

Mt Piper Power Station Ash Placement Project

PROJECT DESCRIPTION AND PRELIMINARY ENVIRONMENTAL ASSESSMENT

- Final
- September 2009



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Executive Summary

This report provides a Project Description and Preliminary Environmental Assessment (PEA) to support Delta Electricity's Concept Application (CA) for the Mt Piper Ash Placement Project. Delta Electricity is the Proponent for the project.

The report identifies key environmental issues associated with the project and supports an application to the Minister for Planning under Section 75D of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for concept approval. The project would be a Major Project under Section 75B of the EP&A Act. This PEA is intended to assist the Director-General of the Department of Planning (DoP) with the issuing of Environmental Assessment (EA) requirements under Section 75F of the EP&A Act.

Delta Electricity operates the existing Mt Piper Power Station, located near Lithgow in central western NSW. The Power Station has a generating capacity of approximately 1,400 MW. Currently, approximately 10.1 million tonnes of ash has been placed in the present ash placement area, Storage Area No. 1. Based on planned operations, the present ash placement area is expected to reach capacity by around 2015, well before the existing station reaches the end of its economic life. Accordingly, there is a need to undertake planning activities and obtain approvals to enable the storage of ash once the existing ash placement area reaches capacity.

The removal of ash is critical to the long-term ongoing operation of Mt Piper Power Station. In order to maintain existing power station operations, ash needs to be either sold for beneficial reuse purposes or stored. Wherever possible, Mt Piper's ash is sold for re-use, mainly in cement manufacture, which accounts for 200,000 tonnes per annum or about 18% of the Power Station's current annual production of ash. Delta will continue to identify re-use opportunities for the ash generated by Mt Piper Power Station, throughout the life of the station.

In the absence of significant reuse alternatives, however, the only viable option is to identify and commission new areas to enable the continued placement and storage of ash.

The preliminary investigations undertaken for the proposal indicate that the key environmental issues for the Mt Piper Power Station Ash Placement project include:

- Air Quality
- Visual Amenities
- Cultural Heritage
- Noise
- Water Management
- Ecology



This PEA provides discussion of the key environmental issues to demonstrate the Proponent's existing understanding of the issues and the need for further environmental assessment of these key issues. The potential impacts and management of other issues such as land use, traffic and transport, socio-economics and waste management, and the reasons they have not been designated as key issues, are also discussed in the report.

The management of both key issues and other issues would be handled through a Statement of Commitments and the Conditions of Approval of the project, which will determine the requirements for environmental management.



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1. Introduction

1.1. Purpose of this Report

This Preliminary Environmental Assessment (PEA) has been prepared to support Delta Electricity's (Delta) concept application for the Mt Piper Ash Placement Project.

Delta has identified a need to expand its current ash placement facilities, which service the Mt Piper Power Station, to enable the further placement of ash once the existing ash placement area has reached capacity. Previous feasibility and site selection studies have selected four broad sites on which Delta is proposing to undertake planning activities and obtain relevant approvals for ash placement. The four sites are:

- Lamberts North,
- Lambert South,
- Neubecks Creek, and
- Ivanhoe No. 4.

With the ongoing operation of units 1 and 2 at Mt Piper, the present ash placement area is expected to reach capacity within five to six years. Accordingly, there is need to obtain development consent for ash placement beyond this time and throughout the power station's economic life.

A proposal to extend the generation capacity of the power station (the construction of an additional 2000MW of generation capacity) is currently being considered by the Department of Planning under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). One option for the Mt Piper Extension is the use of ultra-supercritical coal technology and the operation of such a plant and would significantly impact on the ability of the current ash placement site to service the power stations requirements.

As such, Delta is seeking Concept Approval for the future development of the proposed placement sites. Lamberts North and Lamberts South are currently being mined for coal and it is intended to undertake sufficient studies on these sites to allow for Project Approval for the development of the Lamberts North and Lamberts South areas within the next few years.

Neubecks Creek and Ivanhoe No. 4 are not currently subject to mining activities. Ash placement at these sites would only occur should the areas be mined and suitable areas for ash storage created. Hence, Concept Approval for these sites is considered sufficient at this stage prior to further mining and environmental studies being undertaken.



This PEA identifies key environmental issues associated with the proposed development at each of the proposed sites and ultimately supports applications to the Minister for Planning under Section 75D of the EP&A Act.

This report is intended to assist the Director-General of the Department of Planning (DoP) with the issuing of Environmental Assessment (EA) requirements under Section 75F of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

1.2. The Proponent

Delta Electricity (Delta) is a New South Wales State-Owned Corporation whose purpose is primarily to maintain and operate facilities for the generation and supply of electricity into the National Electricity Market (NEM). Delta's business objectives are aligned with the legislation under which it operates and with Government policy direction. This legislation includes the *NSW Energy Services Corporations Act 1995 No 95* that lists the main objectives for electricity generators, as follows:

- To be a successful business and, to this end:
 - to operate at least as efficiently as any comparable businesses
 - to maximise the net worth of the State's investment in it
 - to exhibit a sense of social responsibility by having regard to the interests of the community in which it operates;
- To protect the environment by conducting its operations in compliance with the principles of ecologically sustainable development contained in section 6 (2) of the *Protection of the Environment Administration Act 1991*;
- To exhibit a sense of responsibility towards regional development and decentralisation in the way in which it operates;
- To operate efficient, safe and reliable facilities for the generation of electricity;
- To be an efficient and responsible supplier of electricity; and
- To be a successful participant in the wholesale market for electricity.

1.3. Background

Delta Electricity owns and operates Mt Piper Power Station, located approximately 17 km north-west of Lithgow (refer to **Figure 1**). The station currently comprises two coal-fired generating units, each of which is operating at 700 MW.

The original development consent for Mt Piper in 1982 included a proposal to place ash produced at the station in an ash dam - i.e. a wet ash system. Due to a deferment in construction of Mt



