



ENERGYAUSTRALIA

PIPERS FLAT RAIL COAL UNLOADER

SECTION 75W MODIFICATION
PROJECT APPROVAL 06_0271
ENVIRONMENTAL ASSESSMENT



Lycopodium

6207-REP-013

August 2018

Rev: A

0	27/08/2018	Final for Issue to DPE	Leanne Cross	Scott Campbell	Scott Campbell
REV NO.	DATE	DESCRIPTION OF REVISION	PREPARED BY	REVIEWED BY	PROJECT APPROVED

PIPERS FLAT

PROJECT APPROVAL 06_0271

6207-REP-013

Table of Contents

	<i>Page</i>
1.0 INTRODUCTION	1
1.1 Purpose of report	1
1.2 The project approval	1
1.3 Background	1
1.4 Proposed modifications to the project	4
1.5 Proposal site	6
1.6 Proposal need and justification	7
2.0 CONSULTATION	9
2.1 Stakeholder consultation	9
3.0 ENVIRONMENTAL ASSESSMENT APPROACH	11
3.1 Agency consultation	11
3.2 Environmental scoping assessment	12
4.0 PROPOSAL MODIFICATION	15
4.1 Overview	15
4.1.1 Reduction in coal throughput	15
4.1.2 Extension of time	16
4.1.3 Rail loop	16
4.1.4 Coal unloader	18
4.1.5 Conveyor system	21
4.1.6 Support infrastructure	23
4.2 Construction schedule	23
4.3 Conditions of approval	23
5.0 ENVIRONMENTAL ASSESSMENT	25
5.1 Noise	25
5.1.1 Initial noise impact assessment	25
5.1.2 Assessment of modification	25
5.1.3 Mitigation measures	26
5.2 Heritage	27
5.2.1 Initial heritage assessment	27
5.2.2 Assessment of modification	27
5.2.3 Mitigation measures	27
5.3 Air Quality	28
5.3.1 Initial air quality assessment	28
5.3.2 Assessment of modification	29
5.3.3 Mitigation measures	29
5.4 Flora and Fauna	29
5.4.1 Initial flora and fauna assessment	29
5.4.2 Assessment of modification	30
5.4.3 Mitigation measures	31
5.5 Hydrology	31
5.5.1 Initial hydrology assessment	31
5.5.2 Assessment of modification	32
5.5.3 Mitigation measures	33
5.6 Visual Impact	34
5.6.1 Initial visual assessment	34
5.6.2 Assessment of modification	34
5.6.3 Mitigation measures	35

PIPERS FLAT
PROJECT APPROVAL 06_0271
6207-REP-013

Table of Contents

	<i>Page</i>
6.0 CONCLUSION	36
6.1 Summary	36
6.2 Updated mitigation measures	36
 TABLES	
Table 1 Community Consultation Summary	9
Table 2 Agency Consultation Summary	11
Table 3 Preliminary Environmental Assessment Summary	12
Table 4 Conditions of Approval	24
Table 5 Updated Mitigation Measures	36
 FIGURES	
Figure 1. Study Area	3
Figure 2. Rail Loop Alignment	5
Figure 3. Property Details	7
Figure 4. Revised Indicative Rail Loop Design	17
Figure 5. Indicative Coal Unloader Arrangement	20
Figure 6. Indicative Overland Conveyor Alignment	22
Figure 7. Creek Crossings	33
 APPENDICES	
Appendix 1 Government Agency Consultation	
Appendix 2 Indicative Site Layout General Arrangement	
Appendix 3 Revised Statement of Commitments	
Appendix 4 Community Consultation	
Appendix 5 Noise Impact Assessment	
Appendix 6 Heritage Impact Assessment	
Appendix 7 Air Quality Assessment	
Appendix 8 Biodiversity Assessment	
Appendix 9 Hydrology Assessment	
Appendix 10 Photomontages	

DISCLAIMER

This report has been prepared for EnergyAustralia NSW PTY Ltd (EnergyAustralia) by Lycopodium Infrastructure Pty Ltd (Lycopodium) as an independent consultant and is based in part on information furnished by EnergyAustralia and in part on information not within the control of either EnergyAustralia or Lycopodium. While it is believed that the information, conclusions and recommendations will be reliable under the conditions and subject to the limitations set forward herein, Lycopodium does not guarantee their accuracy. The use of this report and the information contained herein shall be at the user's sole risk, regardless of any fault or negligence of Lycopodium.

S75W Modification Pipers Flat Rail Coal Unloader

FINAL

Prepared for EnergyAustralia NSW Pty Ltd

Prepared by: Leanne Cross

Approved by: Scott Campbell

Position: Environmental Planner

Position: Study Manager

Signature:



Signature:



Date: 27 August 2018

Date: 27 August 2018

ABBREVIATIONS

AEMO	Australian Energy Market Operator
AEP	Anderson Environment and Planning
ARI	Average Recurrence Interval
ARTC	Australian Rail Track Corporation
BC Act	Biodiversity Conservation Act, 2017
BLALC	Bathurst Local Aboriginal Land Council
Council	Lithgow City Council
DPE	NSW Department of Planning and Environment
DPI	Department of Primary Industries
EEC	Endangered Ecological Community
EnergyAustralia	EnergyAustralia NSW Pty Ltd
EPA	NSW Environment Protection Authority
EPA Act	Environment Planning and Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPL	Environmental Protection Licence
ICNG	Interim Construction Noise Guidelines
JHCRN	John Holland Country Regional Network
ha	Hectares
km	Kilometre
Lycopodium	Lycopodium Infrastructure Pty Ltd
Branch Line	Gwabegar branch line railway line
MAC	Muller Acoustic Consulting
Mtpa	Million tonnes per annum
MW	Megawatts
NOHC	Navin Officer Heritage Consultants
NPI	Noise Policy for Industry
OEH	Office of Environment and Heritage
PAD	Potential archaeological deposit
RING	Rail Infrastructure Noise Guideline
TfNSW	Transport for NSW
tpa	tonnes per annum
tph	tonnes per hour
VAC	visual absorptive capacity
VMU	visual management units
WRCU	Western Rail Coal Unloader
WCRF	Western Community Reference Group

1.0 INTRODUCTION

1.1 Purpose of report

This report has been prepared for EnergyAustralia NSW Pty Ltd (EnergyAustralia) by Lycopodium Infrastructure Pty Ltd (Lycopodium) to accompany a request for a s75W modification to the Western Rail Coal Unloader (WRCU), project approval 06_0271 (Project Approval) under section 75W of the *Environmental Planning and Assessment Act, 1979* (EPA Act).

The proposed modification amends design elements of the approved rail loop and coal unloader as required to enhance constructability, provide operational efficiencies and improve environmental outcomes. The proposed modification also seeks a three year extension to the lapsing date of the Project Approval and clarifications to the conditions of approval and the statement of commitments.

This report does not seek to reassess environmental impacts associated with the approved Project where no changes are proposed. For full details of the currently approved Project and its assessment please refer to the *Western Rail Coal Unloader Environmental Assessment* Sinclair Knight Merz, April 2007 (Original Environmental Assessment) and the other assessment reports listed in condition 1.1 of the Project Approval.

1.2 The project approval

The Project Approval was granted on 27 June 2009 under Part 3A of the EPA Act. While Part 3A of the EPA Act has been repealed, Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017* (Savings and Transitional Regulations) provides that:

- Part 3A continues to apply to transitional Part 3A projects approved under Part 3A; and
- Enables modification applications made under section 75W of the EPA Act to continue to be dealt with under section 75W where the request to modify was made prior to 1 March 2018.

The request to modify the Project Approval assessed in this report was made on 23 February 2018 to the Department of Planning and Environment (DPE) and, accordingly, section 75W of the EPA Act continues to apply to the proposed modification.

1.3 Background

The approved Project is required to secure coal supply to the Mount Piper Power Station, located approximately 25 kilometres (km) north west of Lithgow, NSW. To meet the demand for coal, and due to diminishing local coal supplies, alternate coal supply options from a range of mines were investigated.

The Mount Piper Power Station has a rated capacity of 1400 megawatts (MW) and supplies approximately 15% of NSW electricity needs, enough to power up to 1.2 million average homes. The approved Project would, enable coal to be sourced from alternate mine areas to enable the continued operation of the Mount Piper Power Station and ensure ongoing energy security for NSW, in the event of interruptions to local coal supply.

The approved Project authorises a coal throughput of up to 8 million tonnes per annum (Mtpa) to be delivered to supply Mount Piper Power Station. The approved project includes the following key project elements:

- A rail loop off the Gwabegar branch line (Branch Line);
- A coal unloader building which would allow coal to be delivered into a hopper located below the rail line which included an office and amenity area;
- A conveyor system to carry coal from the coal unloader building to the existing coal handling facility at the Mount Piper Power Station;
- A locomotive provisioning area for refuelling and sanding;
- A rail wagon maintenance area; and
- A diesel fuel storage area.

Figure 1 is an extract from the Original Environmental Assessment illustrating the study area, rail loop, overland conveyor alignment and neighbouring residents in relation to the currently approved Project.

Figure 1. Study Area



1.4 Proposed modifications to the project

As a consequence of recent engineering studies, EnergyAustralia has identified a number of design changes that will deliver construction and operational efficiencies and result in improved environmental outcomes relative to the approved project.

