



Springvale Water Treatment Project

Modification 5 Modification Report

January 2020



Centennial Coal

Executive summary

Springvale Coal is seeking a modification to the Springvale Water Treatment Project (WTP) development consent for an extension to the time period for operation of the interim water management strategy approved as part of the project.

The Springvale WTP involves the transfer of water from existing dewatering facilities on the Newnes Plateau for treatment and reuse at the Mount Piper Power Station (MPPS). The project was initiated to improve environmental outcomes for the Cocks River catchment and meet the requirements of the Springvale Mine Extension Project (MEP) consent including elimination of mine water discharges from LDP009 to the Cocks River catchment by June 30 2019.

Development of the Springvale WTP has been undertaken pursuant to an expedited timetable in order to meet the requirements of the Springvale MEP consent with respect to mine water discharge, particularly those water management performance measures set for mine water discharge.

The interim water management strategy approved as Modification 3 and Modification 4 to SSD 7792, provided for the management of up to 5760 ML of mine water through filtration and storage in Thompsons Creek Reservoir until 31 January 2020. The strategy was required to allow the progressive commissioning of the desalination units concurrently with the required closure of LDP009 in accordance with the Springvale Mine Extension Project (SSD 5594) consent.

Modification 5 will extend the permissible time period for operation of the interim water management strategy under the consent from 31 January 2020 to the 30 June 2020. There will be no change to the filtered water transfer volume of 5760 ML approved for the project.

The water quality modelling undertaken for the project on the previously approved Modification 4 demonstrates a negligible or neutral effect upon water quality in the catchment by the transfer of filtered mine water to Thompsons Creek Reservoir. Water will be temporarily stored within reservoir, which is managed predominantly as an offline storage to provide water security to MPPS and will be reused in the power station operations.

Geochemical modelling demonstrated that exceedance of relevant guideline values is predominantly as a result of pre-existing water quality within the reservoir, rather than from the proposed activity. The filtered mine water transfers will not result in any new exceedance of guideline values, although there is predicted to be a minor increase in EC. The water will be stored for subsequent reuse within MPPS during periods of high water demand and is not predicted to result in toxicity to fish species or effect the use of the reservoir by recreational fishers.

The potential increases in EC associated with environmental flow releases from Thompsons Creek Reservoir to Pipers Flat Creek and the wider Cocks River catchment are considered negligible.

The extension of the permissible time for filtered water transfers proposed as part of Modification 5 to SSD 7592 will not increase the potential impacts associated with the project and is expected to fall with the conservative modelling assumptions used to assess previous modifications.

The extension of time for the Interim Water Management Strategy will require no physical works to implement and potential for environmental impacts will fall within the extent of impacts predicted for the previously approved modifications.

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1. Introduction

1.1 Background

The Springvale Water Treatment Project (WTP) involves the transfer of water from existing mine dewatering facilities on the Newnes Plateau to a new water treatment facility at the Mount Piper Power Station (MPPS) to allow beneficial reuse of the mine water. The Springvale WTP was initiated to improve the environmental outcomes and water quality in the Upper Cocks River catchment and achieve compliance with the water management performance measures required under the Springvale Mine Extension Project (MEP) development consent.

The Springvale WTP was approved as State Significant Development (SSD) 7592 on 19 June 2017. Development consent was granted based upon the development described in the Springvale WTP Environmental Impact Statement (EIS), the Response to Submissions and the Amendment to Development Application. The project has been previously modified on four occasions including amendments to the water treatment facility design, construction methodology and implementation of an interim water management strategy to provide for an extended commissioning period for the water treatment plant.

The interim water management strategy was initially approved as Modification 3 to SSD 7792 in May 2019 and provided for the management of up to 2700 ML of mine water through filtration and storage in Thompsons Creek Reservoir until 31 January 2020. Modification 4 to SSD 7792 was approved on 5 November 2019 and authorised the transfer of an additional 3060 ML of filtered water to Thompsons Creek Reservoir as part of the Interim Water Management Strategy.

The strategy is required to allow the progressive commissioning of the desalination units and brine management system concurrently with the required closure of LDP009 in accordance with the Springvale Mine Extension Project (SSD 5594) consent. Construction and commissioning of the water treatment plant was predicted to be complete by 31 January 2020 allowing for full operation of the project.

Construction of the water treatment facility is substantially complete and the site has been undergoing progressive commissioning since September 2019. The desalination units have been operating consistently at 24 ML/day during the commissioning period, however acceptance testing of the brine crystalliser and mine water buffer pond and testing of the full operating capacity of 42 ML/day approved for the operation of the plant has yet to be undertaken.

Major bushfires impacted the Lithgow region of NSW in December 2019, resulting in substantial impacts to Springvale Mine and Angus Place Colliery power supply, communications and dewatering infrastructure on the Newnes Plateau. They also required evacuations of workforce from the MPPS and Springvale WTP sites and widespread damage to surrounding areas.

The impact of the fires has resulted in delays to the commissioning of the water treatment plant as limited water has been able to be extracted from the mines dewatering facilities and the underground water storages at both Springvale Mine and Angus Place Colliery are now reaching critical capacity.

The interim water management strategy allows for the transfer of up to 5760 ML of filtered water to Thompsons Creek Reservoir to 31st of January 2020. To date, only 2,220ML or 38% of the approved transfer volume of mine water has been pumped to Thompsons Creek Reservoir storage together with 1,215ML of treated water since the commencement of commissioning in September 2019.

Springvale Coal proposes to submit Modification 5 to SSD 7592 to extend the permissible time period for operation of the interim water management strategy under the consent from 31 January 2020 to the 30 June 2020.

The extension of time is required as a contingency measure during commissioning and optimisation of the water treatment plant at the maximum approved flows of 42 ML/day to allow urgent dewatering of the underground mine workings. There will be no change to the filtered water transfer volume of 5760 ML approved by Modification 3 and Modification 4 and the project will remain substantially the same development as originally approved.

The extension of time for the Interim Water Management Strategy will require no physical works to implement and potential for environmental impacts will fall within the extent of impacts predicted for the previously approved modifications. Initial correspondence with the Department of Planning, Industry and Environment (DPI&E) indicates the modification is suitable to be assessed under Section 4.55(1a) of the Environmental Planning and Assessment Act, 1979 (EP&A Act).

1.2 Purpose of this report

This modification report has been prepared to support the application to modify development consents SSD 7592 pursuant to Section 4.55 (1A) of the EP&A Act. The report describes the need for the modification and assesses the potential environmental impacts associated with the extension of the interim water management strategy.

1.3 The applicant

Springvale Mine is owned by Centennial Springvale Pty Limited (50%) and Springvale SK Kores Pty Limited (50%) as participants in the Springvale unincorporated joint venture. Springvale Mine is operated by Springvale Coal for and on behalf of the joint venture participants.

Springvale Coal is the applicant for both the Springvale WTP and Springvale MEP.

The Springvale Water Treatment Project is owned by MP Water Pty Ltd as trustee for the MP Water Trust (MP Water). MP Water has appointed Veolia Australia & New Zealand (Veolia), as the construction and operations contractor to manage the Springvale Water Treatment Project (Project) for MP Water. MP Water has contracted with Springvale SK Kores Pty Limited, Centennial Springvale Pty Limited (together, the Springvale Joint Venturers) and EnergyAustralia NSW Pty Ltd (EnergyAustralia) to provide the water treatment services which are documented under a Water Treatment Services Contract entered into between the parties.

The relevant postal address for Springvale Coal is:

Springvale Coal Pty Limited
Level 18
1 Market St
Sydney NSW 2000

1.4 Stakeholder consultation

Consultation with relevant government agencies has been undertaken during development of the modification report for extension of time for the interim water management strategy.

An initial briefing was provided to the DPI&E on 06 January 2020 to provide an update on the impact of the NSW bushfires on the delivery of the water treatment facility, an overview of the proposed time extension and discussion on the likely impacts of the strategy and the required statutory approval pathway.