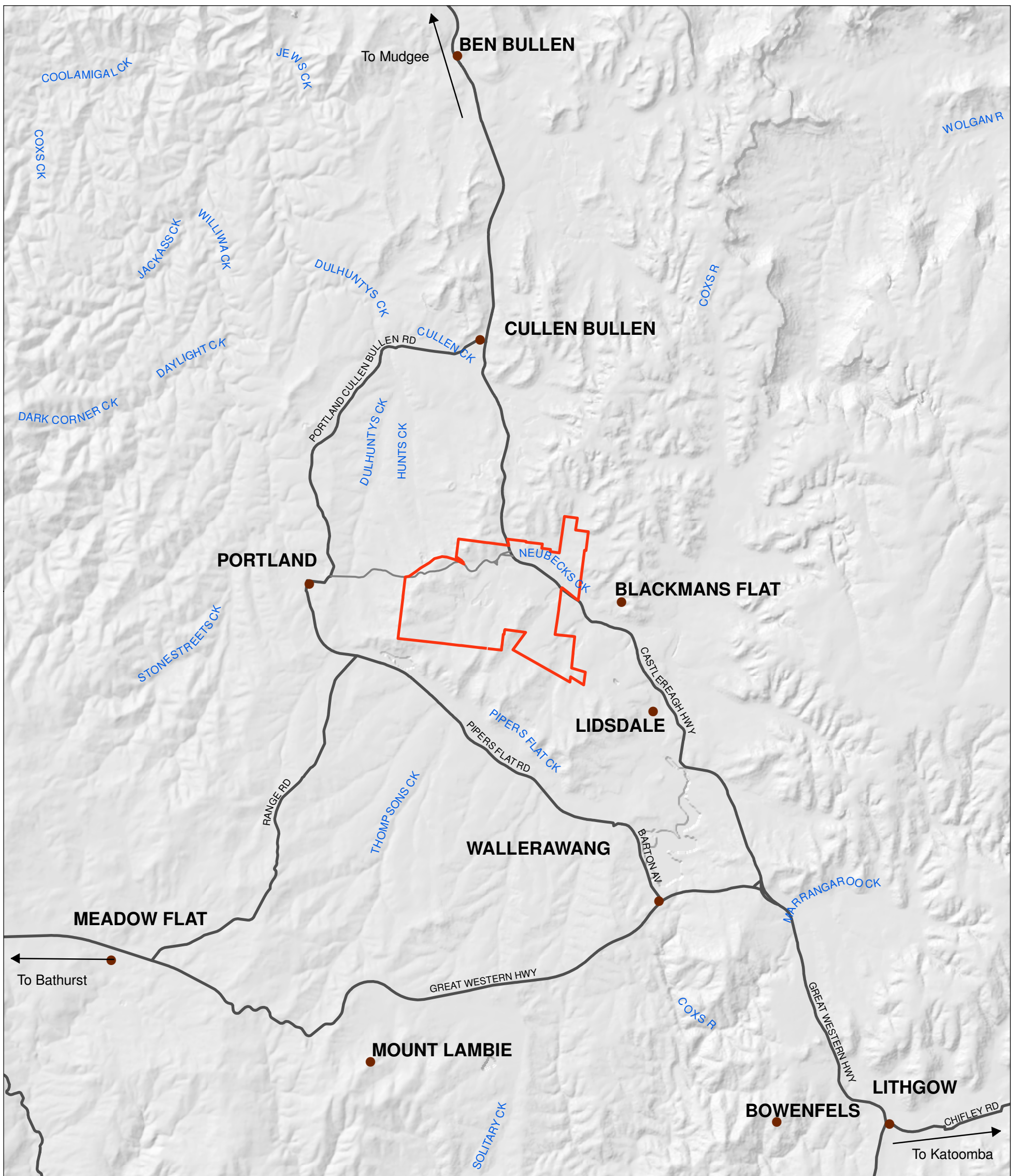
Piper, the opportunity for an alternative ash placement system arose and, based on an Environmental Impact Statement (EIS) prepared in November 1989, consent was granted by Lithgow City Council in March 1990 for ash placement in a former Western Main open cut mine void adjacent to the power station. This area is known as Storage Area 1 and employs basically dry ash placement. Currently, approximately 750,000 m³ of ash is placed in Storage Area 1 annually.

Based on the planned operation of Mt Piper, the present ash placement area is expected to reach capacity in five to six years – i.e. by around 2015, well before the power station reaches the end of its economic life. Accordingly, there is a need to obtain development consent for ash placement beyond that time.

1.4. Project Objectives

The objectives of the project are:

- To increase the capacity of ash placement areas to ensure the ongoing operation of the power station site beyond 2015, in order to maintain the existing level of power supply in NSW;
- To provide, as necessary, for the placement of ash from the proposed Mt Piper Power Station Extension should this project proceed with the coal-fuelled option, to meet the anticipated need for future base-load generation capacity for NSW; and
- To minimise and manage any environmental or social impacts which may result from the construction and operation of the proposed ash placement areas.



Legend

- River
- Major Road
- Investigation Area

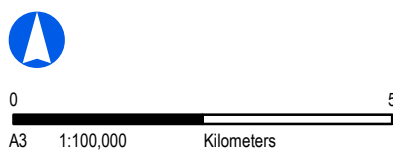


Figure 1: Locality Plan

GDA 94 MGA Zone 56





1.5. Project Need

Approximately 10.1 million tonnes of ash has so far been placed in the present ash placement area, Storage Area No. 1, and approximately 625,000 tonnes (750,000 m³) per year of ash is deposited there. Based on planned operations, the present ash placement area is expected to reach capacity by around 2015. Accordingly, there is a need to undertake planning activities and obtain approvals to enable the further placement of ash once the existing ash placement area reaches capacity.

Ash storage is critical to the long-term ongoing operation of Mt Piper Power Station. To maintain existing power station operations, ash needs to be either sold for beneficial reuse purposes and/or stored on-site.

In addition, Mt Piper is currently undertaking approvals for the extension of up to 2,000 MW of gas or coal fired baseload generation capacity. This is the subject of an application for Concept Approval which is being assessed by the Department of Planning under Part 3A of the EP & A Act. Additional coal fired generation at Mt Piper could approximately produce up to an additional 1.55 million m³ of ash. The areas identified for future ash placement would therefore be required to accommodate this additional ash.

Ash from power generation activities can be beneficially reused for cement making or horticultural purposes, soil stabilisation, engineered fill and road bases, aggregates and geopolymers, and zeolite production, subject to the quality of the ash produced. Re-use opportunities are described in **Table 1-1**. Currently Delta sells approximately 200,000 tonnes per year of fly ash to the cement industry.

Delta will continue to investigate the reuse of the ash by-product of its power generating activities in each of the potential reuse areas. Through a process of supporting research and participating in market research and development, Delta has been working to stimulate interest in this co-product. Delta is a member on the board of the Ash Development Association of Australia (ADAA) and the Cooperative Research Centre for Coal in Sustainable Development (CCSD). The ADAA strive to market ash for a broad range of uses and the CCSD focussed on strengthening the collaborative links between industry, research organisations and government agencies.

In the absence of an alternative area to place the ash produced during power generation activities, Mt Piper Power Station would be required to either reduce production to extend the operational life of the existing placement area or close down operations when the present ash placement area reaches capacity. Either of these options would have associated impacts on the electricity supply to NSW and are considered highly undesirable. As a result, this selection of additional ash placement areas is required to maintain the existing level of power supply in NSW



1-1 - Re-use opportunities for ash

Reuse	Opportunities
Cement	Dry un-conditioned ash can be used in cement. Australian Standards for premix concrete allow for up to 40% of Portland cement to be replaced with fly ash. Delta currently on sells 18% or 200,000 tonnes of flash each year to the cement industry.
Horticulture	Owing to the dominance of silt sized particles and porous nature of the components in fly ash, addition of the fly ash to soils may help to increase the water holding capacity and modify the permeability of otherwise unfavourable soils. Recent regulatory restrictions on the use of fly ash in horticultural applications have seen a significant drop in horticultural opportunities, although the ADAA and Delta have negotiated an exemption from the regulation to allow ash from Western Stations to be utilised in the field.
Soil stabilisation, engineered road fills and road bases.	Fly ash may also be added to otherwise well-sorted (poorly graded) sandy soils to fill void spaces increasing the overall density and aiding in compaction. In some cases the self cementing properties of the ash may actually help to bind the soils. Such stabilisation increases the capacity of the soil to support roads (Road Base) and maintain the soils stability for the lifetime of the structure. The fly ash and soil may be compacted into layers (structured fills), or in a mixture of fly ash soil water and Portland cement for flow able fills. Delta actively supports programs to test the properties of fly ash in these areas.
Aggregates and geopolymers	Coarse (Gravel sized) and fine (sand sized) aggregates for concrete and other applications can be produced, from fly ash, by partially or completely melting the ash. Alternatively, aggregates can be produced by binding ash particles into larger masses with a cementing agent. Delta in concert with the ADAA is actively researching both applications and methods for this process.
Zeolites	The abundant aluminosilicate glass component of the fly ash provides a potential raw material for zeolite synthesis. Zeolites are used in control release fertilisers, soil conditioners and ion exchange media, detergent builders, pesticide carriers and animal dietary supplements. There is little research being done in this area due to the high inherent costs and the location of 'normal' fertiliser production facilities.
Backfilling and landfill	A number of reviews and trials have been carried out by Delta to measure the effectiveness of fly ash in open cut voids and as a pumped medium in underground mine workings. Results of these trials are positive and Delta feels that these properties will lead to greater usage in the future.
Bottom Ash Use	Bottom ash can be used as part of stability berms and other site stability structures to minimise the need to use naturally extracted materials. Ongoing reviews and research into this type of application for large dams and civil structures is ongoing through the ADAA. Delta will continue to review opportunities to use bottom ash within site works and with third parties to minimise demand on natural resources and in an attempt to extend the life of any development resulting from this application.