In summary, the key changes proposed to the approved Project as part of this modification are as follows:

- A redesign of the rail loop to better optimise the natural land contours, reduce the maximum height of the rail embankment by 4m and provide two branch line connections (rail loop and optional rail spur);
- Repositioning the coal unloader approximately 250m to the west, to line up with the overland conveyor;
- Removal of the approved transfer conveyor and intermediate transfer station (given the realignment and direct connection of the overland conveyor and coal unloader); and
- Removal of certain approved ancillary infrastructure such as the wagon maintenance area, locomotive provisioning area and diesel storage area.

Figure 2 shows the currently approved Project overlaid with the proposed modification.

In addition, an extension to the lapse of the consent is also sought and amendment to the conditions of approval and the statement of commitments to reflect the modified Project. The proposed amendments are further described in Section 3.

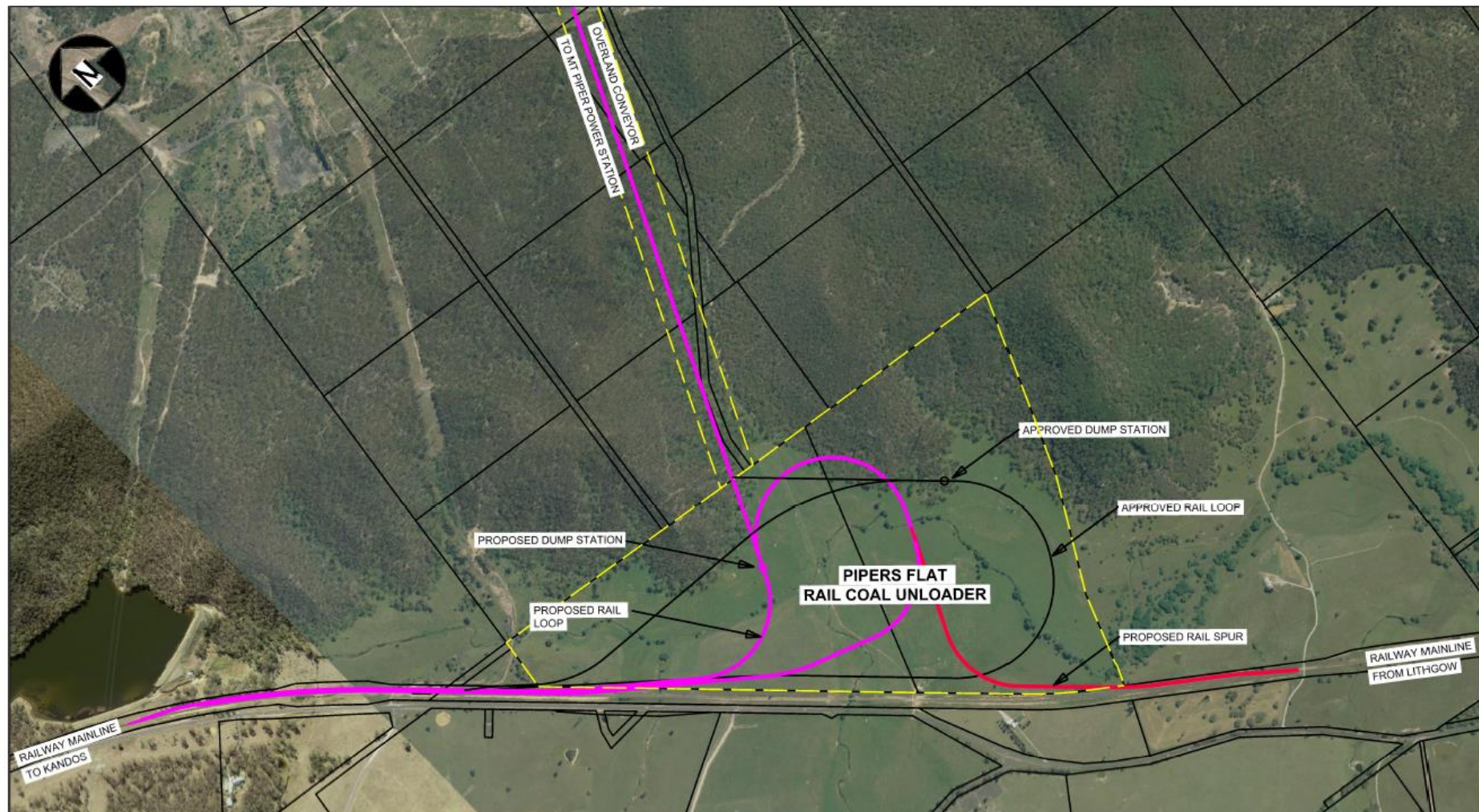


Figure 2. Rail Loop Alignment

1.5 Proposal site

EnergyAustralia currently own and operate the Mount Piper Power Station located at Boulder Road Portland (Lot 363 DP 740604) within the Lithgow local government area (LGA). The site of the proposed rail loop and coal unloader is located at 708 Pipers Flat Road, Wallerawang (Lots 1 and 2 of DP 800003) (Project Site). Refer to Figure 3.

The Project Site is a cleared flat area that is traversed by Pipers Flat Creek, a tributary of the Cops River. Other creek crossings include Thompsons Creek, Irondale Creek and Winters Creek. The overland conveyor is located on steeply sloping and vegetated land to the north of the rail loop and coal unloader.

The closest residents are along Pipers Flat Road and comprise rural residential lots. Premiers Farm poultry sheds is located approximately 400m to the south of the rail loop on Pipers Flat Road.

The Branch Line is located immediately south of the project site, running almost parallel with Pipers Flat Road. Pipers Flat Road runs east west between the townships of Portland and Wallerawang.

The Original Environmental Assessment identified the following key environmental constraints:

- Heritage sites and potential archaeological deposits primarily within the vicinity of the rail loop;
- Capertee Stringybark *Eucalyptus cannonii* along the overland conveyor route;
- Air and noise impacts to nearby residents and townships such as Portland; and
- Potential flooding impacts.

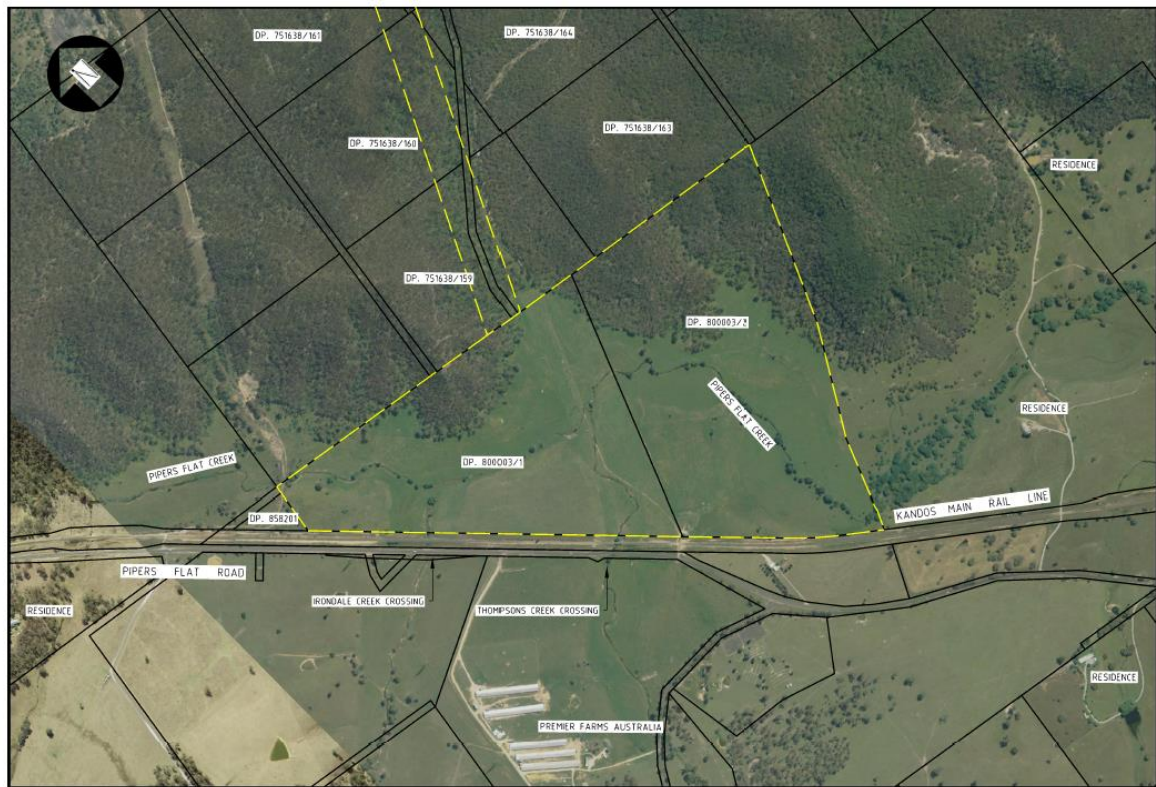


Figure 3. Property Details

1.6 Proposal need and justification

As described in the Original Environmental Assessment the Project is required to secure ongoing coal supply for the Mount Piper Power Station. Historically coal has been sourced from local mines with two major contracts in place at Springvale Mine and Angus Place Mine. At the time the Original Environmental Assessment was written coal supplies at these mines were secured until 2013 and 2014 respectively. Consequently, alternate coal supply options were investigated and the Project was selected as the preferred option to provide the infrastructure required to enable coal to be sourced from more distant mines and secure the ongoing operation of the Mount Piper Power Station.