A briefing letter and follow-up phone calls have also been undertaken with WaterNSW, the NSW Environment Protection Authority (EPA), Lithgow City Council and the Department of Primary Industries (Fisheries), Colong Foundation and the Blue Mountains Conservation Society.

Through these conversations all have supported this modification.

A copy of correspondence received to date is included in Appendix A.

1.5 Statutory approval framework

1.5.1 Consent modification

Section 4.55 of the EP&A Act contains three modification powers, one of which is the power contained in s 4.55(1A) of the EP&A Act to enable the relevant consent authority to approve a modification application in circumstances where the modification would, if approved:

- (a) involve "minimal environmental impact"; and
- (b) result in "substantially the same" development as that originally approved, being carried out.

A modification application must include or be accompanied by the information that is contained in Clause 115 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).

The focus of the environmental assessment for the interim water management strategy is related to the assessment of potential impacts upon water quality within Thompsons Creek Reservoir and the broader Cocks River Catchment.

The requirements of Clause 115 of the EP&A Regulation and where they are addressed in this document are outlined in Table 1.1.

Table 1-1 Requirements for application for modification of development consent

Requirement	Response/reference
(1) An application for modification of a development consent under section 4.55(1), (1A) or (2) or 4.56 (1) of the Act must contain the following information:	
(a) the name and address of the applicant,	Section 1.3
(b) a description of the development to be carried out under the consent (as previously modified),	Section 2.1
(c) the address, and formal particulars of title, of the land on which the development is to be carried out,	Section 2.2
(d) a description of the proposed modification to the development consent,	Section 4
(e) a statement that indicates either: (i) that the modification is merely intended to correct a minor error, misdescription or miscalculation, or (ii) that the modification is intended to have some other effect, as specified in the statement,	Section 1.5.2
(f) a description of the expected impacts of the modification,	Section 5
(g) an undertaking to the effect that the development (as to be modified) will remain substantially the same as the development that was originally approved,	Section 1.5.2
(g1) in the case of an application that is accompanied by a biodiversity development assessment report, the reasonable steps taken to obtain the like-for-like biodiversity credits required to be retired under the report to offset the residual impacts on biodiversity values if different	Not applicable

Requirement	Response/reference
biodiversity credits are proposed to be used as offsets in accordance with the variation rules under the Biodiversity Conservation Act 2016,	
(h) if the applicant is not the owner of the land, a statement signed by the owner of the land to the effect that the owner consents to the making of the application (except where the application for the consent the subject of the modification was made, or could have been made, without the consent of the owner),	Not applicable – public notification development in accordance with Clause 49(2)(b) of the EP&A Regulation
(i) a statement as to whether the application is being made to the Court (under section 4.55) or to the consent authority (under section 4.56),	Not applicable - The application is being made to the consent authority under Section 4.55(1A)

When assessing an application under Section 4.55 for modification to consent, the consent authority is required to take into consideration the relevant matters outlined in Section 4.15 of the EP&A Act.

1.5.2 Substantially the same development

The Springvale WTP will remain substantially the same development as originally approved under SSD 7592. The proposed modification does not seek to significantly alter the nature or scale of the proposed development and will continue to facilitate the improved environmental outcomes for the Upper Cocks River catchment.

The project will continue to transfer all mine water from dewatering facilities on the Newnes Plateau to MPPS for treatment and reuse with the power stations cooling water system.

The modification involves an extension to the permissible time period for operation of the interim water management strategy approved in Modification 3 and 4 to SSD 7792. The approved strategy provided for management of up to 5760 ML of mine water to 31st of January 2020. All mine water will receive filtration for removal of solids and then transferred to Thompsons Creek Reservoir for storage and subsequent reuse within MPPS.

Modification 5 will extend the time period for operation of the interim water management strategy from 31 January 2020 to the 30 June 2020. The extension of time is required as a contingency measure during commissioning of the water treatment plant at the maximum approved flows of 42 ML/day under SSD 7592 to allow urgent dewatering of the underground mine workings.

The interim water management strategy will utilise the existing infrastructure approved for use as part of the project.

1.5.3 Drinking water catchment SEPP

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (the Sydney Drinking Water Catchment SEPP) applies to land within Sydney's Drinking Water Catchment including the Upper Cocks River system. The aims of the policy are:

- (a) to provide for healthy water catchments that will deliver high quality water while permitting development that is compatible with that goal, and
- (b) to provide that a consent authority must not grant consent to a proposed development unless it is satisfied that the proposed development will have a neutral or beneficial effect on water quality, and
- (c) to support the maintenance or achievement of the water quality objectives for the Sydney drinking water catchment.

Under clause 10 of the Sydney Drinking Water Catchment SEPP, the consent authority must “not grant consent to carrying out of development” in the drinking water catchment unless it would have a ‘neutral or beneficial effect’ on water quality (the NorBe test).

Development consent for the Springvale WTP was granted through the Planning Assessment Commission on 19 June 2017, as the project demonstrated a considerable beneficial effect to the catchment through the elimination of mine water discharges to the environment.

While the consent authority must apply the NorBe test in “*grant(ing) consent to the carrying out of development*”, section 4.55 (4) of the EP&A Act provides that the modification of a development consent is “*taken not to be the granting of development consent*”. The Sydney Drinking Water Catchment SEPP must be considered as part of the broader considerations under Section 4.15 of the EP&A Act. However, the NorBe test does not apply to a modification in the same way as it does to the granting of consent. In particular, the requirement for a consent authority to be satisfied of NorBe prior to determining a development application does not extend to the determination of a modification application.

However, it is recognised that the intent of the NorBe test is for the protection of water within the catchment and this has been considered as part of the development of the interim water management strategy forming the basis of the proposed modification. Detailed water quality modelling has been undertaken as part of the assessment, which highlights:

- that the interim water management strategy will have negligible impact upon water quality; and
- will continue to result in net beneficial effects upon the catchment during the limited period in which the interim water management strategy operates.

Modification 5 does not seek to increase the volume of 5760 ML of filtered water permitted to be transferred to Thompsons Creek Reservoir during operation of the interim water management strategy. The extension of the date is simply required as a redundancy to allow transfer of filtered water if required during commissioning of the plant at full capacity.

The environmental impact of a filtered water transfers associated with the modification are considered to fall within the conservative modelling assumptions contained in previous assessments for the Interim Water Management Strategy and will have a neutral impact upon water quality in the catchment.

