial treatments to facilitate passage once the actual weight and dimensions of the proposed plant are known. Detailed route assessment studies of the entire route have not been undertaken at this stage and would be undertaken during the detailed design phase when the equipment supplier is selected and the port for delivery of overseas equipment is known.

All over-dimensional and/or over-mass road transport convoys are required to operate under RTA and NSW Police permit conditions. The transport contractor would submit a '*Transport Plan*' for approval. The '*Transport Plan'* is to identify the transportation dates, the route, load statistics and make-up of the convoy (number of escorts, transport loader and tow vehicles proposed). This 'Transport Plan' would take into account height restrictions at locations such as bridges, which can limit the height of the loads that can be transported.

4.2 Operational Traffic Generation

During the operational phase of Stage 1 staff levels are expected to average some two full time staff on site two contract staff for support services in Stage 1. This will generate eight vehicle trips per day (i.e.4 x 2). Stage 2 operational staff levels are expected to be up to 18 full time staff with two full time contract staff generating some 40 vehicle trips per day (i.e. 20 x 2).

To meet the operational water requirements for both the EnergyAustralia Facility and Delta Electricity Facility, a number of current and potential water sources, including potable, recycled and stormwater have been identified. The potential sources for water have been considered for the combined requirements of both the Delta Electricity and EnergyAustralia Facilities. Water source options include:

- Marulan water supply network;
- Marulan sewage treatment plant;
- Moss Vale sewage treatment plant; and/or
- Site stormwater runoff.

Water would be trucked to the Site to meet the operational requirements for the Facility.

For the purpose of this traffic assessment the following assumptions have been made:

Section 4 Assessment of Delta Electricity Facility

- **Stage 1:** It is estimated that for a 40 day operational period per year approximately 2 trucks per day (i.e. 4 vehicle trips per day) would be required to provide the water volume necessary for the operation;
- **Stage 2:** It is estimated that for a 330 day operational period per year approximately 6.5 trucks per day (i.e. 13 vehicle trips per day) would be required to provide the water volume necessary for operation;
- to initially charge the system (to fill the raw water storage tank to approximately 800kL), 27 tanker trips would be required. It has been assumed that this will be an infrequent occurrence and would be spread over a nominal time period and therefore has not been included in this assessment; and
- traffic generated for water delivery at the water source is likely to be low compared to the existing traffic volumes and unlikely to have significant impacts at the water source locations and therefore have not been considered further.

Estimations of the water delivery requirements are based on the following assumptions:

- the water requirement for Delta Electricity Stage 1 Facility is 2.3 ML per annum and Delta Electricity Stage 2 Facility is 63.5 ML per annum; and
- water is delivered to Site in 30,000 L tankers.

4.3 Major facility maintenance phase

Major maintenance is expected to generate additional traffic of up to 60 vehicles. Such activities would occur relatively infrequently, say every six years or more, and would last approximately three to six weeks. For traffic analysis purposes a peak daily value of 120 vehicle trips per day per Facility has been adopted which follows the construction traffic paradigm of peak volume being twice the average value.

4.4 Assessment of potential impacts

4.4.1 Road infrastructure issues and constraints

Brayton Road

It is noted that there are overhead powerlines at the junction of Brayton Road and Canyonleigh Road, however, these would not impact on vehicle movements. The pavement area at this point is considered wide enough to provide for turning of the oversize vehicles that would likely be used to transport the power station equipment.

Two kilometres from the Hume Highway junction a narrow two lane bridge will limit the width of vehicles that can cross the creek. The load capacity of the bridge is currently unknown however the proposed size and mass of generating equipment will exceed the capacity of most rural bridges on these types of minor roads. There are other narrow points located at approximately five and nine kilometres along the route on Brayton Road and Canyonleigh Road.

There are overhead powerlines along sections of the access route on Brayton Road (approximately 3.5 kilometres west of Marulan) which may limit the size of the equipment transported along this route.

Culverts along this section of Brayton Road are generally narrow and extend approximately one metre beyond the sealed width of the roadway. The majority of these structures have inadequate cover over the

Section 4 Assessment of Delta Electricity Facility

pipe, which would limit the structural capacity of the road and therefore the size and load of the vehicles potentially using this route. In addition, some may require reinforcement and/or repairs.

There is a narrowing of the road to only five metres at around five kilometres from Marulan, potentially restricting the width of the vehicles able to access the Site.