Today, the Mount Piper Power Station sources all of its coal supplies from the Springvale Mine. The Springvale Mine is the only remaining operating local mine that can continue to provide the primary supply of suitable coal for Mount Piper Power Station. Springvale Mine is scheduled to close in 2024, 18 years before the end of Mount Piper Power Station's scheduled operational life. While EnergyAustralia's preference is to continue to source coal from local mines, including Angus Place if it re-opens, a rail coal unloader remains necessary to ensure continued and reliable coal supply is available in the event that local mines are unable to continue to supply Mount Piper Power Station.

Mount Piper Power Station, with an operating life until 2042, is critical in maintaining reliable and affordable electricity supply, particularly at times of peak demand. It provides flexibility and stability to the National Electricity Market as the industry begins to integrate alternate energy sources of power like wind and solar into a modern energy system in Australia. The 2018 AEMO Integrated System Plan concluded that “maintaining existing coal-fired generation up to the end of its technical life is a key element of a least-cost approach” to managing the National Electricity Market.

The proposed modification to the Project is required to deliver construction and operational efficiencies and improved environmental outcomes. This ensure that the Project is best able to achieve its primary objective of ensuring that the Mount Piper Power Station is able to continue to reliably operate and deliver security of electricity supply to NSW.

2.0 CONSULTATION

2.1 Stakeholder consultation

EnergyAustralia and Lycopodium have consulted with a number of key stakeholders to discuss the proposed modification and resulting issues such as operational requirements, access to the rail network, coal supply and resources, road infrastructure and water supply. Consultation with the following stakeholders is ongoing:

- John Holland Country Rail Network (John Holland CRN);
- Lithgow City Council (Council);
- Transport for NSW (TfNSW);
- Water NSW;
- rail operators; and
- coal suppliers.

In addition, community consultation has commenced, and a Stakeholder Communications Plan has been prepared. To date, no objections to the proposed modification have been received. Comments and questions have been received in relation to noise, water quality, air quality and land value impacts. Some stakeholders have advised of an intent to review this modification report prior to providing comment. A summary of the community consultation undertaken to date is summarised in Table 1.

Table 1 Community Consultation Summary

Consultation Type	Summary
Letterbox drop	<p>A consultation letter and fact sheet were sent to 23 residents and businesses located within 2km of the site. Copies of the letter and fact sheet are provided in Appendix 4.</p> <p>To date, three responses have been received indicating no objections to the project. EnergyAustralia will continue to liaise with residents.</p>
EnergyAustralia website project status	<p>The EnergyAustralia website has been updated to include details of the intent to modify the Project Approval and seek approval from DPE.</p>
Face to face meetings	<p>The following meetings have been held to brief attendees on the proposal and to seek comment:</p> <ul style="list-style-type: none">• A joint meeting with Lithgow Environment Group and the representatives from the Wiradjuri people on the 15 August 2018;• Meetings with Council on the 21 May and 17 August 2018; and• A phone meeting with the Colong Foundation on the 10 August.

Consultation Type	Summary
	No objections to the project were made.
EnergyAustralia Lithgow Community Consultation committee (CCC)	<p>EnergyAustralia attended two meetings with the CCC on the 14 March 2018 and 30 July 2018 to notify and consult on the intent to modify the approved project. A presentation outlining the proposed modification and a summary of the environmental assessment was provided.</p> <p>No objections to the proposed modification were made at the meeting.</p>
Media	<p>A news article was placed in the Lithgow Mercury on the 21 August 2018 advising of the proposed modification and intent to seek approval from DPE. The media release can be viewed on the EnergyAustralia website at https://www.energyaustralia.com.au/about-us/media/news</p>

EnergyAustralia will continue to consult with the local community and stakeholder groups via the following means:

- Letter notification and face to face meeting with adjoining residents and immediate community members;
- Public information session;
- Project specific information on the EnergyAustralia website; and
- Newspaper notification.

3.0 ENVIRONMENTAL ASSESSMENT APPROACH

3.1 Agency consultation

On 23rd February 2018, EnergyAustralia made a request to DPE to modify the Project Approval under section 75W of the EPA Act and provided a preliminary environmental assessment report outlining the proposed modification, key issues and intended environmental assessment approach. DPE endorsed the proposed assessment approach and confirmed that no formal environmental assessment requirements were required to enable the application to be assessed under section 75W of the EPA Act.

Further to this, consultation was carried out with Council, Environment Protection Authority (EPA), Office of Environment and Heritage (OEH), Department of Industry (DoI) and Department of Primary Industries (DPI) to notify these agencies of the proposed modification and to invite comment on the environmental assessment requirements for this modification report. Agency correspondence is summarised in Table 2 and provided at Appendix 1. A response to the correspondence is also provided in Table 2.

Table 2 Agency Consultation Summary

Agency	Comment
Lithgow City Council (Council)	Council advised it will ' <i>undertake a full assessment of the project when it is lodged with the Department of Planning and Environment</i> '.
Environment Protection Authority (EPA)	On 30 th July, 2018 the EPA verbally advised that it would not provide comment on the proposal at this stage and would wait until the proposal is submitted to DPE.
Office of Environment and Heritage (OEH)	<p>OEH provided its standard environmental assessment requirements for Major Projects and advised that the following issues need to be appropriately addressed: 1. Biodiversity and offsetting; 2. Aboriginal cultural heritage; 3. Historic heritage; 4. Water and soils; 5. Flooding.</p> <p>OEH provided further correspondence in an email dated 24th May 2018 to clarify the environmental assessment requirements in relation to biodiversity, advising that the Biodiversity Conservation Act 2016 does not apply to the proposed modification given a request to modify had been accepted by DPE prior to 28th February 2018.</p> <p><i>Response: Chapter 4 of this report provides an environmental assessment of biodiversity, aboriginal cultural heritage, historic heritage and flooding. Offsetting requirements and water and soil impact are unlikely to be altered by the proposed modification and are further discussed in Table 3.</i></p>
Department of Industry (Lands and Water) (DoI) and Department of Primary Industries (DPI)	<p>In summary, DoI and DPI provided recommendations that the following be addressed in the environmental assessment:</p> <ul style="list-style-type: none"> Assessment of impacts on surface and groundwater sources; Proposed water management infrastructure; Annual volumes of ground water and surface water proposed to be taken; Identification of secure water supply for the project;

Agency	Comment
	<ul style="list-style-type: none"> Management and disposal of produced and incidental water; Proposed surface and groundwater monitoring activities; and Consideration be given to NSW Aquifer Interference Policy and the Guidelines for Controlled Activities on Waterfront land. <p><i>Response: The impact on surface water and groundwater was addressed in the Original Environmental Assessment and has not be reassessed in this modification report given the limited change to environmental impact. This is further addressed in Table 3.</i></p>

3.2 Environmental scoping assessment

A preliminary environmental assessment was undertaken to determine the environmental assessment scope for this modification report. Environmental aspects requiring additional environmental analysis are noise, biodiversity, air quality, heritage, hydrology and visual amenity (refer to Section 5 of this report).

Further analysis of soil and water, traffic and transport, hazard and risk and water management are not considered necessary given the limited change to environmental impact resulting from the proposed amendment. A summary of the preliminary environmental assessment is provided in Table 3.

Table 3 Preliminary Environmental Assessment Summary

Environmental aspect	Preliminary assessment
Noise	<p>The following was considered to contribute to a possible change in the noise impact:</p> <ul style="list-style-type: none"> A reduction in earthworks and imported fill requirements from 600,000m³ to 100,000m³ during construction; Relocation of the coal unloader approximately 250m to the west; Slight realignment of the rail loop; and A reduction in train movements and maximum coal throughout. <p>An updated noise assessment has been undertaken to assess the impact of the proposed changes (Section 5.1).</p>
Biodiversity	<p>Although there is expected to be negligible change to the total amount of vegetation clearing required, a biodiversity assessment was undertaken to assess the revised disturbance footprint associated with the proposed amendment (Section 5.2).</p> <p>Offsetting requirements are addressed by Condition 2.38 of the Project Approval.</p>

Environmental aspect	Preliminary assessment
Air Quality	<p>The following was considered to contribute to a possible change in the air quality impact:</p> <ul style="list-style-type: none"> • A reduction in earthworks and imported fill requirements from 600,000m³ to 100,000m³ during construction; • Relocation of the coal unloader approximately 250m to the west; • Slight realignment of the rail loop; and • A reduction in train movements and maximum coal throughout. <p>An updated air quality assessment has been undertaken to assess the impact of the proposed changes (Section 5.3).</p>
Heritage	<p>The revised design will avoid direct impact to one known Aboriginal site and one historic item, as such the heritage assessment has been updated to reflect this reduced impact. This updated assessment addresses the proposed amendment and provides an update to mitigation measures to remove direct impact to known sites / items (Section 5.4).</p>
Hydrology	<p>A hydrology study has been undertaken to confirm the revised design does not increase the flood potential beyond that approved in the Original Environmental Assessment (Section 5.5).</p>
Visual amenity	<p>Section 5.6 of this report provides an assessment of visual amenity taking into consideration proposed amendment to the rail loop alignment and coal unloader siting.</p>
Soil and Water	<p>Additional impact to water quality, beyond the Original Environmental Assessment, is not expected as a result of the proposed amendment. Consistent with the PA, the following is proposed:</p> <ul style="list-style-type: none"> • No ground water or surface water will be taken on a regular basis; • It is unlikely that groundwater will be intercepted during construction and that dewatering will be required; • Erosion and sediment controls would be installed during construction; • A water quality detention basin will be constructed adjacent to the unloader to manage waste water from the coal unloader; • Emergency procedures for spill management will be adopted; and • Establishment of a water quality monitoring program. <p>In addition, water from an existing reticulated water supply network sourced from a water storage tank near Wallarawang, will supply the site. In principle agreement from Water NSW has been provided.</p> <p>The conditions of approval are considered appropriate for the proposed amendment.</p>
Traffic and transport	<p>Consistent with the Original Environmental Assessment traffic is anticipated to be higher during construction than operation. Construction traffic is expected to be substantially less than an average of 176 truck movements per day as predicted in the</p>

Environmental aspect	Preliminary assessment
	<p>Original Environmental Assessment given the reduced fill requirements.</p> <p>The conditions of approval are considered appropriate for the proposed amendment.</p>
Hazard and risk	<p>Removal of the locomotive provisioning centre, diesel storage and maintenance work areas, for example, will remove a number of risks previously outlined in the Original Environmental Assessment. No additional hazard and risks are expected.</p> <p>The conditions of approval are considered appropriate for the proposed amendment.</p>
Waste Management	<p>No change to waste management impact is anticipated beyond the Original Environmental Assessment. The conditions are considered appropriate for the proposed amendment.</p>

4.0 PROPOSAL MODIFICATION

4.1 Overview

The proposed modification seeks to extend the approval lapse date and optimise the following components of the infrastructure loop:

- Rail loop;
- Coal unloader station;
- Conveyor system; and
- Support infrastructure.