2. Project Setting

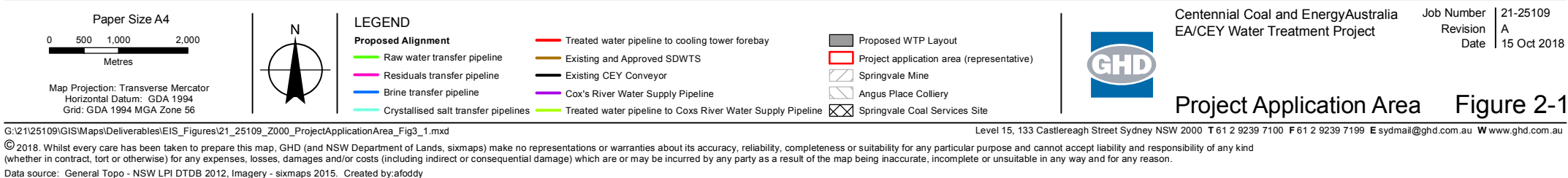
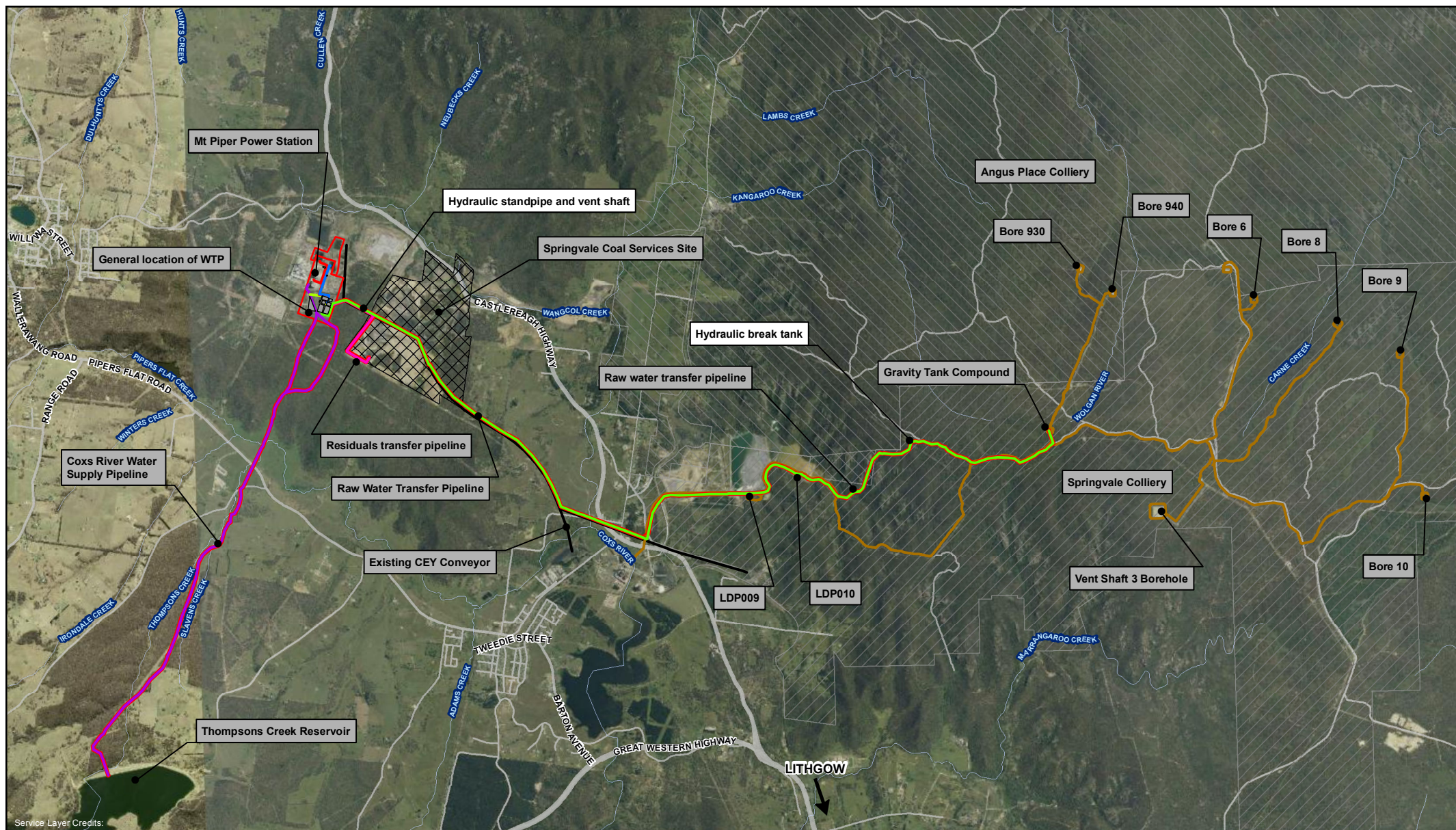
2.1 Overview

The Springvale WTP involves the transfer of water from existing dewatering facilities on the Newnes Plateau to a new water treatment plant located at MPPS. Treated water will be used as a priority for industrial reuse to meet the demand for make-up water requirements within the MPPS cooling water system. Any excess treated water will be temporarily stored within Thompsons Creek Reservoir for subsequent reuse during periods of high water demand in the MPPS cooling water system. The approved project as defined in SSD 7792 comprises the following major elements:

- A system to transfer up to 42 ML/day of dewatered mine water from the existing gravity tank forming part of the approved Springvale Delta Water Transfer Scheme (SDWTS) on the Newnes Plateau to the MPPS site.
- A new water treatment plant at MPPS incorporating desalination processes to reduce the salinity in the mine water.
- Transfer of treated water from the water treatment plant to the MPPS cooling water system to contribute to the demand for make-up water.
- Use of the existing Coxs River Water Supply pipeline to transfer excess treated water to Thompsons Creek Reservoir for storage and subsequent reuse in the cooling water system.
- Disposal of residuals from the pre-treatment process in the reject emplacement area (REA) at the neighbouring Springvale Coal Services site (part of Western Coal Services Project, SSD 5579).
- Implementation of an Optimised Pre-treatment and Unique Separation (OPUS) process including the addition of an additional reverse osmosis system and brine crystalliser to replace the use of the brine concentrators and manage salt load from the new WTP. Disposal of brine will continue in accordance with existing approvals and practices at MPPS.
- The management of up to 5760 ML of mine water at inflows through filtration and storage in Thompsons Creek Reservoir to 31 January 2020.

2.2 Site location

The Springvale WTP is located in the western coalfields of NSW near Lithgow. A gravity transfer pipeline will extend from the existing water management infrastructure on the Newnes Plateau approved under the existing Springvale MEP SSD 5594 Consent. The pipeline will transfer mine water from the existing "Gravity Tank" to the MPPS as shown on Figure 2-1.



From the gravity tank on the Newnes Plateau, the pipeline would initially follow the alignment of existing access trails and a former logging trail over the escarpment to Springvale Mines existing LDP 009 on EPL 3607. The remainder of the pipeline alignment between LDP009 and the MPPS follows existing ash pipelines, haul roads and an overland conveyor system. The pipeline will traverse a number of roads including the Castlereagh Highway, the Coxs River and a private rail spur.

The water treatment plant will be located on the MPPS site, to the south of the existing cooling water system.

The existing Coxs River Water Supply pipeline will be used to transfer excess water between MPPS and Thompsons Creek Reservoir for storage and subsequent reuse in the power station operations.

The project application area includes a buffer surrounding the proposed water treatment infrastructure at MPPS and 20 m corridor along the proposed pipeline alignments. Lot and DP's remain the same, while land holdings traversed by the project will remain consistent with the existing approval.

2.3 Coxs River Water Supply System

MPPS primarily sources cooling water makeup water from the Coxs River Water Supply System. The system comprises a number of storage dams, interconnecting pipelines and pumping stations, which were established to provide water for local power station operations as shown on Figure 2-2.

Major water storages include:

