



Mount Piper Power Station

Modification 8 Water Storage Pond

*State Significant
Development
Modification Assessment
(DA80/10060 MOD 8)*



July 2019

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Mount Piper Power Station

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1. Introduction

1.1 Background

The Mount Piper Power Station (Mt Piper) is located approximately 17 kilometres (km) north-west of Lithgow in the Lithgow City local government area. The power station is owned and operated by EnergyAustralia NSW Pty Ltd (EnergyAustralia).

Mt Piper has been operating since 1994 and comprises two 750 megawatt (MW) generators which have the capacity to meet approximately 15 per cent of NSW energy demands.

The power station has a high demand for water for use in its cooling water system. This water is currently supplied by the Cox's River Water Supply System (established to provide water for local power stations) and the Fish River. The existing site water management system includes desalination facilities to treat blowdown water from the cooling water circuit, as well as a series of ponds to capture, store and reuse the various water streams across the operations (see **Figure 1**).

The Springvale Water Treatment Project (Springvale WTP) was approved on 19 June 2017 and is approaching the final construction and commissioning phase. It involves transferring mine water from the Springvale Colliery, treating it and using it in the power station's cooling water system. The project includes a new water treatment plant incorporating desalination processes and a pre-treatment process to manage brine. The Springvale WTP would integrate the existing blowdown water management system with the new treated water system, and re-purpose a number of existing ponds at the power station to ensure it continues to operate as a zero process water discharge site. Springvale WTP commenced transferring water on 1 July 2019 from the mine to Mt Piper.

1.2 Approval History

On 1 April 1982, the then Minister for Planning and Environment granted development consent (DA80/10060) for the construction and operation of Mt Piper.

The development consent has since been modified on seven occasions (see **Table 1**).

Table 1 | Summary of Modifications

Mod No.	Summary of Modifications	Approval Authority	Approval Date
MOD 1	<ul style="list-style-type: none">temporary storage of brine waste in two 20 megalitre (ML) storage ponds, until 30 June 1996	Minister	18 March 1991
MOD 2	<ul style="list-style-type: none">extend the period for temporary storage of brine waste until 30 June 2000	Minister	21 June 1996
MOD 3 & MOD 4	<ul style="list-style-type: none">extend approval to construct an additional 8 ML brine waste storage pond, for the duration of the temporary extension period; andobtain required licences and approvals from the then State Pollution Control Commission (now Environment Protection Authority (EPA))	Minister	18 January 1999

MOD 5	<ul style="list-style-type: none"> co-disposal and emplacement of brine conditioned flyash in the open-cut mine void adjacent to the power station 	Minister	3 April 2000
MOD 6	<ul style="list-style-type: none"> increase the capacity of electricity generation from 1320 MW with a 70% capacity factor (2 x 650 MW) to 1500 MW with a 90% capacity factor (2 x 750 MW) 	Minister	3 June 2006
MOD 7	<ul style="list-style-type: none"> extend the brine and flyash co-placement area. 	Executive Director, Major Projects Assessments (as delegate of the Minister)	23 March 2008



2. Proposed Modification

A review of the integrated water management system at Mt Piper has identified the need for additional water storage capacity to support the various water process streams.

A 60 megalitre (ML) multi-purpose storage pond is proposed to be constructed on cleared land immediately to the north east of the existing Blowdown Pond B. The pond would be designed to allow water to be received from all water management sources, including brine, clean water and stormwater systems and the ash emplacement areas.

Initially the pond would be used to store brine during the commissioning of the brine management for the Springvale WTP. The pond would also provide supplementary storage of untreated water from the coal settling ponds, which have recently been added as a licence discharge point on the Environment Protection Licence (EPL 13007). This would allow untreated water to be pumped from the coal settling ponds to the new 60 ML pond during high rainfall and minimise the risk of offsite discharge.

The pond would be developed using an earth bank design and would include dual plastic liners to prevent any process water release from the integrated pond network. Construction of the pond is anticipated to take approximately two months.

During the assessment of the modification application, EnergyAustralia identified a more efficient design for the proposed storage pond and provided a revised site layout plan (see **Figure 2**). The revised design incorporates a minor configuration change that would integrate more efficiently with existing earth bund walls in the surrounding location. This change is described in an Amendment Report submitted to the Department.