In addition, the design modification would result in a reduction of coal throughput at the facility to reflect updated operational requirements at Mount Piper Power Station which mean that EnergyAustralia will not require more than 5 Mtpa of coal at the coal unloader compared to the 8Mtpa approved under the Project Approval. These proposed amendments are described in further detail below.

Figure 2 illustrates the changes proposed to the design overlaid with the currently approved Project. Appendix 2 contains the indicative site layout general arrangement. The Project remains subject to further detailed design during the procurement and pre-construction stage.

4.1.1 Reduction in coal throughput

The revised rail loop and coal unloader design proposed under this modification application is suitable for a 4 – 5 Mtpa coal throughput, the equivalent to approximately 15 – 20 trains per week over 50 weeks per year. During normal operations an average of 2 to 3 trains per day would therefore be required. This is in comparison to the current approval of approximately 40 trains per week (the equivalent of 5 – 6 trains per day).

EnergyAustralia's preference is for coal supply from local mines and where coal can continue to be sourced from local mines, coal throughput at the coal unloader would be substantially less and is estimated at 500,000 tonnes per year, or approximately 2 trains per week. As previously described, EnergyAustralia's preference is to continue to source coal from local mines where practicable, including Angus Place, which would mean that use of the rail and associated infrastructure would be limited. However, approval is sought as part of this modification for a maximum throughput of 5 Mtpa coal if needed to supply Mount Piper Power Station from mines further away.

Consistent with the Project Approval the Project is intended to operate 7 days a week, 24 hours a day. Train movements to the Project are expected to be less than half of those authorised under the Project Approval when operating at full capacity under normal operating conditions. Consequently, there will be a reduction in train movements on the Branch Line and through townships such as Portland. The majority of trains are expected to operate during daylight hours (subject to scheduling which may require some night time train movements).

The proposed reduction in coal throughput and the associated reduction in train movements will have a related reduction in noise and air quality impacts compared to the approved Project.

4.1.2 Extension of time

An extension of time is requested to the lapsing of the Project Approval which occurs on 27 June 2019. Condition 1.4 provides that the approval lapses 10 years after the date on which the Project Approval was granted unless works have physically commenced. A three year extension is therefore sought which would extend the approval lapse date to 27 June 2022.

The proposed extension to the lapse date would allow EnergyAustralia further time to more fully and accurately investigate and determine optimal future coal supply for Mount Piper Power Station including consideration of options from local and more distant mines, such as the Ulan region of NSW, before preceding to the detailed design and construction of the Project.

4.1.3 Rail loop

The single-track rail loop has been redesigned to achieve environmental benefits and operational efficiencies. The revised indicative rail loop design is shown in Figure 4. The amendments proposed to the rail loop are summarised as follows:

- Realignment of the rail loop slightly to the west to better orientate the coal unloader with the proposed overland conveyor route;
- Contouring the vertical alignment of the rail loop to fit the natural landform thereby reducing bulk earthworks and fill requirements from approximately 600,000m³ to 100,000m³ and reducing the height of the rail line embankment by up to 4m;
- A reduced curve radius (from 250m to 200m) and to accommodate trains up to 1543m in length;
- An optional rail spur to the Branch Line (at the eastern extent of the loop) to provide operational flexibility; and
- Additional bridges, culverts and crossing structures as identified below.

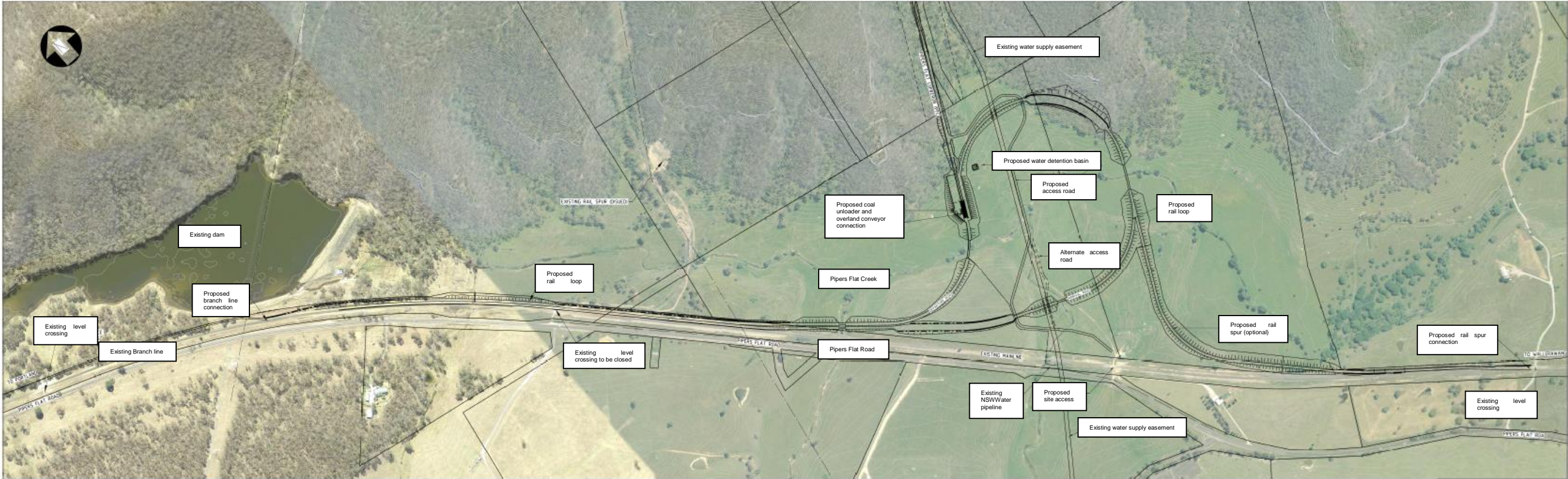


Figure 4. Revised Indicative Rail Loop Design

The majority of the rail track will be constructed on engineered fill which will be sourced primarily from excavations on site so that there is a general cut / fill balance. A cutting with a maximum depth of 10m is anticipated at the northernmost section of the rail loop. The track grade will increase slightly (0.1%) toward the coal unloader.

The primary connection between the rail loop and Branch Line is at the western extent of the rail loop and extends approximately 1km into the rail corridor managed by John Holland CRN. To the east of the primary connection, a second optional rail spur connection is proposed and provides operational flexibility for trains to enter and exit the rail loop. The construction and operation of this rail spur connection may occur at a later date and would be determined by operational needs and efficiencies.

A number of bridges, culverts and crossing structures are proposed as part of this modification and include:

- Two bridges over Pipers Flat Creek on the eastern and western sections of the rail loop. The eastern crossing is 60m long and the western crossing 45m long;
- A bridge will be installed to cross Thompsons Creek to duplicate the existing structure;
- A culvert will be extended at Irondale Creek; and
- Culvert extensions along the Branch Line to facilitate the tie in of the rail loop.

The final bridge design will determine the number and length of spans and the correlating depth of girders to achieve the required flow in the creeks.

4.1.4 Coal unloader

As part of this modification, it is proposed that the coal unloader would be located approximately 250m to the west of the currently approved location as shown in Figure 2.

The revised location provides a direct connection between the coal unloader and the overland conveyor to the Mount Piper Power Station, eliminating the need for a transfer conveyor and intermediate transfer station. The coal unloader hopper has also been reduced from a 2000 tonne capacity hopper to a 600 tonne capacity hopper thereby removing the intended storage capacity of coal within the hopper. The revised indicative coal unloader layout is shown in Figure 5.

The coal unloader consists of a:

- Coal unloader building above the rail line approximately 45m long, 10m wide and 7m high consisting of a fire and washdown water system, separate amenities room with toilet and washbasin and a break room for a table and chairs;
- Steel hopper approximately 11m below the rail line with a number of smaller internal sections;

- Concrete vault where the coal unloader is located with necessary clearances to allow personnel and maintenance access. The floor of the vault will slope down to a drain and collection sump for washdown water and spillage;
- An 11/0.415 kV substation and electrical distribution system; and
- Perimeter drainage and roof water drainage will be provided.