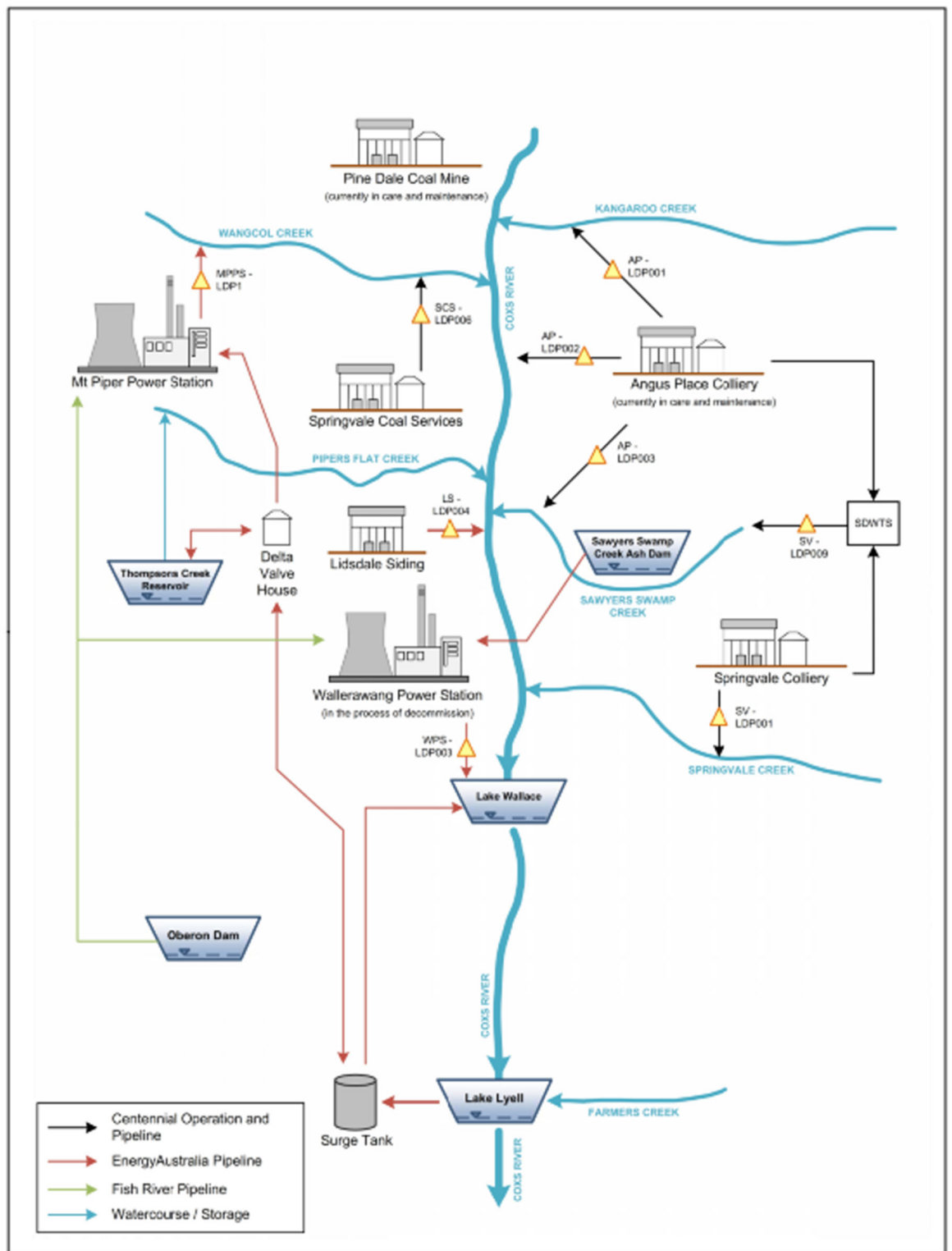
- Lake Wallace (Wallerawang Reservoir) with a capacity of around 4,300 ML
- Lake Lyell with a capacity of around 32,000 ML
- Thompsons Creek Reservoir with a capacity about 27,500 ML

MPPS draws water from Lake Lyell, which is either pumped directly to the power station cooling water system or directed into Thompsons Creek Reservoir as an off-line staging dam. A Water Access Licence Authorises up to 23,000 ML/year from the Coxs River System.

MPPS also has access to supplementary water from the Fish River via a limited water allocation of 8,184 ML/yr for supplementary flows from a Water NSW Licence for the Fish River Water supply.

The main function of Thompsons Creek Reservoir is to provide additional off-stream storage of water to drought proof the MPPS operations. The reservoir has a relatively small catchment area of 8.9 km² and is primarily filled by pumping from Lake Lyell via a surge tank which gravity feeds to a valve house to enable transfer to either Thompsons Creek Reservoir or directly to MPPS.

The full storage level (FSL) at the reservoir is set at 1,033 m AHD, which is 0.3 m below the invert level of the spillway to allow the reservoir to hold any catchment run-off without spilling. The reservoir is typically operated at between 0.4 m and 1.4 m below the FSL (between 1,032.6 m AHD and 1031.6 m AHD). The operating levels are based upon catchment rainfall and management requirements, in addition to safety freeboard requirements between the FSL level and spillway crest.



Centennial Coal and EnergyAustralia
EA/CEY Water Treatment Project

Job Number 21-25109
Revision Date 10 Aug 2016

Coxs River water supply
system

Figure 2.2

N:\AU\Sydney\Projects\21-25109\GIS\Maps\Deliverables\21_25109_21021_ExistingWaterManagement.mxd Level 15, 133 Castlemagh Street Sydney NSW 2000 T 61 2 9239 7100 F 61 2 9239 7199 E sydney@ghd.com.au W www.ghd.com.au

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Figure 2-2 Coxs River water supply system

An 11.6 m submerged inlet/outlet structure is located within the centre of the reservoir and serves as an inlet when the reservoir is being filled and an outlet when water is being drawn from the reservoir to MPPS.

Thompsons Creek Reservoir also has an outlet to Pipers Flat Creek, via a valve system on the main Cocks River Water Supply line between the reservoir and MPPS.

It is noted that the water that is stored in the Thompsons Creek Reservoir will still be utilised to maintain environmental flow releases from the Thompsons Creek Reservoir set by the water supply work approval 10CA117220 including:

- (a) environmental flow releases equal to or greater than 0.8 ML/day from the Thompsons Creek Reservoir between 1 September and 20 April in a given calendar year; and
- (b) environmental flow releases equal to or greater than 0.3 ML/day between 1 May and 31 August in a given calendar year.

Water quality within Thompsons Creek Reservoir has been historically influenced by mine water discharges from LDP009 in the Upper Cocks River catchment. The mine water discharges have now ceased and groundwater inflow into Springvale Mine is currently transferred to the new water treatment plant.

Thompsons Creek Reservoir arguably offers some of the best lake based fishing for trophy sized rainbow and brown trout in NSW. It is managed as a trophy fishery by the Department of Primary Industries under an access agreement with EnergyAustralia.

2.4 Water treatment facility transfer system

The Springvale WTP involves the transfer of any excess treated water to Thompsons Creek Reservoir for storage and subsequent reuse during periods of high power station water demands. The project will utilise the existing Cocks River Water Supply system infrastructure, including the existing valve house to regulate flows between Lake Lyell, Thompsons Creek Reservoir and the MPPS.

The existing water supply system, along with its relationship to the Springvale WTP (shown as orange in Figure 2-3) involves a closed loop for reuse of treated water.

The interim water management strategy approved as part of Modification 4 to SSD7592 included transfer of a total of 5760 ML of filtered mine water inflows by 31 January 2020 to allow the progressive commissioning of the water treatment facility.