1.6. Alternatives Considered

In 2006 Delta undertook a feasibility and site selection study in which potential ash placement sites were selected to be assessed and evaluated (GHD, 2006). In total, 26 potential ash placement sites were identified in the surrounding area located up to 13km from the power station. All identified sites were assessed against a set of technical and operational parameters, in addition to economic and environmental criteria. Based on the recommendations of that feasibility study, Delta selected four sites within the defined investigation areas, these being Lamberts North, Lamberts South, Neubecks Creek and Ivanhoe No. 4, for further consideration (refer to **Figure 3**).

The feasibility and site selection study found that, compared with the other options evaluated the preferred sites:

- optimise the economic costs and benefits;
- enable the placement of ash within land owned by Delta Electricity or Centennial Coal (refer to **Figure 2**);
- enable the ash to be placed in areas that are either currently subject to open cut mining or intended for coal extraction prior to use for ash placement as part of this project;
- enable the ash to be transported via conveyor or private haul roads and do not require the use of public roads; and
- minimise undesirable environmental and social impacts in already developed areas.

The study also allowed for consideration of potential expansion of the generating capacity of Mt Piper. Ash placement schemes were considered for two scenarios – the current generation capacity for units 1 and 2 and also the addition of a further 2000 MW of coal fired generation capacity. The outcomes of both scenarios indicated the need for multiple storage sites.

The diversion or culverting of Huon Creek was also considered with regard to providing extra capacity for ash placement in a manner which would allow for logical, sequenced deposition of ash between Storage Area 1 and Lamberts North.

Sites that were not chosen for further study were generally further away from the Mt Piper site, requiring the construction of additional infrastructure and had limited storage capacity due to being small sites.



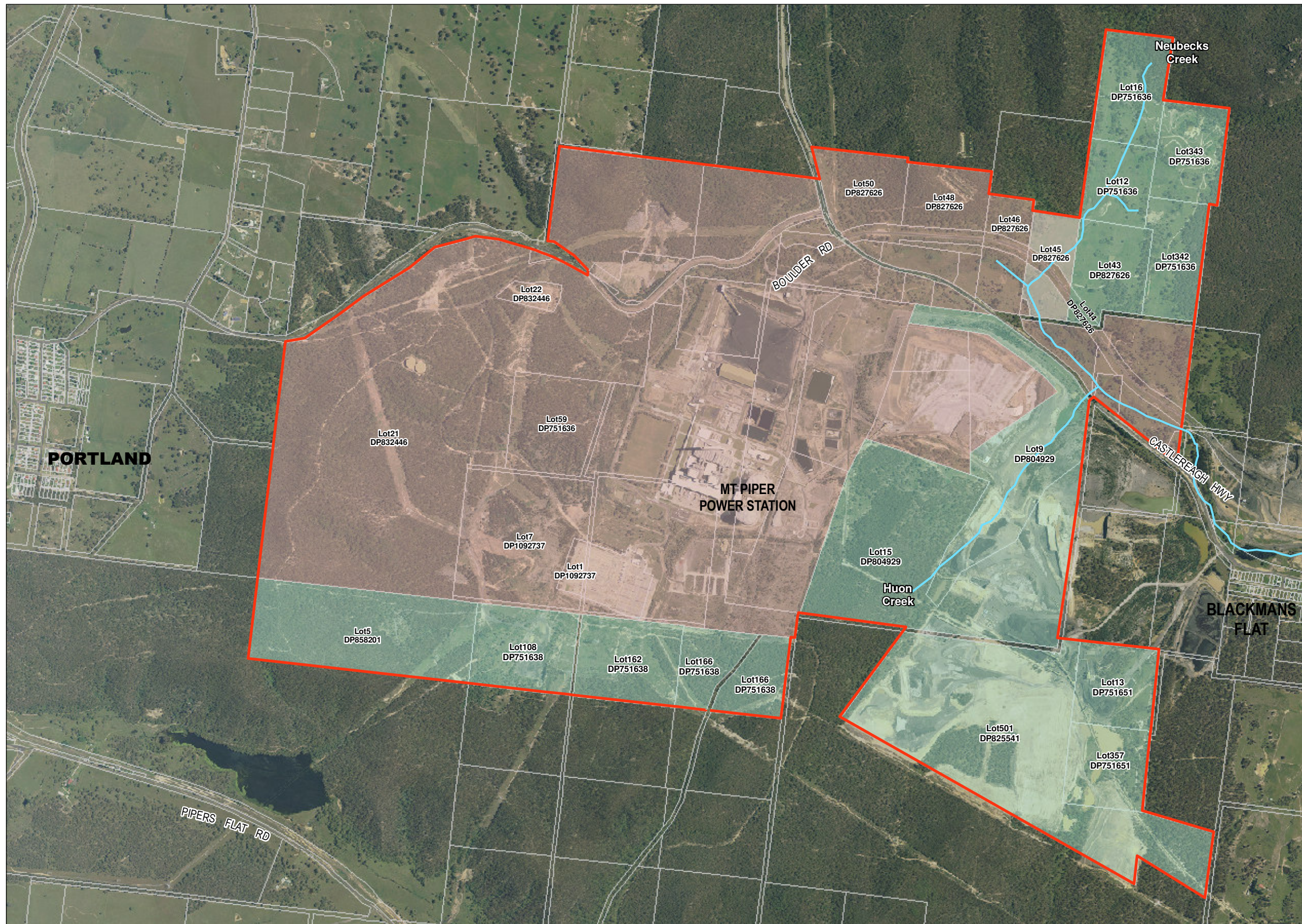
1.7. Summary of Assessment Requirements

Delta is seeking the following approvals for the Mt Piper Ash Placement Project:

- Concept Approval for ash placement at:
 - Lamberts North;
 - Lamberts South;
 - Neubecks Creek;
 - Ivanhoe No. 4.

Delta intends seeking project approval for ash placement at Lamberts North and Lamberts South immediately following concept approval being granted for those sites. Detailed studies will be undertaken in the environmental assessment to allow this to occur.

Figure 3 defines the areas for which Delta is seeking approval for ash placement. Section 3.1 provides further explanation for the planning considerations for seeking approvals at each site.



Legend

- Investigation Area
- Land Ownership Inside Investigation Area**
- Delta Electricity
- Centennial Coal Company Limited