Trains will approach the coal unloader in an anti-clockwise direction around the rail loop. When a train is in position coal will be released through the undercarriage of the wagons. The wagon doors will open by actuated trigger ramps that will raise and lower to facilitate an even spread of coal in the hopper. Once the locomotive has cleared the hopper the closing trigger at the end of the hopper will be raised to automatically close the coal wagon doors.

Coal from the hopper will be funnelled to the overland conveyor. The conveyor exits the coal unloader through a tunnel and extends to the existing power station coal stock yard.

Heavy duty noise and dust curtains (similar to rubberised conveyor belt material) will be installed around the train envelope at the coal unloader entry and exit doors. The coal unloader will also be installed with dust collection and dust minimisation systems and ventilation.

A separate water settling system will be installed adjacent to the coal unloader, within the rail loop. A primary settling pond will be sized to accommodate the discharge from the coal unloader (approximately 45m³).

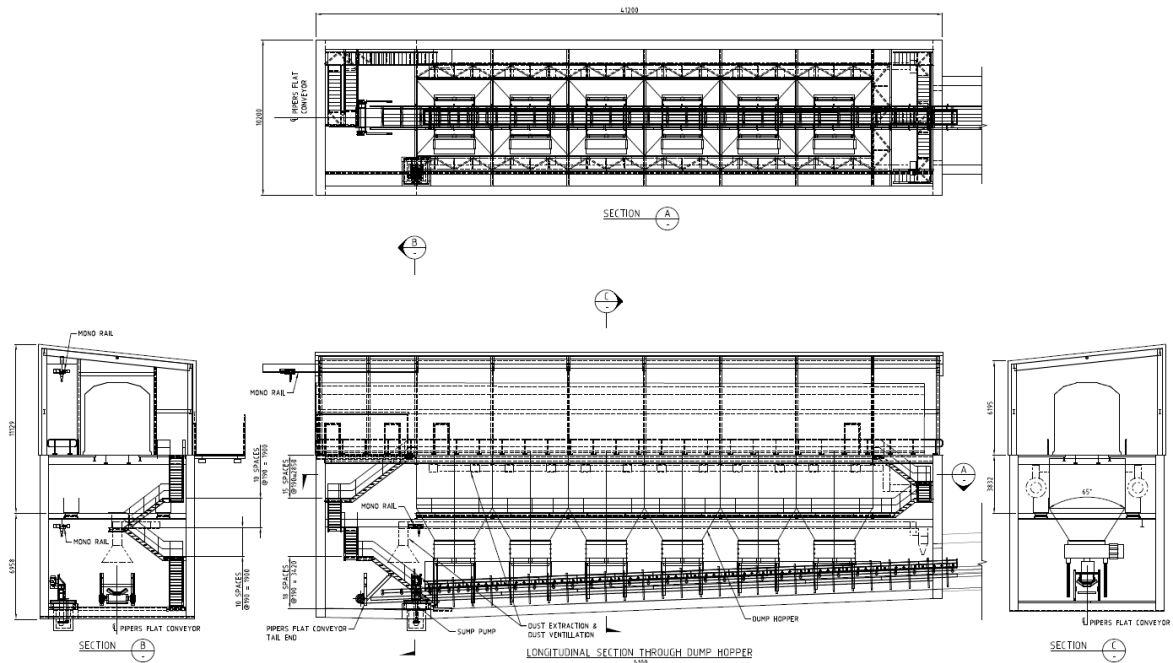


Figure 5. Indicative Coal Unloader Arrangement

4.1.5 Conveyor system

The overland conveyor alignment, as shown in Figure 6, has been selected to ensure a direct connection between the coal unloader and Mount Piper Power Station to eliminate the need for a transfer conveyor and intermediate transfer station (as currently approved). At the Mount Piper Power Station, the proposed coal infrastructure includes a transfer tower, conveyor and rill tower.

Consistent with the requirements of the Project Approval, the conveyor alignment has been selected to substantially reduce the number of Capertee stringybarks that will need to be removed.

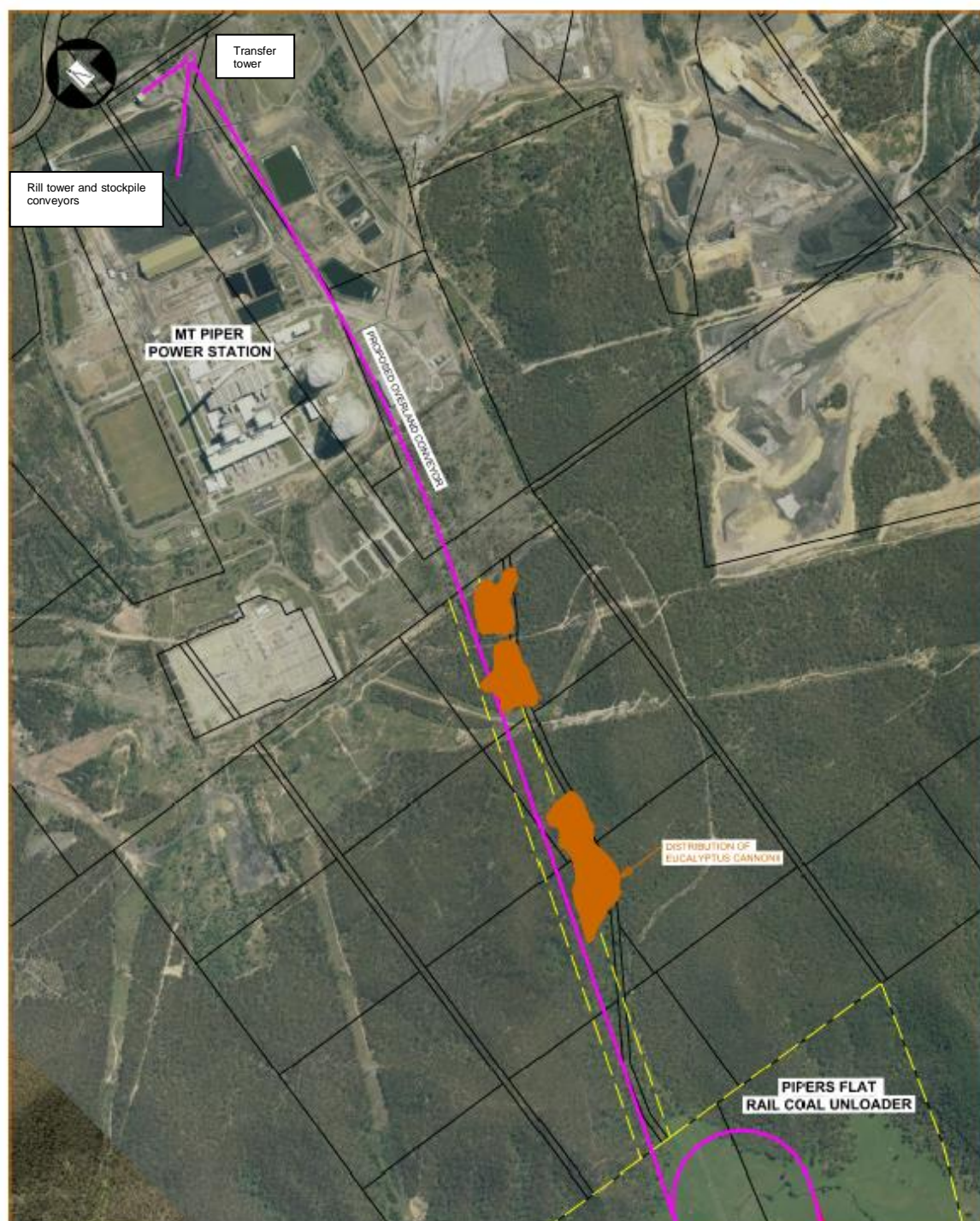


Figure 6. Indicative Overland Conveyor Alignment

4.1.6 Support infrastructure

It is proposed to remove the following train support infrastructure that is currently approved by the Project Approval:

- Locomotive provisioning centre (including the refuelling and sanding facilities);
- Diesel storage area (previously located adjacent to the former farm house) and associated piping for up to 106,000 litres of diesel fuel for the refuelling of locomotives; and
- Wagon maintenance area comprising a rail siding at the south east corner of the site which would have two hardstand areas of 5m x 50m and a small shed about 6m x 4m x 3m high for storage of equipment.

Consistent with the Project Approval, access roads, parking, water tanks and a power distribution system will still be established on the rail unloader site.

Access to the site will be from either the main entrance on Pipers Flat Road or via the access road along the overland conveyor from the Mount Piper Power Station. The internal access roads will generally be unsealed or gravel sealed roads incorporating rollover drains with a maximum grade of 10 degrees. Reinforced concrete will be used on steeper sections of the road and at-grade creek crossings. Any structure set in the creek bed will be installed below the natural creek bed level.

4.2 Construction schedule

Construction is anticipated to take 18 months to complete. It is intended that the construction staging will be the same as that outlined in the Environmental Assessment, however the staging remains subject to detailed design and, as noted above, it is currently proposed that the optional rail spur connection would be separately staged. As summarised from the Original Environmental Assessment:

- Stage 1 comprises site setup, installation of erosion controls and major earthworks for the rail line loop and excavation of the coal unloader chamber;
- Stage 2 includes construction of the coal unloader and rail line including drainage, rail track, crossing loops, signalling and level crossing; and
- Stage 3 involves construction of the coal unloader housing and the overland conveyor.

4.3 Conditions of approval

Table 4 outlines the conditions of Project Approval which are proposed to be clarified as part of this modification so as to reflect the revised Project.