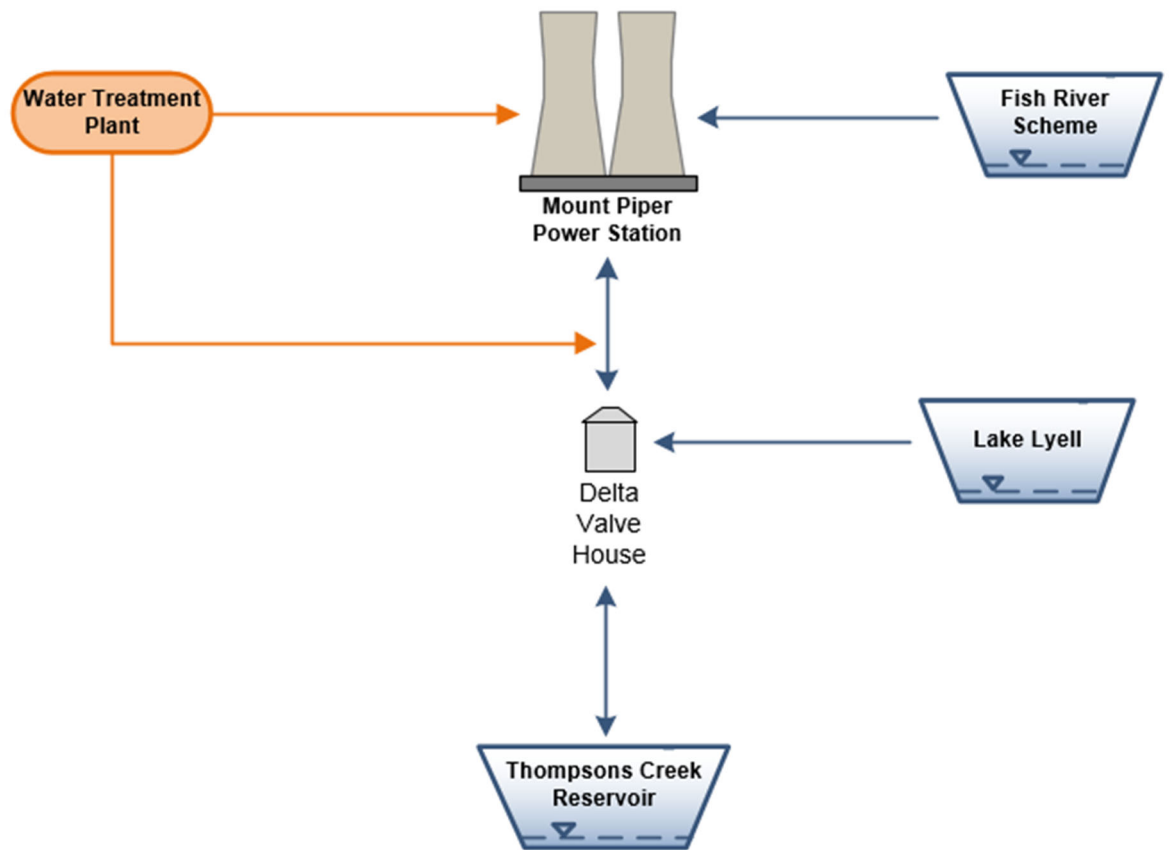


Figure 2-3 Water supply system for Thompsons Creek Reservoir

3. Need for the modification

3.1 Underground mine water management

The Springvale Mine Extension Project was approved as a State Significant Development (SSD) under Section 89E of the EP&A Act in September 2015. SSD_5594 provided consent for the continued operation of the Springvale Mine and is subject to a number of specific conditions including the requirement to cease all discharges from LDP009 to the Cocks River catchment by 1 July 2019.

Springvale Coal is committed to zero mine water discharges from LDP009 to the Cocks River catchment and have ceased all discharges. There are currently no viable emergency release discharge locations available under the consent and the use of any existing LDPs (including LDP009) is not a preferred scenario and would likely trigger the need to modify the Springvale MEP consent.

The Springvale WTP (SSD 7592) was developed to achieve compliance with the required performance measures and to improve environmental outcomes for the Upper Cocks River catchment.

The interim water management strategy was required to provide a contingency for delay in commissioning of the Springvale Water Treatment Plant by the time mine water discharges were required to cease through LDP009. The strategy approved as part of Modification 3 and 4 to SSD7592 involves:

- Transfer of mine water from dewatering facilities on Newnes Plateau to the new water treatment facility at MPPS
- Pre-treatment of incoming mine water including filtration to remove solids
- Bypass of desalination system during the progressive commissioning of reverse osmosis treatment modules
- Transfer up to 5760 ML of filtered mine water at up to 36 ML/day to Thompsons Creek Reservoir until 31 January 2020
- Storage of water with Thompsons Creek Reservoir for subsequent reuse within MPPS.

The interim water management strategy approved in Modification 3 and 4 to SSD 7792 allows for the transfer of up to 5760 ML of filtered water to Thompsons Creek Reservoir to 31st of January 2020. To date, only 2,220 ML or 38% of the approved transfer volume of mine water has been directed to Thompsons Creek Reservoir storage with 1,215 ML of treated water assisting dilution since September 2019.

An extension to the permissible time period for operation of the interim water management strategy is required from 31 January 2020 to 30 June 2020. The extension of time is required as a contingency measure during final commissioning and testing of the water treatment plant at the maximum flows of 42 ML/day to allow urgent dewatering of the underground mine workings following damage by recent bushfires.

3.2 Bushfire delays

Major bushfires impacted the Springvale Mine and Angus Place Colliery dewatering infrastructure on the Newnes Plateau during December 2019. The bushfires also caused significant impacts to the mines power supplies and communications infrastructure. From 16 December 2019, limited water has been able to be extracted from the Springvale Mine or Angus Place Colliery with only one of three dewatering bores (Bore 8) able to resume operation with

limited capacity of 7.5ML/day from 24 December. The restriction of dewatering operations has resulted in water storage areas within the Springvale Mine and Angus Place Colliery reaching critical safety levels.

Exacerbating the water storage issues within the Springvale Mine and Angus Place Colliery is the cessation of mine water discharges from the Angus Place Colliery Licenced Discharge Point LDP002 in December 2019 following the decommissioning of the temporary reverse osmosis plant. This has resulted in an additional 10ML/day of mine water required to be treated by the Springvale WTP from January 2020.

The bushfires on the Newnes Plateau also posed a significant risk to contractors working on the Springvale Water Treatment Plant. As a safety precaution on the advice of the Rural Fire Service, the contracting workforce was stood down and evacuated from MPPS and the water treatment plant site. This safety precaution has resulted in delays to the commissioning of the brine crystalliser and mine water buffer pond for the water treatment plant.

Works to recover full dewatering capacity at the Springvale Mine and Angus Place Colliery is ongoing with all pumps currently scheduled to be operational by 15 January 2020. In order to recover capacity in the water storage areas of the Springvale Mine and Angus Place Colliery, the Springvale WTP will be required to operate at the maximum approved capacity of 42 ML/day.

As the water treatment plant has not yet been tested at the 42 ML/day capacity, there is a risk that the system may not be able to manage the full capacity load. As the underground water storage areas within the Springvale Mine and Angus Place Colliery are at capacity, a further contingency measure is required to manage any partially treated mine water, should any issues arise during continuous testing of operations of the water treatment facility at its design capacity of 42 ML/day. Practical completion of the Brine Water Buffer Ponds has been delayed as a result of the fires. Springvale Coal is therefore seeking to continue to manage partially treated mine water by storing it within Thompsons Creek Reservoir only if required up to 30 June, 2020.

4. Proposed modification

4.1 Overview of proposed change

An extension to the approved period of operation of the interim water management strategy is required to provide a contingency during commissioning of the water treatment plant at the maximum flows of 42 ML/day to allow urgent dewatering of the underground mine workings following damage by recent fires.

The project will remain substantially in accordance with the development as described in the Springvale WTP EIS and subsequent modifications. An outline of key changes proposed to the approved development are presented in Table 4-1.

Table 4-1 Springvale WTP amendments

Approved development	Proposed amendments
▪ Transfer of up to 5,760 ML of filtered mine water to Thompsons Creek Reservoir until 31 January, 2020 ▪ Mine water transfer rate of up to 24 ML/day from 10 October to 31 December 2019 and up to 36 ML/day from 1 January to 31 January, 2020	▪ Transfer of up to 5,760 ML of filtered mine water to Thompsons Creek Reservoir until 30 June, 2020 ▪ Mine water transfer rate of up to 42 ML/day from 1 January 2020

4.2 Interim water management strategy

4.2.1 Mine water transfer system

Water will be transferred from dewatering facilities on the Newnes Plateau to the new water treatment facility at MPPS in accordance with the existing Springvale WTP consent. The transfer pipeline extends from the gravity tank forming part of the SDWTS to the inlet works at the water treatment plant.

Flows will be transferred at up to 42 ML/day in accordance with the limits in the consent.

4.2.2 Treatment system

The approved project includes both pre-treatment filtration for solids removal and reverse osmosis treatment units for desalination of the incoming mine water. All incoming mine water will receive pre-treatment filtration for solids removal referred to as filtered water.

For the purpose of the modification, it is assumed that incoming mine water can bypass the desalination units and be directed to Thompsons Creek Reservoir if required.

The proposed strategy will continue to transfer a maximum of 5720 ML of filtered water to Thompsons Creek Reservoir with an extension of the time period until 30 June 2020.

4.2.3 Thompsons Creek Reservoir transfer

Water will be transferred to the reservoir using the existing Coxs River Water Supply Pipeline and associated infrastructure approved for use within the project. Water levels within the reservoir will be managed to ensure there is sufficient capacity beneath the full storage level to accommodate the mine water transfers.

Both the fully treated water and filtered water when required, will mix with existing water stored within the reservoir, which is drawn predominantly from Lake Lyell and will be used to supplement the cooling water make-up requirements at MPPS during periods of high water

demand. When the power station is operating at full capacity, up to 54 ML/day of make-up water is required. This operational scenario allows for excess water stored in Thompsons Creek Reservoir to be effectively reused in accordance with current practices.