The modification is described in detail in the Modification Report (**Appendix A1**) and Amendment Report (**Appendix A2**) submitted in support of the modification application.

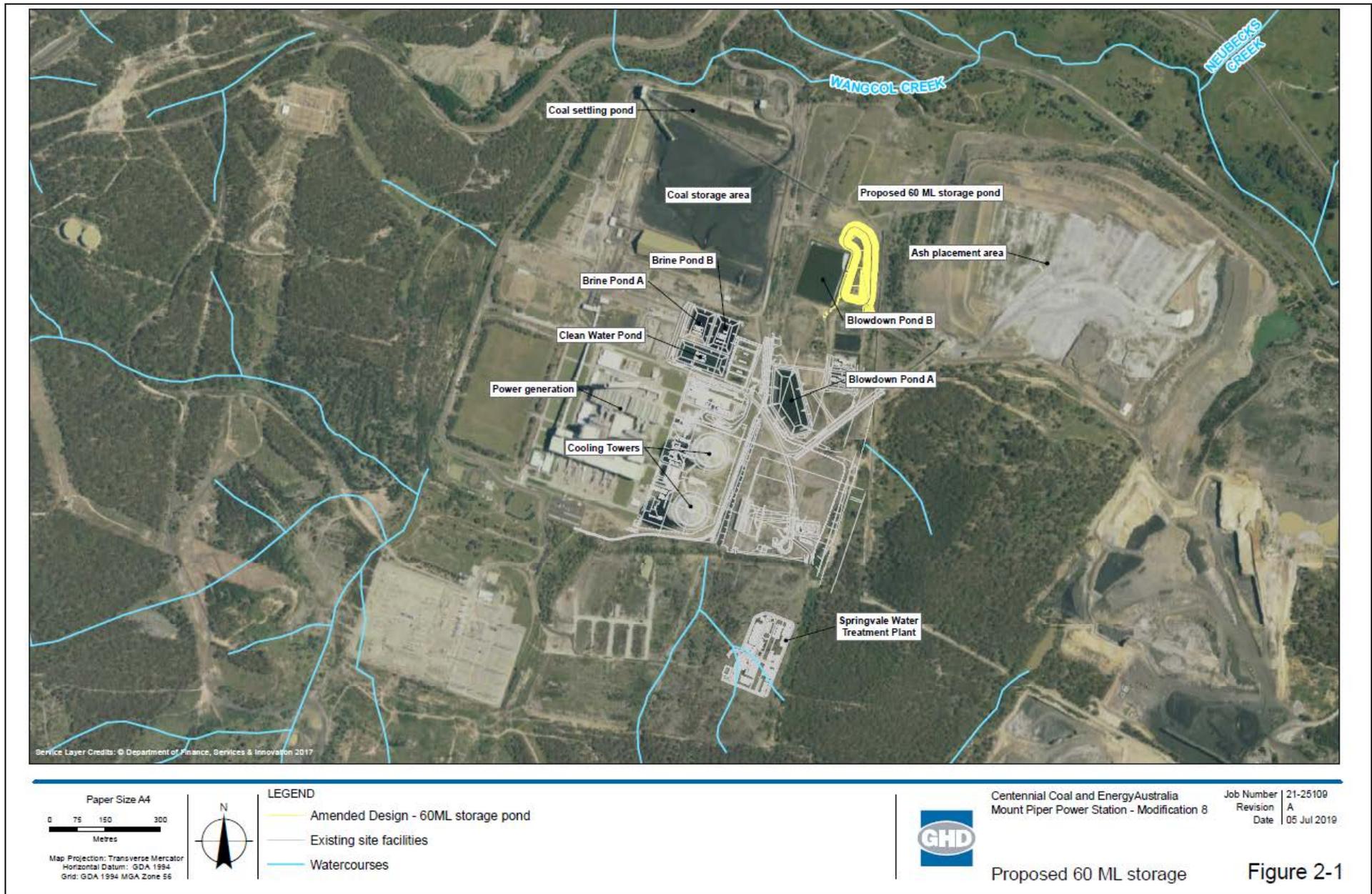


Figure 1 | Location of proposed new 60 ML storage pond (highlighted in yellow)