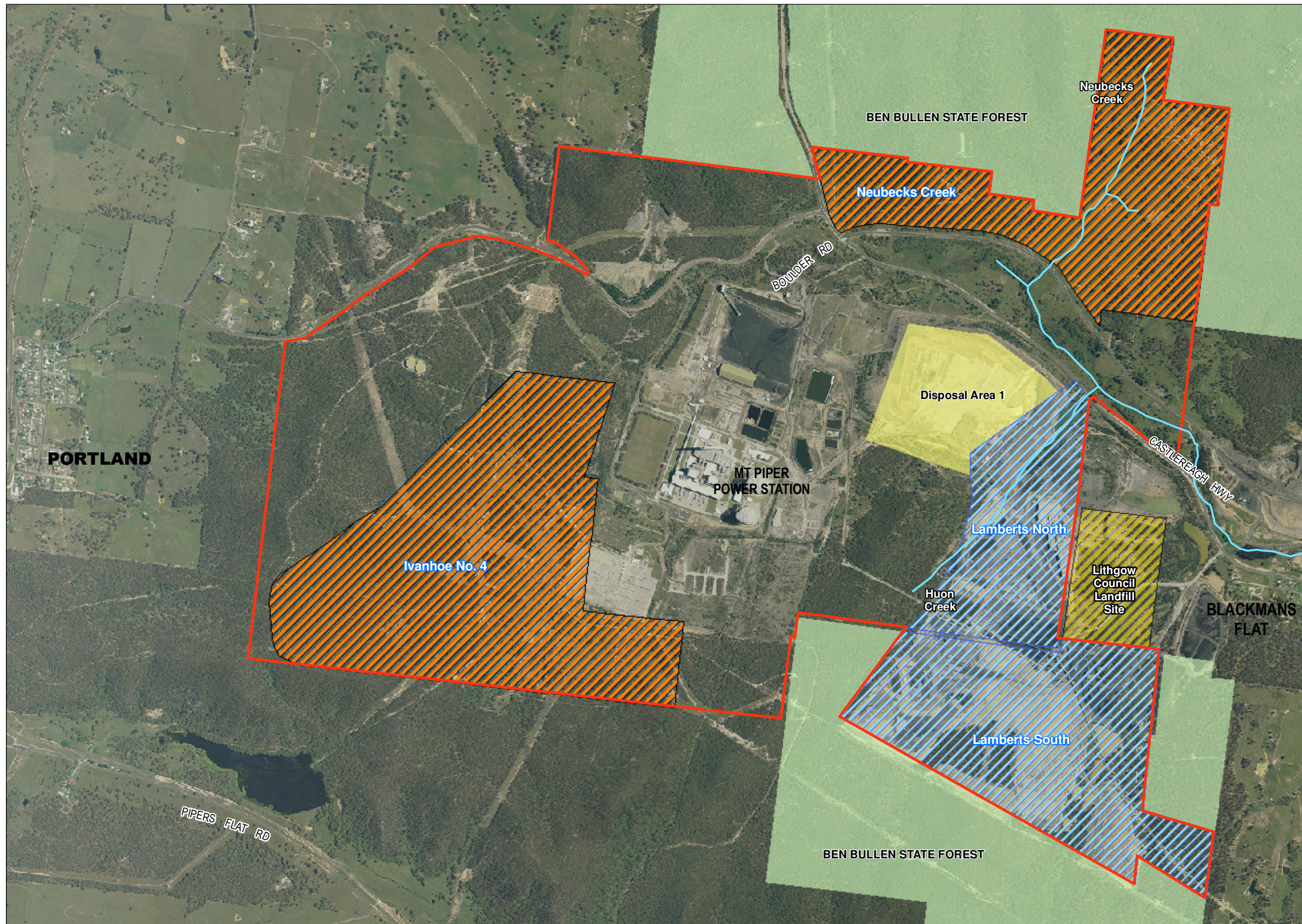
Data Sources:
Imagery: Dept of Lands, 2008-12



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Figure 2: Investigation Area & Land Ownership



- Legend**
- Investigation Area
 - Concept approval areas
 - Project approval areas
 - Disposal Area 1
 - Ben Bullen State Forest

Data Sources:
Imagery: Dept of Lands, 2008-12

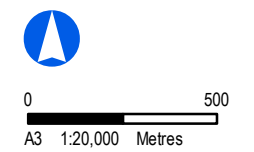


Figure 3: Mt Piper Power Station - Ash Placement Areas

Delta Electricity Version 2





2. Description of the Project

2.1. Project Location

The project investigation area is located in the Central West region of NSW, approximately 17 km north-west of Lithgow (refer to **Figure 1**). The nearest townships are Portland, located approximately 4 km to the west, Blackmans Flat approximately 3 km to the east and Wallerawang, approximately 6 km to the south-east. Mt Piper Power Station is located at the intersection of Castlereagh Highway, the main transport corridor to the site, and Boulder Road (refer to **Figure 2**).

The land is surrounded predominantly by coal mines and power generation facilities (Wallerawang Power Station located to the south-east) and State Forest (Ben Bullen State Forest located north east and south east of Mt Piper Power Station),.

The investigation area and possible ash placement sites are in close proximity to Mt Piper Power Station, on land owned by either Delta Electricity or Centennial Coal (refer to **Figures 2 and 3**).

Lamberts North and Lamberts South areas have both undergone extensive mining and reworking. Both sites are located to the immediate east of the Mt Piper Power Station and are part of the existing Lamberts Gully Open Cut Mine operations. Lamberts North is bordered by the current ash Storage Area 1 and Huon Creek on the west and the proposed Lithgow Council Landfill Site on the west. Lamberts South adjoins Lamberts north and is mostly surrounded by the southern sections of the Ben Bullen State Forest. Both Areas are open cut pits in various stages of mining operations and as such devoid of vegetation or other environmental sensitivities.

Neubecks Creek is located 1km to the northeast of Mt. Piper Power Station on the northern side of the Castlereagh Highway. The proposed placement area is a valley bordered to the north and east by the Ben Bullen State Forest. The site is based on a small, undeveloped, shallow coal resource located in the Neubecks Creek Valley, with an estimated mine reserve of approximately 3 million tonnes and is the location of the proposed Neubecks Creek Mine. The main environmental feature of this site is Neubecks Creek which forms the basin of the valley and flows in a southerly direction towards Blackman's Flat.

Ivanhoe No. 4 is located west and south west of the power station and approximately 1 km to the east of Portland. The area is currently heavily vegetated with numerous access tracks and a major power transmission easement. Previous underground mining activity has occurred within the Ivanhoe No. 4 area.

Further detailed work, including geotechnical investigations, environmental management planning and detailed mine planning would need to be completed before the requisite approvals



could be granted and mining operations could commence at both Neubecks Creek and Ivanhoe No. 4.

2.2. Existing Operations

Ash is generated at Mt Piper Power Station as a by-product of the combustion process. When the coal is burnt a residue of ash is produced, which is separated as either 'bottom ash' or 'fly ash'. Bottom ash consists of larger particles which fall to the bottom of the boiler and are collected, while the finer particles (fly ash) are carried up through a fly ash collection plant by the hot exhaust gases. The majority of ash produced is in the form of fly ash (around 90%). The average ash content of the coal used at Mt piper is around 20% to 25%.

Bottom ash (also known as furnace ash) is collected from the base of the power station's boilers, conveyed to the end of the boiler house building, dewatered and then transported by truck to the current ash placement area where it is stored separately from the fly ash.

Fly ash is extracted from flue gases and captured in filter bags which are attached to each of the generation unit's boilers. The ash is pumped from the baghouse to the ash conditioning plant adjacent to the power station. At the conditioning station, the ash is treated with water or wastewater (brine) which is also produced during the electricity generating process. Brine which is used to condition the ash is stored in ponds on-site and pumped to the conditioning station. The brine concentrator removes salt from the wastewater and produces a brine waste that has a salinity of between 115, 000 mg/L (1999) and 137, 000 mg/L (2005) (Connell Wagner, 2007).

Generally the fly ash is treated to give 15% moisture content to facilitate its transport and to minimise the risk of fugitive dust and to help in the compaction process once the ash is placed. The brine used to treat the ash is essentially immobilised within the pores of the ash and not leached out by the relatively low rate of rainfall infiltration.

Brine conditioned ash is only placed above a level of RL 946 meters. The volume up to RL 946 meters is filled with water conditioned ash above a basal layer of mine spoil (Connell Wagner, 2007). The conditioning of ash with water or brine assists in controlling dusting at the site. In addition to treatment of the ash, a combination of a spray system and a mobile water tanker is also used to keep the surface of the ash damp.

2.2.1. Ash Conveyance

Under existing operations, fly ash is conveyed in the fly ash collection plant by means of a dense phase system to a silo for transfer to conveyor. Furnace ash is transferred from the boilers by submerged scraper conveyor. The furnace ash then passes to a hopper for transfer to the repository by heavy haulage vehicle.



Transportation to the ash area of both the dewatered furnace ash from the dewatering screen and excess conditioned fly ash is by enclosed belt conveyor. The conveyor discharges into separate surge bins located in the ash storage area, from which the ash is discharged into an off-road articulated trailer-truck for ash emplacement. When the conveyor is out of service ash is taken by truck to the ash storage area.

Approximately 150,000 tonnes per year of fly ash is sold to Flyash Australia. This ash is transferred from the fly ash silo to Flyash Australia's on-site plant. A bypass conveyor has been retrofitted to the fly ash silo to allow the transfer of ash to dump trucks in the event of the conveyor not operating.