5. Environmental assessment

5.1 Introduction

The interim water management strategy utilises existing infrastructure approved for use as part of the project. The environmental assessment has therefore been targeted towards the potential impacts to water quality associated with filtered mine water transferred to Thompsons Creek Reservoir.

A detailed water resources assessment was undertaken to assess the likely impacts of the interim water management strategy as part of Modification 3 and 4 to SSD 7592. The assessment utilised two modelling approaches including geochemical modelling to assess the potential change in water quality within Thompsons Creek Reservoir and a water and salt balance model to assess flow volumes and electrical conductivities within the broader Coss River catchment.

Modification 5 does not seek to increase the volume for 5760 ML of filtered water permitted to be transferred to Thompsons Creek Reservoir during the extended operation of the interim water management strategy. This assessment is therefore based upon a review of the previous water modelling results in the context of the extension in timeframe for potential filtered water transfers to Thompsons Creek Reservoir.

Consideration of NorBe has also been undertaken as part of the assessment.

There will be no physical works required as part of the proposed modification. There will be no impacts associated with construction activities and operational impacts associated with noise, air quality and visual amenity are consistent with the existing development. A biodiversity assessment report waiver has been completed as part of this assessment and is included as Appendix B.

5.2 Water Resources

5.2.1 Geochemical modelling

Geochemical modelling was used to assess the impact of the filtered mine water transfers on water quality in the immediate catchment of Thompsons Creek Reservoir using the PHREEQC geochemical modelling program. The modelling was used to indicate the concentration of dissolved solids that would be likely to occur by the mixing of the filtered mine water with existing water within Thompsons Creek Reservoir (TCR).

The results of the geochemical modelling were assessed against the relevant default guideline values (DGVs) from the Australia and New Zealand Water Quality Guidelines (ANZG 2018) for 95% species protection of aquatic ecosystems. It is noted that, as of August 2019, very few applicable DGVs for toxicants have changed in ANZG (2018) from those reported in ANZECC & ARMCANZ (2000).

Water quality

The results of the modelling of water quality are presented in Table 5-1 along with the 95th percentile water quality data for Thompsons Creek Reservoir. This shows that the EC and the phosphate concentration predicted by the model exceeded the relevant DGVs. However, neither of these exceedances was as a result of the mine water transfer, as the Thompsons Creek Reservoir (TCR) 95th percentile water quality exceeded the DGVs for the same parameters.

Table 5-1 Water quality modelling results

Parameter	Units	DGV	TCR 95 %ile	MOD3 modelling results	Mod 4 Modelled result
pH	pH units	6.5-8.0	8.60	8.18	7.97
EC	µS/cm	350	641	681	741
Bicarbonate alkalinity as CaCO ₃	mg/L	NA	153	207	261
Sulfate as SO ₄	mg/L	NA	124	113	102
Chloride	mg/L	NA	20	18	17
Calcium	mg/L	NA	18	16	14
Magnesium	mg/L	NA	10	9	8
Sodium	mg/L	NA	97	117	138
Potassium	mg/L	NA	9	9	8
Aluminium	mg/L	0.055	0.012	0.012	<0.001
Arsenic	mg/L	0.013	0.0008	0.002	0.003
Cadmium	mg/L	0.0002	0.00005	0.00005	0.0001
Copper	mg/L	0.0014	0.0009	0.0009	<0.001
Cobalt	mg/L	NA	0.0005	0.0009	0.0009
Nickel	mg/L	0.011	0.002	0.002	0.002
Zinc	mg/L	0.008	0.0025	0.004	0.005
Iron	mg/L	NA	0.011	0.017	<0.001
Boron	mg/L	0.370	0.11	0.11	0.10
Manganese	mg/L	1.900	0.003	0.004	<0.001
Lead	mg/L	0.0034	0.0009	0.0009	0.001
Mercury	mg/L	0.0006	0.00005	0.00009	0.0001
Hexavalent chromium	mg/L	0.001	0.001*	0.0009	0.0009
Selenium	mg/L	0.011	0.0001	0.001	0.001
Phosphate as P	mg/L	0.005	0.01	0.009	0.008
Ammonia as N	mg/L	0.900	0.02	<0.001	<0.001

Exceedances of the DGVs are indicated in **orange bold**.

* Result is for total chromium (unspeciated).

The modelling is considered conservative as it assumed instantaneous mixing of the full volume of filtered water transfers for each modification (2700 ML for Modification 3 and 3060 ML for Modification 4) with the 95th percentile water quality monitoring results in Thompsons Creek Reservoir. In practice filtered water transfers occur progressively over a period of months and water quality within Thompsons Creek Reservoir is also influenced by other inputs such as transfers of treated water, catchment run-off and pumping from Lake Lyell.

The geochemical modelling indicates the potential for a minor increase in EC (40 µS/cm) within Thompsons Creek Reservoir as a result of Modification 3 and further increase in EC (60 µS/cm) associated with filtered water transfer volumes proposed as part of Modification 4. The increased EC is largely due to higher bicarbonate and sodium concentrations in the mine water.

The geochemical modelling indicates improvements in both pH and Phosphate as a result of the filtered water transfer with the results closer to or meeting DGVs in comparison to both existing 95th percentile reservoir water quality and the modelled results for the conclusion of the Modification 3 transfers. The DGV exceedance for phosphate resulted from the standard LOR for the parameter exceeding the DGV and pH is predicted to fall within the DGV range of 6.5 to 8 pH units based upon the Modification 4 filtered water transfer volumes.

Approximately 38% or 2,200 ML of the approved transfer volume of filtered water has been pumped to Thompsons Creek Reservoir to date along with 1,215 ML of fully treated water since the commencement of commissioning in mid September 2019.

Transfer of treated water with an average EC of around 450 $\mu\text{S}/\text{cm}$ will assist in diluting the existing water quality within the reservoir as demonstrated by water quality monitoring data in Thompsons Creek Reservoir undertaken by EnergyAustralia since the commencement of the interim water management scheme as shown in Figure 5-1. The data shows an initial upward trend in EC as a function of both the filtered mine water transfers and the ongoing drought conditions in the broader catchment. The trend is reversed with a slight decline in EC from mid September coinciding with the commissioning of the reverse osmosis units.

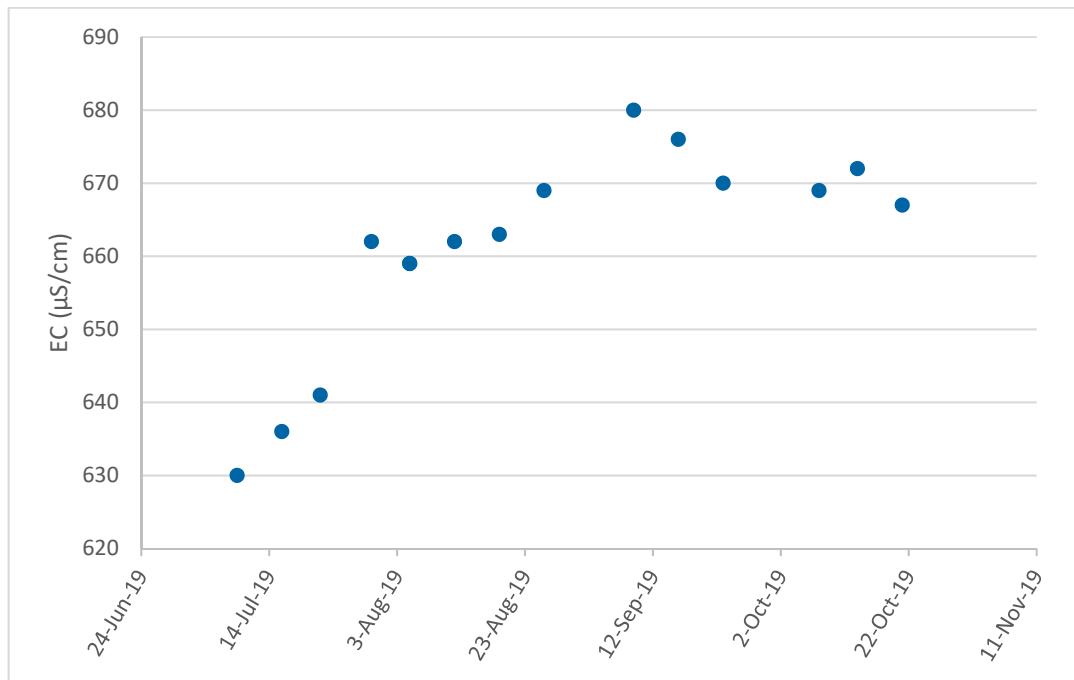


Figure 5-1 EC in TCR, July to October 2019

Modification 5 does not seek to increase the volume for 5760 ML of filtered water permitted to be transferred to Thompsons Creek Reservoir during operation of the interim water management strategy. The extension of the date to June 30, 2020 is required as a redundancy to allow transfer of filtered water if required during ongoing commissioning activities with plant operating at full capacity.