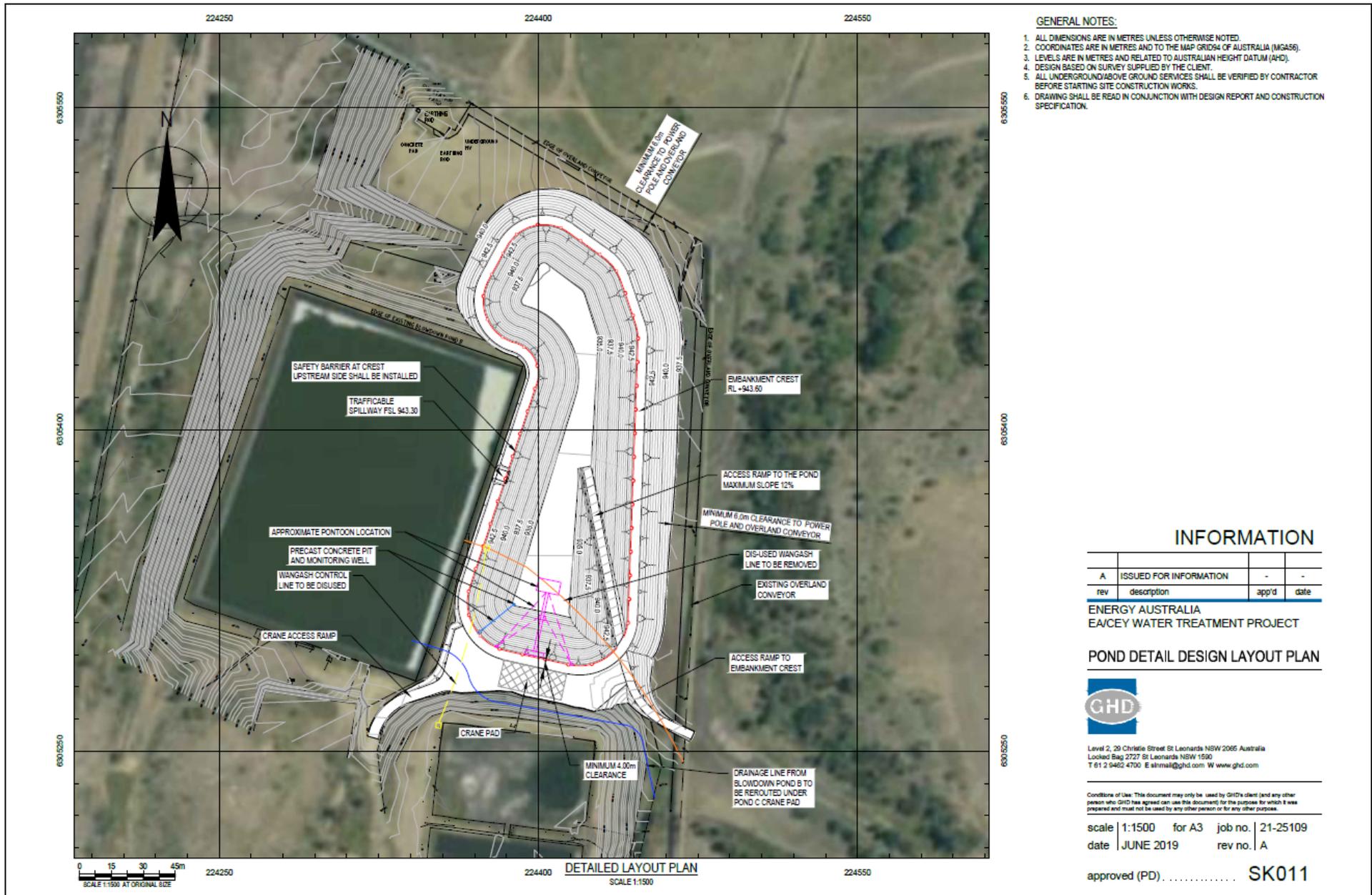


Figure 2 | Proposed new 60 ML storage pond layout plan



3. Statutory Context

3.1 Scope of Modification

The development consent was originally granted under section 101 of the EP&A Act. Section 4.55 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) allows for a development consent granted in this way to be modified by the consent authority that granted the original consent.

Based on its assessment, the Department considers that the proposed modification is within the scope of section 4.55(1A) of the EP&A Act and may be determined accordingly, as:

- there are no proposed changes to the power generating capacity or the intended use of the site;
- the proposed pond would be located in an already disturbed area, would improve the water management system and reduce the potential for discharge from the site; and
- the Department is satisfied that the proposed modification is of minimal environmental impact and is substantially the same development as the development for which the consent was originally granted.