2.2.2. Ash Placement

The current ash placement area (known as Storage Area 1) is an open-cut mine void located on the north-east side of the power station (refer to **Figure 3**). It is estimated that this area has 5-6 million m³ of remaining capacity. Accounting for the 150,000 tonnes per year to Flyash Australia, approximately 700 000 m³ of ash is currently placed in the ash storage area on an annual basis.

Detailed methodologies have been developed for the placement of ash materials to optimise compaction and stability of the emplacement areas during and after construction. The current practice is that, as ash is placed to the desired height in 'pads'. Materials moisture conditioned with water are placed in the lower layers to an elevation of 946 m AHD (as outlined above), with ash moisture conditioned with Brine, placed above this level.

Typically, ash is placed in 500 mm lifts, as guided by the location of height and boundary pegs. The ash is compacted to 95% of its initial mass through a combination of controlled addition of water (through conditioning) and a process of machine compacting with the use of rollers and rubber tyred vehicles which are also used for the transport of the material. Ash is placed in layers and stepped to produce an overall batter slope of 1(V):4(H), with benches added every 10 m in vertical height change.

For pads on their final lifts that will be left for long durations, the final surface is graded to 1 % to drain surface water away from completed batters. For working pads the surface is graded to 2 % along the pad length. At every 10 m height interval a 10 m bench is constructed on the batters that are to remain as permanent boundaries.

In all cases surface water runoff is drained away from permanent batters and directed to flow along benches and/or formalised canals (away from batters to maintain stability and minimise erosion). Runoff is typically directed into the centre of the ash placement area, where runoff water can be directed into the dirty water storage areas via drainage channels. Where such



diversion is not possible, away from finished batters, collected water is discharged down batters in lined channels to minimise and scour/damage.

At the completion of each pad, the pad is covered with mine spoil and the area is then progressively revegetated as part of the Power Station's ongoing landscaping and revegetation program. The current 'dry' ash management practice is an effective method of ash placement which minimises the area required for placement, minimises water use and disposal, and reduces the risk of ground and surface water contamination.

2.3. Proposed Operations

The proposed ash placement areas would be located to the east, south-west and north-east of Mt Piper Power Station (refer to **Figure 3**). The ash areas would be developed progressively, as demand requires, following the standard pad construction techniques currently used (Section 2.2.2).

2.3.1. Ash Placement Sites

It is expected that development of the ash placement sites would occur in the following order:

- Lamberts North (east of the power station) could be developed first, including the construction of a large-bore culvert over Huon Creek to allow continuous placement of ash from Storage Area 1 to Lamberts North,
- Lamberts South (south east of the power station),
- Neubecks Creek (north-east of the power station), and finally
- Ivanhoe No.4 (south-west of the power station).

This proposed sequence has been developed in consultation with Centennial Coal Company Limited, as these sites are either currently subject to open cut mining (Lamberts North) or proposed/will be considered for future mining (Lamberts South, Neubecks Creek and Ivanhoe No.4). As such the final landform of these areas, which would be available for ash placement, is not yet known.

On completion of surface mining activities and preparation works (reshaping of the final void to ensure ash placement conditions are met e.g. base above groundwater level) the estimated capacity of each placement is shown in Table 2-1 along with estimations of the potential lifespan of each site.



2-1 Estimation of capacity and lifespan of ash placement sites

Location	Estimated Capacity	Lifespan (years)	
		Current Configuration (2 x 700 MW Units)	Mt Piper extension (additional 2000 MW)
Lamberts North	6.9 million m ³	9.2	3.3
Lamberts South	15 million m ³	20	7.1
Neubecks Creek	12.9 million m ³	17.2	6.1
Ivanhoe No.4	7 million m ³	9.3	3.3

Basis of these estimations:

- 2 x 1000 MW_E units would have efficiency 40%
- Station capacity factor 90%
- Coal ash fraction (air-dried basis) 25.5% wt.

As each area is developed, it may become necessary to realign the conveyor to service the site and all truck movements will be via internal haul roads. Access to any area in Neubecks Creek area will require modified or alternative means of transporting the ash from the power station.

Existing ash placement management methods will continue to be used and no change is proposed to the current hours of operation or workforce.

2.3.2. Huon Creek Culvert

In order to maximise the placement of ash at the current Storage Area 1 and the adjoining Lamberts North site, it is proposed to construct a concrete culvert over the current drainage course that separates the two areas. Construction of the culvert would also require minor stabilisation works to the existing banks of the drainage channel.

The drainage line is known as Huon Creek and transports surface water runoff from upstream catchment areas within the existing mining operations with water also being received from the coal seam. The creek is highly disturbed and void of any riparian vegetation.

Construction of the culvert would be assessed in detail as part of the Lamberts North project approval process.



3. Planning Considerations and Consultation

3.1. Planning Considerations

3.1.1. Environmental Planning and Assessment Act 1979

Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) applies to Major Projects, which are identified in the *State Environmental Planning Policy (Major Projects) 2005* (Major Projects SEPP) or by order of the Minister for Planning under Section 75B(2).

Ash storage is critical to the long-term ongoing operation of Mt Piper Power Station. In the absence of an alternative area to place the ash produced during power generation activities, Mt Piper Power Station would be required to either reduce production to extend the operational life of the existing placement area or close down operations when the present ash placement area reaches capacity. Either of these options would have associated impacts on the electricity supply to NSW and are considered highly undesirable. As a result, this project is of state and regional significance as it is required to maintain the existing level of power supply in NSW.

Due to the State and regional planning significance of the project, Delta requested the Minister for Planning declare the Mt Piper Ash Placement Project to be a project to which Part 3A of the EP&A Act applies. The approval authority for Major Projects is the Minister for Planning.

Part 3A of the EP&A Act provides for project assessment and approval and/or concept assessment and approval for major projects. A concept plan is a non-detailed description and assessment of a project, outlining the scope of the project and any development options. As a detailed description of the project is not required for a concept plan, it is therefore suitable for projects where the specifics would be defined more accurately or altered at the project approval stage or where construction would not begin within the short term. In most cases, project approval still needs to be obtained for projects with an approved concept plan.

Due to the proposed timing and the number of development options associated with the ash placement project, a sufficient level of assessment will be undertaken for the Lamberts North and Lamberts South sites to allow project approval to be sought following concept approval being obtained for those sites. Since the existing ash placement area would have sufficient capacity to cater for Mt Piper Power Station for the next five to six years, the proposed ash placement project would not be required within the short term and therefore project approval would be sought for Neubecks Creek and Ivanhoe No.4, at a later stage.

Even though project approval would not be sought until a later stage, from an operational perspective, it is important for this project to have the certainty provided by a concept approval to ensure the ongoing viability of the Mt Piper Power Station. It is also important for the concept



approval to have an adequate level of assessment to ensure the environmental implications of the project are understood. Further detailed environmental assessments would then be undertaken for each proposed ash placement area as part of the project approval process.

3.1.2. Environmental Planning Instruments

A number of State Environmental Planning Policies (SEPPs) are relevant to the proposed development. The SEPPs include:

- SEPP 44 – Koala Habitat Protection;
- SEPP 55 – Remediation of Land.

As part of improvements to simplify the State's planning system, as of 1 July 2009, regional environmental plans (REPs) are no longer part of the hierarchy of environmental planning instruments in NSW. All existing REPs are now deemed State environmental planning policies (SEPPs).

The relevant REPs (now SEPPs) to the proposed development include:

- Drinking Water Catchments Regional Environmental Plan No. 1;
- Sydney REP No. 20 - Hawkesbury–Nepean River (No. 2 - 1997).

The proposed development would be located within the Lithgow Local Government Area (LGA) and is subject to the provisions of the *Lithgow City Local Environmental Plan 1994* (LEP). Within this LEP, the development site is zoned as Rural (General) 1(a) and the proposed works would be permissible with consent.