A revised statement of commitments is also provided as set out in Appendix 3. The commitments contained in the original statement of commitments have been largely superseded by the detailed conditions imposed on the Project Approval. In addition, a number of the original commitments have been reworded to improve clarity and additional commitments included to address the outcomes of this assessment undertaken as part of the proposed modification.

Table 4 Conditions of Approval

No.	Proposed amendment
-	The definitions will need to be updated to: 1. reflect changes to relevant legislation and governmental agencies (this will also need to occur throughout the conditions); and 2. include contemporary definitions of construction so as to exclude pre-construction minor works.
-	A contemporary staging condition is requested to reflect that the Project may be constructed in stages.
1.4	It is requested that the lapse date of the consent is extended for three years until June 2022.
1.5	A maximum coal throughput of no more than five million tonnes per annum is proposed should the revised design amendments be approved.
2.9	An amendment is requested to condition 2.9 to allow out of hours construction works where noise impacts will be minimal in line with contemporary conditions.
2.10 - 2.14	The operational noise limits are proposed to be updated to reflect the outcomes of the updated noise assessment and in line with contemporary conditions.
2.30	It is proposed to clarify the timing of the intersection upgrades to confirm that the upgrade must be in place prior to any oversize vehicles accessing the site for construction.
2.33	It is requested that condition 2.33 is deleted given that site 45-1-0076 will not be impacted by the proposed revised rail alignment.

5.0 ENVIRONMENTAL ASSESSMENT

5.1 Noise

5.1.1 Initial noise impact assessment

A noise impact assessment was undertaken by SKM in 2007 to assess noise impacts associated with construction and operation of the coal unloader, the conveyor system and railway noise against the Industrial Noise Policy and the Australian Rail Track Corporation (ARTC) Environmental Protection Licence (EPL). In addition, other train noise sources such as train horn noise, flanging and wheel squeal and bunching and stretching were assessed individually.

A summary of the findings are as follows:

- Noise emissions from operational activities when assessed in combination, comply with the Industrial Noise Policy.
- Major source of potential noise emissions would be from the train locomotive operating around the balloon loop for extended periods of time during an unloading cycle.
- Wheel squeal may occur as the result of curving of the wagons and locomotive around the balloon loop.
- Mitigation is recommended in the form of attenuation and design including enclosing external noise sources and reducing the transmission of noise with the proper materials of construction.

5.1.2 Assessment of modification

Muller Acoustic Consulting (MAC) undertook a revised noise impact assessment taking into consideration the proposed changes to the Project the subject of this modification. The assessment was undertaken in accordance with the Rail Infrastructure Noise Guideline (RING), Interim Construction Noise Guidelines (ICNG) and Noise Policy for Industry (NPI).

The assessment identified 9 noise sensitive receivers (one being a project related property located immediately south of the rail loop identified as sensitive receiver R5), two of which were the subject of unattended noise monitoring (refer Figure 3 of noise impact assessment). In summary the assessment identified:

- Predicted noise levels for general construction activities are expected to meet the noise management levels at all receivers except at one, R5, the project related receiver. For a limited time, when rail tamping is performed during construction, noise management levels at two receivers (project related R5 and R4a) may be exceeded;
- Predicted operational noise levels from the rail loop are demonstrated to comply with the RING noise trigger levels at all residential receivers for all periods; and
- Night time operations do not exceed the maximum noise level screening criterion, as such sleep disturbance is not expected.

Refer to Appendix 5 for full noise assessment.

5.1.3 Mitigation measures

Based on the updated noise assessment the following mitigation measures are proposed to be adopted:

During construction

To manage the noise exceedance during rail tamping, it is recommended that the Construction Noise Management Plan considers:

- Where possible, the use of localised mobile screens or construction hoarding around plant to act as barriers between construction works and receivers,
- Operating plant in a conservative manner (e.g. no over-revving, shut down when not in use, and be parked/started as far as practically possible away from residential receivers);
- Consider the use of the quietest suitable rail tamper available;
- avoid the use of noisy plant/machinery working simultaneously where practicable; and
- utilise project related community consultation forums to notify residences within close proximity of the timing and duration of rail tamping activities.

During Operation

- General operational noise emissions will be controlled by implementing appropriate enclosure design for equipment within the dump hopper building. The dump hopper building itself would also require acoustic design input to ensure noise emissions are minimised.
- Take up rollers for the conveyors and coal transfer towers would be designed within acoustic enclosures for drive motors so as to reduce the transmission of noise from equipment and operations to external environment.
- To reduce the likelihood of rail/wheel noise, the inclusion of wooden sleepers, track ballast, rail head profiling and cambering of the track would be included in the design considerations. The provision for trackside lubricators will be made in the project design.
- A one-off noise validation monitoring assessment will be undertaken to quantify emissions from site and to confirm emissions meet relevant criteria.

5.2 Heritage

5.2.1 Initial heritage assessment

Navin Officer Heritage Consultants (NOHC) undertook an Aboriginal and European heritage assessment of the site in 2007 which reviewed relevant heritage literature and databases, Aboriginal consultation and field inspections. No historic sites were identified on the heritage registers. Two Aboriginal sites (45-1-0075 and 45—1-0076) and an area of potential archaeological deposit (PAD) (PAD 7) had been previously recorded.

Following field assessment and consultation with Bathurst Local Aboriginal Land Council (BLALC) the following sites were identified:

- Historic site complex (WCU H1), a former farm site;
- Single Aboriginal isolated find (WCU 1); and
- Seven areas of PADs (WCU PAD 1 - 7).

Direct impact to artefact scatter 45-2-0076, WCU PAD 1 – 6 and WCU H1 was considered likely given the rail loop alignment. PAD 7 would also likely be impacted by the overland conveyor. As such, it was recommended that a program of archaeological subsurface testing should be conducted for WCU PAD 1 – 6, a section 90 Consent to Destroy permit be issued for impact to site 45-1-0076 (if impact was to occur prior to project approval), consultation with the relevant Aboriginal groups and representatives should be invited and historic site WCU H1 should be subject to an archival record.

5.2.2 Assessment of modification

NOHC undertook a heritage review of the proposed modifications to the Project. An updated heritage assessment and report is contained in Appendix 6.

The key findings indicate that direct impact to WCU H1 and site 45-1-0076 and PAD1 and 2 can be avoided as a result of the proposed modifications to the Project. Impact to PAD 3, 4, 5, 6 and 7 is likely with negligible change to the scale of potential impact to these PADs in comparison to the approved Project. As such, overall heritage impact is expected to be less with the revised rail loop alignment given the avoidance of the two known sites (ie 45-2-0076 and WCU H1).

5.2.3 Mitigation measures

Based on the recommendations made in the most recent NOHC report, EnergyAustralia will undertake the following mitigation measures:

- A program of archaeological subsurface testing would be conducted for the potential archaeological deposits that will be directly impacted by the project. Testing will aim to determine:

- The nature and significance of any Aboriginal cultural material present at each location; and
 - The salvage and archaeological investigation will be undertaken in consultation with the local Aboriginal community.
- In order to avoid inadvertent impacts to sites or parts of sites identified in the project area that will not be impacted will be fenced during construction works and their location placed on project maps as a no-go zones.
 - Consultation will continue with the relevant Aboriginal community as required in accordance with the OEH *Aboriginal cultural heritage consultation requirements for proponents* 2010.
 - In the event that artefacts of indigenous heritage significance are uncovered during the course of construction activities, works in the immediate area will cease, DECC would be notified and expert advice sought from an appropriately qualified professional.

5.3 Air Quality

5.3.1 Initial air quality assessment

SKM in 2007, undertook a qualitative air quality assessment of potential air quality impacts associated with the Project based on seven trains per day, approximately 7 hours per day operating time and up to 8 Mtpa peak processing capacity.

Sensitive receivers were identified at 13 rural residential properties within 2 kilometres (km) of the site. The greatest air quality risk associated with the proposal were documented as earthworks during construction and locomotive, coal unloading and refuelling and sanding of trains at the locomotive provisioning area during operation. General conclusions from the assessment were that:

- It is possible to manage impacts within the identified site specific criteria and with dust mitigation measures, no adverse air quality impacts should result from the works;
- There would be no exceedance of project specific air quality criteria for PM10 and TSP at nearby receiver locations; and
- The very small increase in emissions from locomotive exhausts will have no significant effect on air quality in the area.

5.3.2 Assessment of modification

Todoroski Air Sciences undertook a review of the potential air quality impact and assessed the likely change in dust emissions resulting from the proposed modification to the Project. The qualitative assessment identified:

- A decrease in dust emissions during construction by approximately 55% due primarily to the reduction in fill material required and is not expected to result in any additional impact beyond what was predicted in the Original Environmental Assessment;
- An overall decrease in operational dust emissions by more than 38% given the reduction in coal throughput and a reduction in material handling;
- A reduction in locomotive emissions given the reduced train movements; and
- It is anticipated that there would be no exceedances of project specific air quality criteria.

A full copy of the assessment is at Appendix 7.

5.3.3 Mitigation measures

The following dust control measures are proposed to be implemented during the construction and operation:

- Restrict Project related traffic to defined roads.
- Maintain low vehicle speeds on unsealed roads (e.g. 40km/h).
- Ensure no incineration or burning of any material on the premises.
- Prompt action would be taken to extinguish any fire.
- Equipment to be maintained to ensure the best environmental performance in terms of air emissions.