The filtered water transfers will only be required as a contingency measure if issues are encountered during commissioning and optimisation of the desalination system at 42 ML/day. The full volume of 5760 ML of filtered water transfers to Thompsons Creek Reservoir is therefore unlikely to be realised during the period up to June 30, 2020. Any deterioration in water quality in Thompsons Creek Reservoir associated with the filtered water transfers will also likely to be offset by ongoing treated water transfers during the commissioning period or any additional water pumped from Lake Lyell to maintain water levels in the reservoir during periods of high water demand at MPPS.

The environmental impact of a filtered water transfers to Thompsons Creek Reservoir associated with Modification 5 are considered to fall within the conservative modelling assumptions contained in previous assessments for the Interim Water Management Strategy.

Aquatic ecology

Three fish species have been previously identified within Thompsons Creek Reservoir during surveys undertaken as part of the original development application. These are the native

Flathead gudgeon (*Philypnodon grandiceps*), and two introduced species being Rainbow Trout (*Oncorhynchus mykiss*) and Brown Trout (*Salmo trutta*) (GHD 2016a). Only the Flathead gudgeon has a reported tolerance range for turbidity (0.7-38 NTU) (Pusey *et al.* 2004). If this range were exceeded as a result of mine water transfers, it would likely be temporary and localised around the 11.6 m submerged inlet outlet structure that is located within the centre of the reservoir. The localised potential for impact would allow any individual fish to relocate to other areas within the reservoir, which provide superior habitat, thereby preventing any significant impact upon any species within the reservoir.

Similarly, environmental tolerance for electrical conductivity range from 0 – 46,000 µS/cm for trout species and between 122.1 – 2,495 µS/cm for the Flathead gudgeon. The minor increase in electrical conductivity is not likely to impact upon the species identified within Thompsons Creek Reservoir.

It is also unlikely that the temperature of the mine water would have any adverse effect on the fish populations in Thompsons Creek Reservoir, considering the small daily volumes of the transfers (compared to the volume of the reservoir) and the central location of the transfer pipe outfall zone. This location allows for efficient mixing in the reservoir and for the relocation of any nearby fish in the unlikely event that elevated water temperatures result from the transfers.

Table 5-2 Temperature tolerances of fish

Species	Minimum (°C)	Maximum (°C)	Reference
<i>Oncorhynchus mykiss</i>	1	26	Molony (2001)
<i>Philypnodon grandiceps</i>	11	31	Pusey <i>et al.</i> (2004)
<i>Salmo trutta</i>	0	26	Molony (2001)

Recreational fishing for rainbow and brown trout is permitted from the shoreline only and the fishery is not anticipated to be impacted by the proposed modification.

As no exceedances of the relevant water quality and sediment quality guideline values are predicted as a result of the transfers, no impact on aquatic species present in the receiving environments of Thompsons Creek Reservoir, Pipers Flat Creek, and Coxs River is predicted.

5.2.2 Water and salt balance

Model results

A water and salt balance model was also used to assess the impacts of the temporary transfer of filtered mine water to Thompsons Creek Reservoir as part of Modification 3 and 4. A calibrated GoldSim model for the greater Coxs River catchment was used to compare the changes to flow rate and salinity on a daily time-step basis for the predicted filtered water transfers based upon a range of probable climatic conditions.

The extension of the timeframe for filtered water transfers to Thompsons Creek Reservoir proposed as Modification 5 is required purely to provide redundancy for any problems encountered during the final commissioning and optimisation of the desalination system at the maximum approved flows of 42 ML/day.

The water balance model assumed a daily transfer of either 24 ML/day or 36 ML/day of filtered water to Thompsons Creek Reservoir for the period of the interim water management strategy. The results of the modelling are therefore not directly applicable to Modification 5 as it considers the transfer of filtered mine water with an average EC of 1,245 µS/cm on a daily time step basis over a more compressed timeframe to 31 January 2020. While the total transfer volume of 5760 ML is not proposed to change as part of Modification 5, it is not possible to predict the timing of any potential process upsets resulting in the need for storage of filtered water within Thompsons Creek Reservoir. The existing model can therefore only be used to provide a very

conservative indication of the impact of environmental flow releases from the storage of filtered mine water within Thompsons Creek Reservoir on the broader Cocks River catchment.

The water and salt balance modelling indicates minimal potential for predicted increases in EC within Thompsons Creek Reservoir to impact upon water quality in the downstream receiving water environment. The assessment notes that the minor increases in EC in the Cocks River at the confluence with Pipers Flat Creek and upstream of Lake Wallace are a function of the underlying assumptions in mine water transfer volumes utilised in the regional water balance model rather than the volume of filtered water directed to Thompsons Creek Reservoir. The increase is a function of disposal of residuals at the Springvale Coal Services site resulting in an increase in discharge from LDP001 (formerly LDP006) to Wangcol Creek which is driven by mine dewatering volumes rather than operation of the desalination system. The potential increases in EC associated with environmental flow releases from Thompsons Creek Reservoir to Pipers Flat Creek and the wider Cocks River catchment are considered negligible.

Potential overflows

The water balance was also used in Modification 4 to predict the potential for Thompsons Creek Reservoir to spill or require additional flow releases to manage reservoir water levels. The modelling was based upon operation of MPPS on coal conservation mode with limited water demand to the end of January 2020 and three climatic scenarios including:

- Average rainfall conditions – the water volumes that could be expected in Thompsons Creek Reservoir under average rainfall and climatic conditions
- 1 in 20 year rainfall conditions - the water volumes that could be expected in Thompsons Creek Reservoir under 1 in 20 year rainfall and climatic conditions (very wet)
- Maximum observed rainfall conditions – the water volumes that could be expected in Thompsons Creek Reservoir under the wettest rainfall and climate observed from historical records

The results of the modelling are presented in Figure 5-2.

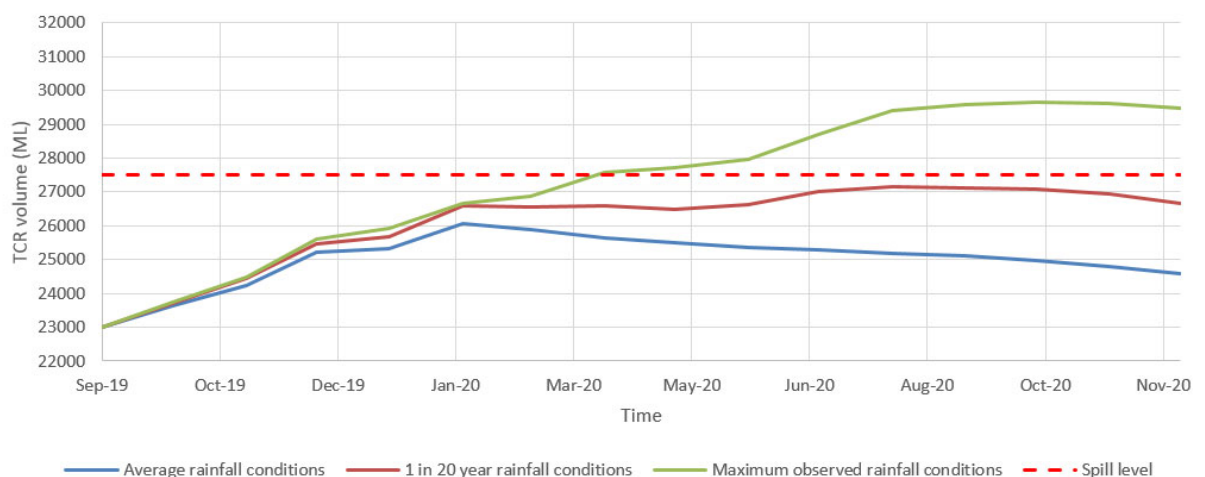


Figure 5-2 Thompsons Creek Reservoir spill probability

The modelling indicates that spilling or additional flow releases from Thompsons Creek Reservoir would only be required if maximum observed historical rainfall conditions persisted throughout the modelled period. Spilling is not predicted under either average or 1 in 20 wet year rainfall conditions and with current climate predictions expecting continued drier than average conditions the risk of spilling in the medium term was considered to be very low.