3.1.3. NSW Environmental Approvals

Post approval the Mt Piper Ash Placement Project would require an Environment Protection Licence (EPL) for construction and operation. The existing power station is subject to EPL 13007 which also licences the existing ash placement program.. An amendment to EPL 13007 may be required by Delta Electricity for the proposed ash placement.

3.1.4. Commonwealth Legislation

Approval of the Commonwealth Minister for the Environment is required for any actions that may have a significant impact on matters of national environmental significance, as described in the *Environment Protection Biodiversity Conservation Act 1999* (Cth) (EPBC Act).



Desk-top studies undertaken for this Preliminary Environmental Assessment have identified the presence of suitable habitat for EPBC Act listed threatened species and migratory species within the proposed ash placement site areas. In addition, a number of these species have previously been recorded near the vicinity of the power station and surrounding lands. Consideration would be given within the Environmental Assessment (EA), as to whether any of the EPBC Act species listed from the area would be significantly disrupted or affected as a result of the proposed works and whether referral to the Department of Environment, Water, Heritage and the Arts (DEWHA) for consideration as a controlled action would be made.

3.2. Stakeholder engagement

Delta Electricity has developed a community relations program to inform the community of Delta's operational activities and obtain community feedback. The following consultation activities are undertaken to provide a link between Delta and the community:

- Independent community surveys;
- Consultation with key community stakeholders such as local council;
- Quarterly community reference group forum;
- Sponsorship of local organisations;
- Interaction with the media to provide information about operational and community activities;
- Publication of reports e.g. annual reports and state of the environment reports;
- Provision of work experience opportunities;
- Provision of the Energy Expo at Mt Piper Power Station; and
- Provision of daily tours of the power station.

A Community Consultation Plan will be prepared, the content of which would depend on the outcomes of the Planning Focus Meeting and any specific requirements issued by the DoP, but may include:

- Preparation of material for distribution informing stakeholders about the project and newspaper advertisements to advertise the project.
- Establishment of a database, including all private stakeholders and potentially affected landholders;
- Establishment of an information hotline and project email address.

Meetings would be held with stakeholders / concerned landholders as required. The consultation plan would aim to ensure there is effective, ongoing liaison with the community. The feedback from the consultation activities would be evaluated as part of the social impact assessment. A



profile of affected communities would also be prepared. Measures to reduce adverse impacts and promote positive impacts would be identified in the EA and appropriate management plans developed for the proposal.

In addition, agency consultation will be undertaken in accordance with the requirements of the Part 3A assessment and approvals process.



4. Preliminary Environmental Assessment

4.1. Preliminary Environmental Risk Analysis

A preliminary environmental risk analysis has been conducted to assist in the identification of key environmental matters that would require detailed assessment during the Environmental Assessment. The preliminary identification of key environmental risks has been undertaken in accordance to the general principles outlined in Australian Standard *AS/NZS 4360:2004 Risk Management* (Standards Australia, 2004) and *HB 203:2006 Environmental Risk Management – principles and process* (Standards Australia, 2006). Risks were identified for both the construction and operation phase of the project and analysed in relation to their possible consequence and likelihood of occurrence. From this analysis some environmental matters were deemed to be key issues on the basis that they had the potential, without appropriate mitigation measures, to have a significant impact on the environment.

A summary of the key environmental issues is provided in **Section 4.2**. The intent of the discussion is to demonstrate an understanding of the issues and the need for further environmental assessment and mitigation measures for these key issues. The potential impacts and management of other issues such as land use, socio-economics, traffic, waste management and the reasons they have not been designated as key issues, are discussed in **Section 4.3**.

4.2. Assessment of Key Issues

4.2.1. Air Quality

The existing air quality around the project area has the potential to be influenced by operations at Mt Piper Power Station, the nearby Wallerawang Power Station and the existing coal mining operations.

Particulate emissions are currently controlled at Mt Piper Power Station by highly efficient fabric filter baghouses with dust effectively controlled through compaction and treatment processes. Delta's current air emission limits are identified by EPL 13007.

Potential dust sources from the Lambert's Gully operations include unsealed traffic areas, coal stockpiles and blasting. Dust is controlled on unsealed traffic areas by the use of water carts.

Preparation of the proposed Mt Piper Ash Placement areas may require bulk earthworks and may occasionally result in nuisance dust emissions. Appropriate dust management measures will be implemented throughout the duration of construction activities, including watering of exposed soils when necessary, stabilising working areas and minimising areas of surface disturbance.



These standard measures will ensure that impacts from dust generation are minimised and are minor.

Operation of the proposed Mt Piper Ash Placement project, in particular the transport and placement of ash, has the potential, if unmitigated, to adversely affect air quality at the nearest residential receivers which are approximately 750m to the east at Blackmans Flat.

Conclusions and Need for Further Assessment

Construction activities associated with site preparation for the Mt Piper Ash Placement project may result in nuisance dust emissions. The impacts of these emissions on air quality will be localised and temporary, provided that standard mitigation measures identified above are implemented prior to construction works.

A comprehensive air quality assessment will be undertaken to assess the operational impacts of the proposed sites when Project Approval is sought for Lamberts North and Lamberts South. This will include modelling of potential emissions involving screening of the types of transport activity, intensity and dispersion modelling in accordance with DECCW criteria. Identification and discussion of relevant mitigation measures will also be provided.

4.2.2. Ecology

The proposed ash placement areas have predominantly been cleared/disturbed by previous mining activities. The existing vegetation comprises mainly maintained grassland (planted and landscaped areas) and remnant woodland / open forest. Vegetation communities in the area are typical of those in the wider region and are primarily linked to the local geology.

A review of ecological data sources, such as the NSW DECCW Wildlife Atlas and the Commonwealth Department of Environment, Water, Heritage and the Arts (DEWHA) Protected Matters database, was undertaken to identify the documented locations of threatened flora and fauna species within a 10 kilometre radius of Mt Piper Power Station. The survey found up to thirty flora species and twenty-nine threatened fauna species have been recorded in a 15 km radius of the Mt Piper Power Station site listed in the schedules of the NSW *Threatened Species Conservation Act 1995* (TSC Act) or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). These species are listed in 4-1 and 4-2 below.

One plant species listed as threatened under both the TSC Act and the EPBC Act (*Eucalyptus cannonii* (Capertee Stringybark)) has been recorded as distributed throughout the study locality and there is a potential for specimens of this species to be found at or near the placement sites.



4-1 - Threatened flora species recorded within a 10km radius of Mt Piper Power Station

Scientific Name	Common Name	Status	
		EPBC Act	TSC Act
<i>Trachymene saniculifolia</i>	Mountain Trachymene		E
<i>Calotis glandulosa</i>	Mauve Burr-daisy		V
<i>Stemmacantha australis</i>			E
<i>Carex klaphakei</i>	Klaphake's Sedge		E
<i>Dillwynia tenuifolia</i>			V
<i>Phyllota humifusa</i>	Dwarf Phyllota		V
<i>Acacia clunies-rossiae</i>	Kanangra Wattle		V
<i>Acacia flocktoniae</i>	Flockton Wattle		V
<i>Haloragis exalata subsp. exalata</i>	Square Raspwort		V
<i>Prostanthera cryptandroides subsp. crypandroides</i>	Wollemi Mint-bush		V
<i>Eucalyptus cannonii</i>	Capertee Stringybark	V	V
<i>Eucalyptus macarthurii</i>	Camden Wollybutt		V
<i>Eucalyptus pulverulenta</i>	Silver-leafed Gum	V	V
<i>Eucalyptus robertsonii subsp. hemisphaerica</i>	Robertson's Peppermint		V
<i>Kunzea cabbagei</i>	Cabbage Kunzea		V
<i>Diuris aequalis</i>	Buttercup Doubletail		E
<i>Diuris pedunculata</i>	Small Snake Orchid		E
<i>Genoplesium superbum</i>			E
<i>Grevillea parviflora</i>			V
<i>Hakea dohertyi</i>	Kowmung Hakea		E
<i>Persoonia acerosa</i>	Needle Geebung		V
<i>Persoonia hindii</i>			E
<i>Persoonia marginata</i>	Clandulla Geebung		V
<i>Baloskion longipes</i>	Dense Cord-rush		V
<i>Pomaderris cotoneaster</i>	Cotoneaster Pomaderris		E
<i>Asterolasia buxifolia</i>			E
<i>Boronia deanei</i>	Deane's Boronia	V	V
<i>Derwentia blakelyi</i>			V
<i>Euphrasia scabra</i>	Rough Eyebright		E
<i>Solanum amourense</i>			E