5.4 Flora and Fauna

5.4.1 Initial flora and fauna assessment

SKM in 2007 undertook a biodiversity assessment across the site. Key findings from the assessment are as follows:

- No threatened fauna species were identified from the study area as a result of the field surveys;
- The threatened flora species Capertee Stringybark *Eucalyptus cannonii* was along the conveyor overland route with up to 50, of the estimated 500, requiring removal; and

- The proposed rail loop at Pipers Flat includes crossings of Pipers Flat Creek which is considered to provide moderate to low fish habitat and provides no habitat connectivity.

5.4.2 Assessment of modification

A biodiversity assessment was undertaken by Anderson Environment and Planning (AEP) to assess the impacts of the proposed modification. The assessment was undertaken having regard to the relevant requirements of the EPA Act, *Biodiversity Conservation Act 2017* (BC Act), the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) and the *Fisheries Management Act* (1994).

In summary the assessment identified:

- The vegetation had been predominately cleared with a long history of cattle grazing;
- Instream vegetation consists primarily of exotic grasses with no remnant riparian vegetation identified;
- The northern section of the rail loop will impact on approximately 1.6 hectares of remnant vegetation that may form part of the *Tablelands Snow Gum, Black Sallee Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions* Endangered Ecological Community (EEC) listed under the BC Act;
- No individuals of Capertee Stringybark (*Eucalyptus cannonii*) were recorded along the rail loop alignment;
- No signs of any threatened flora species were noted during the field survey;
- The watercourses are unlikely to provide habitat for local threatened fish species due to high level of disturbance; and
- No EPBC Act listed threatened species were identified on the site. Although the Purple Copper Butterfly and Large-eared Pied Bat were assessed as having some potential to use part of the site, a significant impact was not anticipated.

In summary, the proposed modification will impact a similar footprint to the approved loop, however the changed alignment impacts on an additional 1.6ha of native vegetation that is likely to be commensurate with and EEC listed under the BC Act. Provided that recommended mitigation measures as outlined in this document, the Project Approval as well as the Statement of Commitments, the project as modified is considered unlikely to have a significant impact on any species or communities protected by the BC Act or the EPBC Act. A full copy of the assessment is at Appendix 8.

5.4.3 Mitigation measures

The following mitigation measures are proposed to be adopted:

- Fifteen nest boxes of a variety of types and sizes will be installed in remnant vegetation adjacent to the rail loop as supplementary habitat prior to tree clearing to mitigate the removal of hollow bearing trees.
- No go areas for contractors will be established and clearly identified on the ground along creeks and treed areas to avoid unnecessary vegetation and habitat removal.
- During clearing of mature trees, an ecologist or appropriately trained personnel will be present to check any trees felled for wildlife inhabiting those trees.
- Designated laydown and stockpile areas, compound sites and access routes will be identified and established in areas of cleared and degraded land, where practicable, to minimise the overall impact of the Project and avoid unnecessary vegetation and habitat removal.
- Appropriate weed management strategies would be implemented during construction to ensure they are not spread throughout the study area and particularly into areas of remnant vegetation adjacent to the proposal area.
- Fallen logs encountered within the proposed disturbance footprint and felled timber would be relocated to areas of retained remnant vegetation or other suitable long term habitat areas.
- Creek crossing structures, where required, would be designed generally in accordance with *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterways Crossings*, 2003 so as not to impede fish passage. Where culverts are used the base of the culvert will be positioned at or below the creek bed.
- A section of Pipers Flat Creek, adjacent the Project area, would be restored by reinstating riparian vegetation and providing connectivity along the creek for movement by terrestrial and aquatic flora and fauna.
- Revegetation of Pipers Flat Creek and surrounding areas would use native flora, where possible, which occur in the local area and are adapted to the local conditions. Plants and seeds used in revegetation works would be preferentially sourced from local provenance, where possible.

5.5 Hydrology

5.5.1 Initial hydrology assessment

The hydrology and flood study prepared by SKM in 2007 describes the rail loop site as an open floodplain at the foot of Mount Piper where the creek gullies merge. Pipers Flat Creek runs from north west to south east across a 150m wide floodplain. Pipers Flat Creek is between 2 – 3m wide, 1 – 2m deep with a relatively low storage capacity.

When Pipers Flat Creek floods, water spills across the floodplain and is carried downstream. Flood water is constrained by existing infrastructure including the existing Branch Line and Pipers Flat Creek Road where Thompsons Creek, Irondale Creek and Winters Creek are crossed.

Based on two crossings of Pipers Flat Creek, Irondale Creek and Thompsons Creek the modelled results show:

- An increase in 100 year average recurrence interval (ARI) flood levels at several locations;
- Peak flood velocity indicate that scour is an issue of concern that may require further consideration; and
- Afflux outside the site boundary is zero and there would be no flood impacts on other properties.

5.5.2 Assessment of modification

A flood study to assess the impacts of the proposed modification was undertaken by Lycopodium. Similar to the SKM assessment, the flood study included 2 crossings of Pipers Flat Creek, Irondale Creek and Thompsons Creek.

Figure 7, an extract from the flood study, shows the rail loop, creeks and creek crossings the subject of Lycopodium's assessment.

In summary the assessment concluded:

- The adopted crossing structures are of sufficient capacity to prevent significant impact on flood levels (or hazard) outside of the site boundary for the 100 year (yr) ARI;
- The afflux due to the revised rail loop alignment has similar impact to that of the approved project with zero flood impacts on other properties expected; and
- The results indicate that the adopted crossing structures and embankment exert localised, relatively low impacts on flood levels and hazard outside the site boundary for the 500yr ARI, with the greatest impacts concentrated upstream of the existing Irondale Creek Crossings.

A full copy of the assessment can be found in Appendix 9.

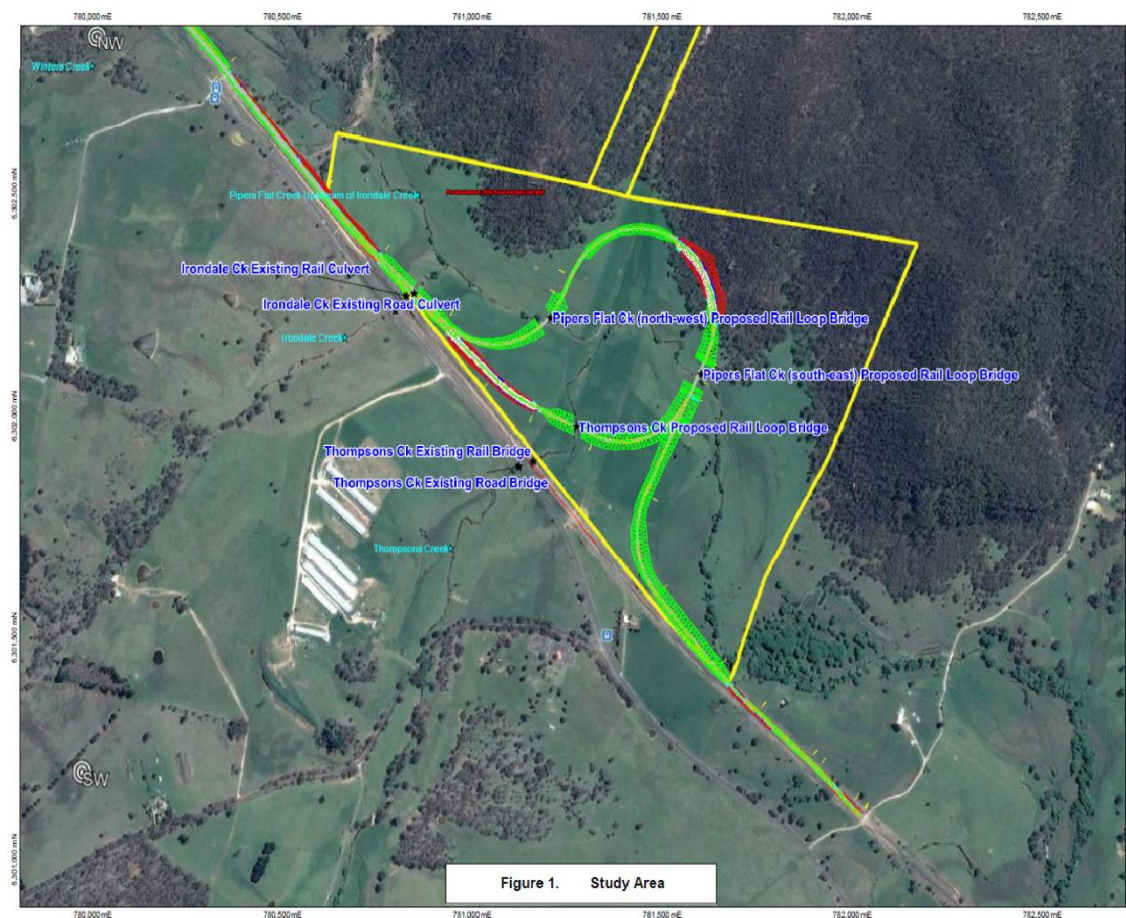


Figure 7. Creek Crossings

5.5.3 Mitigation measures

The following mitigation measures are proposed to be adopted:

- Earthworks are required at the Irondale Creek culvert to ensure the flow path from the existing rail embankment culvert is free draining and suitably protected from scour (rock pitching channel between the 2 crossings is recommended).
- Scour analysis is recommended at the proposed bridge and crossing structures to determine if energy dissipaters are required at crossing outlets and to ascertain appropriate dimensions.
- Some minor earthworks and/or a 900mm culvert may be required to alleviate trapped flow that bypasses the proposed Thompsons Creek rail loop bridge at the south-eastern section of the rail loop.
- Refinement of the 2D model will be undertaken during the detailed design of the project. This will be used to refine the sizing and location of flood relief structures for Pipers Flat Creek. The sizing of the openings will be designed to minimise the need for armouring.