Canyonleigh Road

The route to the Marulan Site leaves Brayton Road at Canyonleigh Road. Initially Canyonleigh Road is a 5.5 metre wide sealed road but as the distance away from Brayton Road increases the road changes to a gravel surface.

Temporary removal of a traffic island that separates the two traffic directions along Canyonleigh Road at the junction will be required to enable long vehicles to turn into Canyonleigh Road.

The grade along this route is generally less than 3 % to 5 % and although gravel surfaced, the road width would be suitable for oversized vehicles. Other features along the route include drainage culverts, cattle grids and as the route approaches the switchyard, there are several overhead high voltage wires and towers.

As the Brayton Road route spans two local government areas (Upper Lachlan Shire Council and Goulburn Mulwaree Council), approvals for road access and traffic management measures would have to be sanctioned by both Councils prior to work commencing.

Access Road - University Road

The access to the Site from Canyonleigh Road uses an existing road easement in the University of Sydney property and the TransGrid switchyard. The route is currently gravel surfaced and has grades up to 8 per cent. These grades would be adjusted through earthworks and the road requires widening to suit construction traffic. It is proposed to provide an asphalt surface to improve the surface condition of the road over the operational period of the Facility.

Access Road - New Site Access Road within the Site

Three alignment options were developed for the access road within the site. The alignment options all connect to University Road at the same point adjacent to the high voltage transmission line easement. A preferred alignment was determined and is shown in Appendix A (Option B). The preferred route optimises the cost of construction and the impact on existing vegetation within the site. Option C is also presented as the worst case scenario for clearing. It is noted that for the purposes of other environmental assessment studies Option C has been used as it is the worst case scenario in terms of clearing. The detailed design phase will refine the alignment.

Summary

The following specific mitigation measures are considered necessary:

- further assessments to identify and cater for any necessary remedial treatments to facilitate passage to Site along Canyonleigh and Brayton Roads once the actual weight and dimensions of the proposed plant are known. The assessment would:
  - review what works may be required to bridges, causeways, traffic islands, intersections and drainage culverts along Canyonleigh and Brayton Roads to facilitate the construction and operation of the Facilities;
  - identify and cater for any necessary remedial treatments to facilitate passage to the Site along Canyonleigh and Brayton Roads once the actual weight and dimensions of the proposed plant are known; and

  - be undertaken in consultation with Goulburn Mulwaree and Upper Lachlan Shire Councils.

- pre construction evaluation of pavement condition of Brayton Road (between George Street intersection and Canyonleigh Road intersection) and Canyonleigh Road (from intersection of Brayton Road to the Site) to be undertaken;
- post construction evaluation of pavement condition of Brayton Road (between George Street intersection and Canyonleigh Road intersection) and Canyonleigh Road (from intersection of Brayton Road to the Site) to be undertaken to determine remedial action required following passage of oversized vehicles;
- transport of over-mass and over- dimensional loads to be undertaken under RTA and NSW Police permit conditions and approved routes.
- access road - New Site Access Road within the Site:

    a. three alignment options were developed for the access road within the site. The alignment options all connect to University Road at the same point adjacent to the high voltage transmission line easement. A preferred alignment was determined and is shown in **Figure 10-1** (Option B). The preferred route optimises the cost of construction and the impact on existing vegetation within the site. Option C is also presented in **Figure 10-1**. It is noted that for the purposes of other environmental assessment studies Option C has been used as it is the worst case scenario in terms of vegetation clearing. Detailed design will refine the alignment.

    b. this new access road within the Site would be constructed prior to earthworks commencing.

Further planning is required in the detailed design phase to identify and cater for any necessary remedial treatments to accommodate construction traffic in consultation with Councils. Detailed route assessment studies of the entire route have not been undertaken at this stage and must be undertaken during the detailed design phase when the supplier for the over size and over dimensional equipment is selected and the port for delivery is known.

4.4.2 Construction of facility

The main impacts from construction traffic are likely to occur:

- during the morning 7.00 to 8.00 AM peak hour when construction staff and early delivery vehicles coincide with the Brayton Road peak;
- through regular daily traffic generated by delivery trucks for equipment, plant, materials with intermittent peaks associated with concrete pours; and
- occasionally, outside of peak periods, through the delivery of large equipment (turbines, generators, transformers) from Port to the site.

The impact of construction traffic has been reviewed with respect to:

- traffic capacity on Brayton Road and Canyonleigh Road;
- safety; and
- oversize vehicles.