Note: E = Endangered, V = Vulnerable



4-2 - Threatened fauna species recorded within a 15km radius of Mt Piper Power Station

Scientific Name	Common Name	Status	
		EPBC Act	TSC Act
<i>Mixophyes balbus</i>	Stuttering Frog		E
<i>Pyrrholaemus saggitatus</i>	Speckled Warbler		V
<i>Lophoictinia isura</i>	Square-tailed Kite		V
<i>Oxyura australis</i>	Blue-billed Duck		V
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo		V
<i>Callyptorhynchus lathamii</i>	Glossy Back Cockatoo		V
<i>Climacteris picumnus</i>	Brown Treecreeper		V
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern sub-species)		V
<i>Stagonopleura guttata</i>	Diamond Firetail		V
<i>Grantiella picta</i>	Painted Honeyeater		V
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater		V
<i>Xanthomyza Phrygia</i>	Regent Honeyeater	E	E
<i>Melandodryas cucullata</i>	Hooded Robin		V
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern sub-species)		V
<i>Ninox connivens</i>	Barking Owl		V
<i>Ninox strenua</i>	Powerful Owl		V
<i>Paralucia spinifera</i>	Bathurst Copper Butterfly	V	E
<i>Petalura gigantean</i>	Giant Dragonfly		E
<i>Cercartetus nanus</i>	Eastern Pygmy-possum		V
<i>Dasyrurus maculatus</i>	Spotted-tailed Quoll	E	V
<i>Petrogale penicillata</i>	Brush-tailed Rock Wallaby	V	E
<i>Mormopterus norfolkensis</i>	Eastern Freetail-Bat		V
<i>Petaurus norfolcensis</i>	Squirrel Glider		V
<i>Phascolarctos cinereus</i>	Koala		V
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle		V
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-Bat		V
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat		V
<i>Hopcephalus bungaroides</i>	Broad-headed Snake	V	E
<i>Eulamprus leuraensis</i>	Blue Mountains Water Skink	E	E

Note: E = Endangered, V = Vulnerable



4-3 - Vegetation communities of perimeter lands

Geology	Vegetation communities of the perimeter lands
Triassic Sandstone	Silvertop Ash Open Forest
	Sydney Peppermint Open Forest
	Brown Stringybark Open Forest
	Scribbly Gum Open Woodland/Forest
	Thin-leaved Stringybark Open Forest
Permian Sediment (Illawarra Coal Measures)	Brittle Gum/ Red Stringybark / Scribbly Gum Open Woodland
	Snow Gum Grassy Open Woodland
	Ribbon Gum/ Apple Box/ Snow Gum Open Woodland

None of the vegetation communities of the Mt Piper perimeter lands listed above is listed under the schedules of the Commonwealth EPBC Act or the NSW TSC Act.

Several of the listed threatened flora and fauna species could potentially occur within the habitats of the proposed ash placement areas, although the proposed ash placement areas are either currently subject to open cut mining or intended for coal extraction prior to use for ash placement as part of this project. Delta, in consultation with Centennial Coal, will align the requirement for ash placement areas with proposed mining activities in order to minimise potential impacts on otherwise undisturbed areas.

Conclusions and Need for Further Assessment

A flora and fauna assessment will be undertaken to assess potential impacts of the project on threatened species, populations or communities. An updated review of relevant literature, legislation and databases would be undertaken to determine any new listings of threatened species, populations or communities. A field investigation would also be undertaken as part of the assessment which would focus on vegetation, fauna habitats and species diversity present within the proposed ash placement areas and potentially affected by the proposal.

The proposed methodology for the ecological assessment will be conducted in accordance with the DECCW (2004) *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities*.

4.2.3. Cultural Heritage

The study area is located near the eastern margin of Wiradjuri tribal land, which is one of the largest tribal lands in Australia and encompasses a significant proportion of the central western region of NSW. A search of the DECCW Aboriginal Heritage Information Management System (AHIMS) identified a concentration of sites to the south and south-east of Mt Piper Power Station, and also in close proximity to Neubecks Creek (refer to **Figure 3**).



Several cultural heritage surveys have been previously undertaken for developments associated with Mt Piper Power Station. In particular, one survey identified previously unrecorded Aboriginal sites and historic sites south of the study area and Pipers Creek (Mt Piper Ash Storage EIS, 1989). The most recent survey conducted for the Western Rail Coal Unloader EA (Delta, 2007) identified an isolated find and seven potential archaeological deposits to the south of Mt Piper Power Station. The isolated find is located about 500m south-west of the proposed Lamberts North placement area.

A desktop search of the Lithgow City Council LEP, NSW State Heritage Inventory and the Australian Heritage Database revealed no previously recorded European heritage sites or objects within or in close proximity to the study area.

Conclusions and Need for Further Assessment

As the proposed ash placement areas are either currently subject to open cut mining or intended for coal extraction prior to use for ash placement it is considered unlikely that this project would impact on any significant heritage values.

A heritage assessment would be undertaken as part of the EA. Consultation with representatives of local Aboriginal groups would also be undertaken at this time. The significance of any Aboriginal heritage sites that may be potentially affected by the proposal would be determined. If any indigenous sites or items are considered to be of high significance and would be disturbed or impacted by the proposal, further intensive investigations would be conducted in consultation with relevant Aboriginal groups. Appropriate management measures would be developed prior to constructions works, to ensure significant sites and items are salvaged, if necessary.

4.2.4. Noise

Background noise levels at the project site are mainly influenced by the operation of the power station and the adjacent mining operations. The project is not located in proximity to any large townships, the closest being Portland and Wallerawang, approximately 4 km to the west and 6 km to the south-east respectively. However, residential receivers at Blackmans Flat have been identified approximately 1 km from the Lamberts North, Lamberts South and Neubecks Creek ash placement areas.

Monthly attended noise monitoring for the Lamberts Gully Mine for the year 2008 has been undertaken at each of the residences in Blackmans Flat. Of the six residential receivers in Blackmans Flat, noise from the Lamberts Gully Operations was only audible at two locations. Due to other dominant ambient noise sources, the decibel level of the audible Lamberts Gully noise was unable to be determined however it is considered to be less than the Noise Impact Assessment Criteria limits. Noise from the Lamberts Gully Operations was not audible at any of the four other residences in Blackmans Flat. (Metford Laboratories, 2008).



It is expected that noise emissions associated with the ash placement areas will mainly be from vehicular movements along the site's internal roadways and the operation of earth-moving, mobile plant, such as dozers and front-end loaders.

Therefore there is a potential for noise impacts, if unmitigated, to occur as a result of the ash placement project.

Conclusions and Need for Further Assessment

A noise assessment would need to be undertaken to assess the noise impacts of the project for the detailed EA. This would include monitoring of existing noise levels and the modelling of the potential impacts in accordance with industry recognised standards and protocols. The criteria used to assess the noise impacts would be developed in accordance with the NSW Industrial Noise Policy. Noise impacts would also be assessed under a range of meteorological conditions.

4.2.5. Water Management

Mt Piper Power Station is located in the upper catchment of Neubecks Creek, which flows to Coxs River. Coxs River flows south through Lake Wallace and Lake Lyell into the Nepean River.