3.2 Consent Authority

The Minister for Planning and Public Spaces is the consent authority for the modification application. However, under the Minister's delegation dated 11 October 2017, the Director, Resource Assessments may determine the modification application, as there were no public objections, no reportable political donations were made, and Lithgow City Council (Council) did not object to the proposal.



4. Engagement

4.1 Department's Engagement

As the proposed is a section 4.55(1A) modification application with minimal environmental impacts, the application was not placed on public exhibition. However, the Department made the Modification Report available on its website from 23 May 2019.

The modification application was also referred to the Environment Protection Authority (EPA), WaterNSW and Council for comment. The EPA, WaterNSW and Council provided advice on the modification (**Appendix B**).

4.2 Summary of Advice

EPA supports the proposal, as it would provide additional flexibility and controls for the management of water at the power station and can be constructed and operated with minimal environmental impacts. EPA recommended that measures to control erosion and sedimentation, noise and dust during construction of the pond should be included in a Construction Environmental Management Plan (CEMP).

WaterNSW is satisfied that the proposed construction and operation of the pond is unlikely to have significant impacts on water quality.

Council did not object or provide substantive comments, except that Council's original conditions remain in the development consent.



5. Assessment

In assessing the merits of the modification application, the Department has considered the:

- existing conditions of consent;
- previous environmental assessments;
- Modification Report (**Appendix A**) and submissions from government agencies;
- relevant environmental planning instruments, policies and guidelines; and
- requirements of the EP&A Act, including the objects of the Act.

5.1 Water impacts

The proposed pond site is located on highly disturbed land within the existing surface water containment area.

The pond would be dual lined with an integrated leak detection system (including self-contained underdrainage system with water monitoring wells) to manage risk of leaks in the upper liner layer. The proposed design would provide a high level of protection to ensure there is no seepage from the pond to local groundwater and would minimise the risk of discharges outside the water management system.

The proposed location of the pond is relatively flat and therefore the risk of erosion and sediment laden run-off from construction is low. To minimise erosion, EnergyAustralia has committed to prepare and implement an Erosion & Sediment Control Plan (ESCP) in accordance with the Blue Book *'Managing Urban Stormwater: Soils and Construction Volume 1'* (Landcom, 2004), to manage any sediment laden run-off during construction of the pond.

The Department is satisfied that the construction and operation of the proposed pond would have a neutral effect on water quality, in accordance with aims of the *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*. EPA and WaterNSW also consider that the proposal is unlikely to have any significant impacts on water quality.

5.1.1 Recommended conditions

The Department has recommended that the existing Water Management Plan (WMP) for the site is updated to include mitigation, management and monitoring for the new storage pond.

The Department has recommended a condition of consent requiring a CEMP, which includes an ESCP.

5.2 Other impacts

The Department's assessment of other impacts associated with the proposed modification is summarised in **Table 2**.

Table 2 | Assessment Summary

Issue	Findings	Recommended Condition
Land Contamination	<ul style="list-style-type: none">• Previous contamination investigations in the vicinity of the proposed pond site indicated no field indicators of contamination and laboratory analytical results were all below the adopted health and environmental screening values in the study.	<ul style="list-style-type: none">• Prepare an unexpected finds protocol for contamination as part of the CEMP.