5.6 Visual Impact

5.6.1 Initial visual assessment

The visual assessment undertaken by SKM in 2007 concluded that the visual impact of the proposed rail loop, coal unloader and overland conveyor would be high for the Premiers Farm property (located at 52 Thompsons Creek Road, Pipers Flat) and users of Pipers Flat Road. Two visual management units (VMU) are described based on landform, vegetation and land use. The first VMU is the coal unloader and rail loop which comprises relatively flat and cleared pastures. The second VMU is the conveyor comprising densely vegetated rugged topography.

In summary, it is stated that:

- There would be a high degree of visual modification and features such as the coal unloader and rail loop would contrast to the existing rural environment;
- Direct views of the project include those from Premier Farms and users of Pipers Flat Road and obscured views would be gained from a number of residential properties along Irondale Road. Residents south of Pipers Flat Road generally have limited views of the unloader due to screening;
- The visual absorptive capacity (VAC) of the rail loop and coal unloader is relatively low given the land is open pastures. The VAC for the coal conveyor is slightly higher due to the vegetation present; and
- Generally, the undulating terrain of the surrounding area and the existing vegetation would prevent significant visual impacts.

5.6.2 Assessment of modification

Photomontages of the revised rail loop and coal unloader have been prepared and are provided in Appendix 10. These images show an elevated aerial view of the site which can be compared to the original design (Figure 5-11a and b of the Original Environmental Assessment). Key changes in the visual amenity are as follows:

- Designing the loop so that it fits more naturally with the contours of the land and is less visually obtrusive with a reduction in the rail embankment height up to 4m;
- Removal of the fuel storage area, provisioning building and wagon maintenance building; and
- Locating the coal unloader approximately 250m to the west and further from Pipers Flat Road.

As a result, the proposed modifications are more sympathetic with the natural topography of the area as a result of the reduction in the maximum rail embankment height by approximately 4m. The revised rail loop is therefore not as visually obtrusive from Pipers Flat Road. The visual amenity impact is also improved given the realignment of the rail loop further from Pipers Flat Road and the removal of buildings and infrastructure (previously located adjacent to Pipers Flat Road).

Notwithstanding these improvements, the overall visual impact is considered to remain high, although the proposed modification reduces visual impacts from the perspective of Premiers Farm and users of Pipers Flat Road.

5.6.3 Mitigation measures

No additional mitigation measures are proposed in addition of the requirements of the Project Approval.

6.0 CONCLUSION

6.1 Summary

The Project remains necessary to enable coal to be sourced from alternate mine areas to enable the continued operation of the Mount Piper Power Station and ongoing energy security for NSW, in the event of interruptions to local coal supply.

EnergyAustralia has proposed a number of design changes to the approved Project which are necessary to deliver construction and operational efficiencies and improved environmental outcomes relative to the currently approved Project.

Infrastructure components that have been redesigned as part of the proposed modification include:

- Rail loop,
- Coal unloader; and
- Removal of associated infrastructure such as maintenance facilities.

The revised rail loop and coal unloader design is suitable for a 4 – 5 Mtpa coal throughput, compared to the 8 Mtpa currently approved. The assessment carried out has confirmed that it is expected that there will be improved environmental outcomes under the modified design when compared to the currently approved project. These improvements include air quality, noise amenity, visual impact and heritage.

6.2 Updated mitigation measures

If the modification to the Project Approval is approved, EnergyAustralia propose to undertake the updated mitigation measures as summarised in Table 5.

Table 5 Updated Mitigation Measures

Environmental Aspect	Mitigation Measure
Noise	<p><i>During Construction</i></p> <ul style="list-style-type: none">• To manage the noise exceedance during rail tamping, the Construction Noise Management Plan will consider:<ul style="list-style-type: none">- Where possible, the use of localised mobile screens or construction hoarding around plant to act as barriers between construction works and receivers,- Operating plant in a conservative manner (e.g. no over-revving, shut down when not in use, and be parked/started as far as practically possible away from residential receivers);- Consider the use of the quietest suitable rail tamper available;- Avoid the use of noisy plant/machinery working simultaneously where

Environmental Aspect	Mitigation Measure
	<p>practicable; and</p> <ul style="list-style-type: none"> - Utilise project related community consultation forums to notify residences within close proximity of the timing and duration of rail tamping activities. <p><i>During Operation</i></p> <ul style="list-style-type: none"> • General operational noise emissions will be controlled by implementing appropriate enclosure design for equipment within the dump hopper building. The dump hopper building itself would also require acoustic design input to ensure noise emissions are minimised. • Take up rollers for the conveyors and coal transfer towers would be designed within acoustic enclosures for drive motors so as to reduce the transmission of noise from equipment and operations to external environment. • To reduce the likelihood of rail/wheel noise, the inclusion of wooden sleepers, track ballast, rail head profiling and cambering of the track would be included in the design considerations. The provision for trackside lubricators will be made in the project design. • A one-off noise validation monitoring assessment will be undertaken to quantify emissions from site and to confirm emissions meet relevant criteria.
Heritage	<ul style="list-style-type: none"> • A program of archaeological subsurface testing would be conducted for the potential archaeological deposits that will be directly impacted by the project. Testing will aim to determine: <ul style="list-style-type: none"> - The nature and significance of any Aboriginal cultural material present at each location; and - The salvage and archaeological investigation will be undertaken in consultation with the local Aboriginal community. • In order to avoid inadvertent impacts to sites or parts of sites identified in the project area that will not be impacted will be fenced during construction works and their location placed on project maps as a no-go zones. • Consultation will continue with the relevant Aboriginal community as required in accordance with the OEH <i>Aboriginal cultural heritage consultation requirements for proponents</i> 2010. • In the event that artefacts of indigenous heritage significance are uncovered during the course of construction activities, works in the immediate area will cease, DECC would be notified and expert advice sought from an appropriately qualified professional.
Air Quality	<ul style="list-style-type: none"> • Restrict Project related traffic to defined roads. • Maintain low vehicle speeds on unsealed roads (e.g. 40km/h). • Ensure no incineration or burning of any material on the premises. • Prompt action would be taken to extinguish any fire. • Equipment to be maintained to ensure the best environmental performance in terms of air emissions.
Biodiversity	<ul style="list-style-type: none"> • Fifteen nest boxes of a variety of types and sizes will be installed in remnant vegetation adjacent to the rail loop as supplementary habitat prior to tree clearing to mitigate the removal of hollow bearing trees.

Environmental Aspect	Mitigation Measure
	<ul style="list-style-type: none"> No go areas for contractors will be established and clearly identified on the ground along creeks and treed areas to avoid unnecessary vegetation and habitat removal. During clearing of mature trees, an ecologist or appropriately trained personnel will be present to check any trees felled for wildlife inhabiting those trees. Designated laydown and stockpile areas, compound sites and access routes will be identified and established in areas of cleared and degraded land, where practicable, to minimise the overall impact of the Project and avoid unnecessary vegetation and habitat removal. Appropriate weed management strategies would be implemented during construction to ensure they are not spread throughout the study area and particularly into areas of remnant vegetation adjacent to the proposal area. Fallen logs encountered within the proposed disturbance footprint and felled timber would be relocated to areas of retained remnant vegetation or other suitable long term habitat areas. Creek crossing structures, where required, would be designed generally in accordance with <i>Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterways Crossings</i>, 2003 so as not to impede fish passage. Where culverts are used the base of the culvert will be positioned at or below the creek bed. A section of Pipers Flat Creek, adjacent the Project area, would be restored by reinstating riparian vegetation and providing connectivity along the creek for movement by terrestrial and aquatic flora and fauna. Revegetation of Pipers Flat Creek and surrounding areas would use native flora, where possible, which occur in the local area and are adapted to the local conditions. Plants and seeds used in revegetation works would be preferentially sourced from local provenance, where possible.
Hydrology	<ul style="list-style-type: none"> Earthworks are required at the Irondale Creek culvert to ensure the flow path from the existing rail embankment culvert is free draining and suitably protected from scour (rock pitching channel between the 2 crossings is recommended). Scour analysis is recommended at the proposed bridge and crossing structures to determine if energy dissipaters are required at crossing outlets and to ascertain appropriate dimensions. Some minor earthworks and/or a 900mm culvert may be required to alleviate trapped flow that bypasses the proposed Thompsons Creek rail loop bridge at the south-eastern section of the rail loop. Refinement of the 2D model will be undertaken during the detailed design of the project. This will be used to refine the sizing and location of flood relief structures for Pipers Flat Creek. The sizing of the openings will be designed to minimise the need for armouring.

APPENDIX 1

GOVERNMENT AGENCY CONSULTATION

APPENDIX 2

INDICATIVE SITE LAYOUT GENERAL ARRANGEMENT

APPENDIX 3

REVISED STATEMENT OF COMMITMENTS

APPENDIX 4

COMMUNITY CONSULTATION

APPENDIX 5

NOISE IMPACT ASSESSMENT

APPENDIX 6

HERITAGE IMPACT ASSESSMENT

APPENDIX 7

AIR QUALITY ASSESSMENT

APPENDIX 8

BIODIVERSITY ASSESSMENT

APPENDIX 9

HYDROLOGY ASSESSMENT

APPENDIX 10

PHOTOMONTAGES