Mt Piper and Wallerawang Power Stations obtain their water from the Coxs River Scheme, the Fish River Scheme and mine water. There is currently one licensed discharge from Mt Piper Station to the receiving waters of Neubecks Creek. The existing Environmental Protection Licence (EPL 13007) lists the discharge, volume and effluent quality monitoring required at this site. Mt Piper Power Station is configured for zero discharge of process water to surface receiving waters.

The emplacement of ash will be a continuous process with the landform changing with time. The drainage system will be altered, as necessary, to match the drainage requirements of the placement areas as they are developed. The ash placement areas will be located entirely above the groundwater table to minimise leaching to groundwater.

Local groundwater systems have been monitored by Mount Piper Power Station via a series of 29 piezometers around the ash storage area and within the floodplain of Neubecks Creek. These show that the groundwater varies in depth from 5 m to 35 m below existing ground surface. The shallow aquifers represent the coal seams while deeper groundwater reserves occur below the seams. Some water bearing zones also occur in fractures within interburden sequences.



Conclusions and Need for Further Assessment

An assessment of the hydrological regime and meteorological conditions (including the impact of prolonged rainfall/flooding) of the placement areas would need to be undertaken to assess the water impacts of the project. This would include consideration of the overall hydrological regime, flood risk and assessment of the potential impact on the Sydney Drinking Water Catchment.

4.2.6. Visual Amenity

The nearest sensitive receivers to Mt Piper Power Station are residences located at Blackmans Flat, approximately 1km east of the Lamberts North and 1km south-east of the Neubecks Creek placement areas. Additional receivers include commuters travelling along the Castlereagh Highway.

The potential ash placement areas are characterised by either undulating terrain, and pockets of remnant vegetation or open cut mining operations in a region dominated by State Forest, power generation facilities and mining. All proposed emplacement areas would be subject to open cut mining prior to use for ash placement as part of this project.

Due to the topography and vegetation screening, the proposed Lamberts North, Lamberts south and Ivanhoe No.4 placement areas are not dominant visual features in the landscape. The proposed Neubecks Creek placement area is located immediately north of the Castlereagh Highway and would be visible to commuters for approximately a 1km section of the highway.

Conclusions and Need for Further Assessment

The proposed Mt Piper Ash Placement areas would be similar in appearance to the existing Storage Area 1 and in keeping with the current mining and electricity generation facilities in the local area.

A visual impact assessment would be undertaken as part of the EA during Project Approval for Lamberts North and Lamberts South. The assessment would include an analysis of existing photographs, maps and drawings, a survey of sensitive locations, graphical simulation of the proposed ash placement areas in the context of the existing landscape, assessment of the visual impact, and development of mitigation measures which would minimise the visual impact of the proposed placement areas.



4.3. Other Environmental Issues

There are a range of potential environmental issues associated with the Mt Piper Power Ash Placement that are not considered to be key issues. These issues are considered secondary issues given the characteristics of the project and the availability of appropriate safeguards for mitigation. These issues are outlined in **Table 4-5**.

It is proposed that these issues will be addressed in sufficient detail to assess the level of their impacts (if any). It is anticipated that any impacts identified would be able to be managed through appropriate mitigation measures and management plans.

■ **Table 4-5 Other Environmental Issues**

EXISTING ENVIRONMENT	POTENTIAL IMPACTS	MANAGEMENT AND MITIGATION MEASURES
<p>Land Use</p> <p>The proposed ash placement sites are owned by either Delta Electricity or Centennial Coal. The Delta Electricity site is occupied by the existing Mt Piper Power Station, including the existing ash placement area. The proposed ash placement areas are currently either predominantly cleared land, have been subject to previous mining activities or are currently being mined. The proposed ash placement areas are surrounded by State forests, further extractive industries (mining) and power generation facilities. Mt Piper Power Station is surrounded by undulating terrain.</p> <p>The proposed Lithgow City Council landfill is located immediately to the east of the proposed Lamberts North placement area (refer to Figure 3).</p> <p>The proposed site would be located within land zoned Rural (general) purposes.</p>	<p>The proposed ash placement areas would be located within open cut mining voids associated with existing or proposed coal extraction areas. The proposed works would result in no changes to the current site land use. Following ash placement the placement areas would be rehabilitated using well established and appropriate procedures.</p>	<p>Overall, the adverse impacts on land use are expected to be minimal and no further assessment of land use impacts is proposed as part of the detailed environmental assessment.</p>
<p>Traffic and Transport</p> <p>Mt Piper Power Station is located on the intersection of Castlereagh Highway and Boulder Road. Currently, road traffic is relatively low with most traffic corresponding to movement of staff to and from the Power Station. Trucks or conveyer also bring coal from nearby collieries on-site.</p> <p>Furnace ash is currently transported from the ash bins along a designated haul road to the ash placement area, Storage Area No.1.</p>	<p>The proposed Mt Piper Ash Placement project is expected to have insignificant impacts on existing traffic volumes. The traffic volumes required to transport ash is not expected to increase, although the destination of the ash will change once the new placement areas are used. Access to the proposed ash placement areas (including Neubecks Creek) will be via private haul roads and as such, will not impact upon any public roads.</p>	<p>Traffic management would be undertaken in line with existing site management procedures and plans. Potential traffic and transport impacts are considered to be minimal and would be manageable through the use of well established procedures. No further assessment is proposed as part of the detailed environmental assessment.</p>

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EXISTING ENVIRONMENT	POTENTIAL IMPACTS	MANAGEMENT AND MITIGATION MEASURES
European Heritage		
<p>A desktop search of the NSW Heritage Office – State Heritage Inventory has not identified any European heritage items occurring within the project area.</p>	<p>It is considered highly unlikely that construction and operation activities associated with the project would cause any significant risk to European heritage values within the project area. European heritage is therefore not considered a key issue.</p>	<p>If a potential European heritage site is uncovered during the works the works in that area would cease until the find could be assessed by an appropriately qualified archaeologist.</p>
Socio-Economic		
<p>The Mt Piper Power Station is located in the Lithgow LGA on the western edge of the Blue Mountains, about 140 kilometres west of the Sydney central business district. The major centres in the vicinity of the Mt Piper Power Station are Lithgow and Bathurst. Smaller villages include Wallerawang, Portland, Cullen Bullen and Blackmans Flat.</p> <p>The majority of people employed in the Greater Lithgow area work in the retail industry, followed by manufacturing and health and community services. The coal mining industry and power stations are also significant employers within the region.</p>	<p>The Ash Placement project will not result in any change to the existing workforce, hours of operation or current ash placement practices.</p>	<p>No further assessment or economic justification for the project is considered necessary.</p>



5. Conclusion

This PEA has described the proposed Mt Piper Power Station Ash Placement Project and established the strategic context of the project. The project will be assessed under Part 3A of the EP&A Act.

Due to the proposed timing and the number of development options associated with the ash placement project, concept approval is being sought for the development of Lamberts North, Lamberts South, Neubecks Creek and Ivanhoe No. 4 areas. Detailed studies will be undertaken within the EA to allow early project approval for the Lamberts North and Lamberts South sites. Project approval for the other sites will be sought later when and if the areas have been developed for coal extraction. From an operational perspective, it is important for this project to have the certainty provided by the concept approval strategy to ensure the ongoing viability of the Mt Piper Power Station.

Potential environmental impacts associated with the project have been categorised as 'key' issues or 'other' issues. Based on this preliminary assessment, an indicative scope for the EA has been developed, focussing on the key issues. The other issues can be readily addressed through appropriate mitigation and management measures and do not require detailed assessment. Following consideration of this PEA and consultation with other agencies, the DoP will provide the Director-General's requirements for the EA.

The EA will be prepared in accordance with the Director-General's requirements under the provisions of Part 3A of the EP&A Act. A Statement of Commitments will be developed for inclusion in the EA and will address the management of key issues and other issues.



6. References

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