Issue	Findings	Recommended Condition
	<ul style="list-style-type: none"> EnergyAustralia has committed to prepare an unexpected finds protocol for identification of contamination during the construction phase of the project. The Department is satisfied that soil contamination would be unlikely to result from the proposal and if contamination is encountered it would be adequately managed under an unexpected finds protocol for contamination. 	
Heritage impacts	<ul style="list-style-type: none"> Aboriginal and cultural heritage investigations of the area surrounding the existing pond network at the power station were undertaken as part of the Springvale WTP Environmental Impact Statement (EIS). The investigations found no Aboriginal or historic heritage items likely to be present at the site. A review of the NSW Office of Environment and Heritage Aboriginal Heritage Information Management System (AHIMS) database confirmed that there are no recorded Aboriginal sites or places in proximity to the proposed construction footprint. The Department is therefore satisfied that the proposed modification would not have a significant impact on the Aboriginal Cultural Heritage values of the locality or region. 	<ul style="list-style-type: none"> No additional conditions are recommended.
Noise and vibration impacts	<ul style="list-style-type: none"> The nearest sensitive residential receivers to the proposed storage pond are located approximately 2.4 km to the east in Blackmans Flat and 3.5 km to the west in Portland. A Construction Noise Assessment for the Springvale WTP EIS demonstrated that construction noise would not be audible at any nearby receivers. EPA recommended that construction noise minimisation measures are included in a CEMP. 	<ul style="list-style-type: none"> Include construction noise management measures as part of the CEMP.
Air quality impacts	<ul style="list-style-type: none"> Based on the proposed location of the pond (which would be isolated from receivers) the relatively minor nature of the proposed earthworks and the short construction period, the EPA and the Department are satisfied that air quality impacts would not be significant. EPA recommended that air quality measures be included in a CEMP. 	<ul style="list-style-type: none"> Include construction air quality management measures as part of the CEMP.
Biodiversity impacts	<ul style="list-style-type: none"> The proposed location of the storage pond is within a highly disturbed and cleared area within the power station site and would not require clearing of any native vegetation. The Department has considered section 7.17 of the <i>Biodiversity Conservation Act 2016</i> and is satisfied that a biodiversity development assessment report (BDAR) is not required to be submitted with this application as the modification will not increase the impacts on biodiversity values on the site. 	<ul style="list-style-type: none"> No additional conditions are recommended.
Traffic impacts	<ul style="list-style-type: none"> Construction traffic investigations in the Springvale WTP EIS demonstrated that additional construction traffic movements would have a negligible impact on traffic conditions and that the road network has adequate capacity to accommodate predicted vehicle movements. 	<ul style="list-style-type: none"> Include construction traffic management measures as part of the CEMP.

Issue	Findings	Recommended Condition
	<ul style="list-style-type: none"> Based on the limited nature of the construction works and the short construction period, the Department considers that the proposed modification would likely have a negligible impact on the capacity or safety of the road network. Nevertheless, any construction traffic impacts would be managed as part of the CEMP. 	



6. Evaluation

The Department has assessed the merits of the proposed modification in accordance with the relevant requirements of the EP&A Act.

The Department’s assessment has found that the proposed pond would provide additional storage capacity to improve the water management system and further minimise potential for discharge at the site. The proposal would also allow for the efficient integration of water treatment processes with the Springvale WTP.

The Department considers that the proposal would not result in any material impacts beyond those that were assessed and approved in the original consent, as the pond would be located on previously disturbed land within a controlled discharge area.

The Department has recommended a condition requiring the preparation and implementation of a CEMP to ensure that potential construction impacts are appropriately managed. The Department has also recommended a condition requiring the existing WMP for the power station be updated to include mitigation, management and monitoring of the new pond.

Consequently, the Department considers that the proposed modification is in the public interest and should be approved, subject to strict conditions.

The Department has also recommended administrative updates to the consent, including updating references Government agency names and references to relevant legislation.

The Department has prepared a recommended Notice of Modification (see **Appendix C**) and consolidated version of the development consent, as modified (see **Appendix D**).

EnergyAustralia has reviewed the Notice of Modification and has accepted the conditions.



7. Recommendation

It is recommended that the Director, Resource Assessments, as delegate of the Minister for Planning and Public Spaces:

- **consider** the findings and recommendations of this report;
- **accept and adopt** all of the findings and recommendations in this report as the reasons for making the decision to grant approval to the modification application;
- **agree to modify** the consent for the Mount Piper Power Station (DA80/10060); and
- **sign** the attached Notice of Modification (**Appendix C**).

Recommended by:

 22/7/19

Philip Nevill

Environmental Assessment Officer
Resource Assessments

Recommended by:

 22/7/19

Paul Freeman

Team Leader
Resource Assessments



8. Determination

The recommendation is: **Adopted / Not adopted** by:

 24/7/19

Steve O'Donoghue

Director
Resource Assessments
as delegate of the Minister for Planning and Public Spaces



Appendices

Appendix A1 – Modification Report

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/12716>

Appendix A2 – Amendment Report

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/12716>

Appendix B – Agency Advice

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/12716>

Appendix C – Notice of Modification

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/12716>

Appendix D – Consolidated Consent

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/12716>