It should also be noted that the risk of spilling is a function of MPPS make-up water demand, transfer volumes and climate. The primary factors influencing the likelihood for the reservoir to spill is MPPS power generation and make-up water requirements which are not directly linked to the operation of the water treatment plant. During periods of reduced power demand, excess water will be transferred to Thompsons Creek Reservoir, regardless of whether the incoming mine water has received primary filtration or full treatment with desalinisation through the RO units.

Management of water levels at Thompsons Creek Reservoir has been refined to manage water levels during the implementation of the Springvale WTP. The water level is typically managed between the high and low operating levels as shown on Figure 5-3. The full storage level (FSL) at the reservoir is set at 1,033 m AHD, which is 0.3 m below the invert level of the spillway to allow the reservoir to hold any catchment run-off without spilling. The reservoir is typically operated at between 0.4 m and 1.4 m below the FSL (between 1,032.6 m AHD and 1031.6 m AHD). The operating levels are based upon catchment rainfall and management requirements, in addition to safety freeboard requirements between the FSL level and spillway crest.

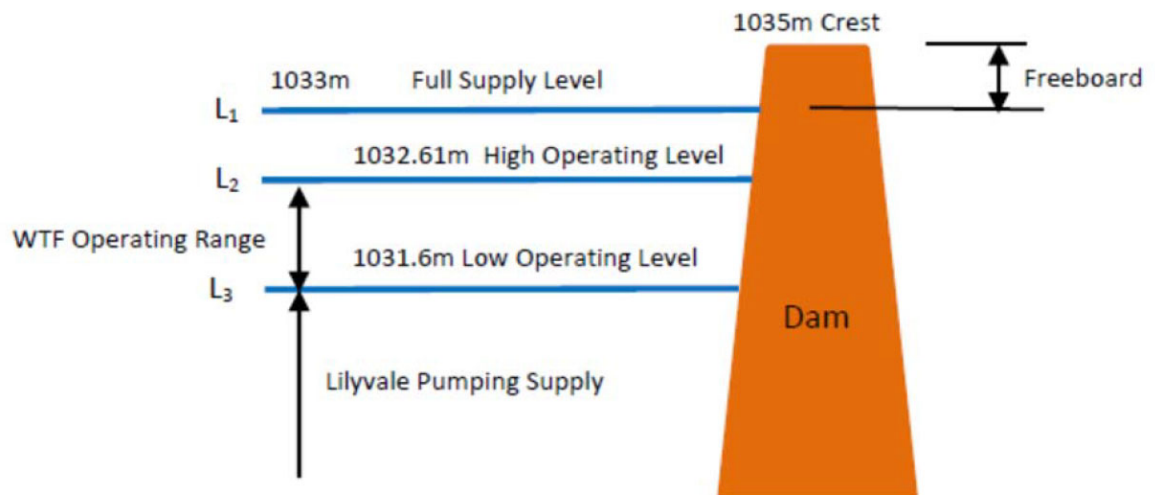


Figure 5-3 Thompsons Creek Reservoir operating levels

MPPS can now operate at full capacity to meet the peak summer demand following a resolution of recent coal supply issues in November 2019. Increased water demand for the power station operations has resulted in water levels within Thompsons Creek Reservoir being drawn to beneath the preferred low operating level and supplementary water is now being drawn from Lake Lyell to maintain water levels and prevent erosion within the reservoir. There is currently 2753 ML of available storage to the high operating level and 3403 ML of available storage to the full Service level with Thompsons Creek Reservoir.

With ongoing predicted high make-up water demand from the power station there is considered ample available storage to accommodate any required filtered water transfers without a risk of spill from the reservoir.

5.2.3 Consideration of NorBe

As discussed in Section 1.5.3, a consent authority must not grant consent for a project in the drinking water catchment unless it would have a 'neutral or beneficial effect' on water quality (the NorBe test) in accordance with the Sydney Drinking Water Catchment SEPP.

Development consent was initially granted for the Springvale WTP, as a result of the beneficial effect to the catchment achieved through the elimination of mine water discharges from LDP009 to the environment.

The proposed modification will continue to realise the overall net benefits of the removal of direct mine water discharges from LDP009 into the catchment by the proposed storage of water in an offline reservoir prior to the full commissioning of the water treatment facility.

While the NorBe test is not considered to strictly apply to determination of a modification, detailed modelling has been undertaken to demonstrate the interim water management strategy will have a negligible effect on the catchment in comparison to the approved development.

Condition 3 of Schedule 3 of the SSD 7592 consent includes water management performance measures including the requirement for negligible environmental consequences to surface water resources beyond those predicted in the EIS, including:

- negligible change in surface water flows beyond those predicted;
- negligible change in surface water quality beyond those predicted; and
- negligible impact to other surface water users beyond those predicted.

The definition of negligible in the consent includes *“small or unimportant, such as not to be worth considering”*.

The water quality modelling undertaken for the project demonstrates a negligible or neutral effect upon water quality in the catchment. Water will be temporarily stored within Thompsons Creek Reservoir, which is managed predominantly as an offline storage to provide water security to MPPS.

Geochemical modelling demonstrated that exceedance of relevant DGVs is predominantly as a result of pre-existing water quality within the reservoir, rather than from the proposed activity. The filtered mine water transfers will not result in any new exceedance of DGVs, although there is predicted to be a minor increase in EC of up to 100 µS/cm during operation of the interim water management strategy.

The extension of the permissible time period for filtered water transfers proposed as part of Modification 5 to SSD 7592 will not increase the potential impacts associated with the project and is expected to fall with the conservative modelling assumptions used to assess previous modifications.

The filtered water will be stored for subsequent reuse within MPPS during periods of high water demand and is predicted to not result in toxicity to fish species or use of the reservoir by recreational fishers.

6. Conclusion

Springvale Coal is seeking a modification to the Springvale Water Treatment Project (WTP) development consent for an extension to permissible time period for operation of the interim water management strategy approved as part of the project.

The interim water management strategy allows for the transfer of up to 5760 ML of filtered water to Thompsons Creek Reservoir to 31 of January 2020. Modification 5 will extend the permissible period for operation of the interim water management strategy under the consent from 31 January 2020 to the 30 June 2020. There will be no change to the filtered water transfer volume of 5760 ML approved for the project.

The water quality modelling undertaken for the project demonstrates a negligible or neutral effect upon water quality in the catchment by the transfer of filtered mine water to Thompsons Creek Reservoir.

Geochemical modelling demonstrated that exceedance of relevant DGVs is predominantly as a result of pre-existing water quality within the reservoir, rather than from the proposed activity. The filtered mine water transfers will not result in any new exceedance of DGVs, although there is predicted to be a minor increase in EC. The water will be stored for subsequent reuse within MPPS during periods of high water demand and is predicted to not result in toxicity to fish species or use of the reservoir by recreational fishers.

The potential increases in EC associated with environmental flow releases from Thompsons Creek Reservoir to Pipers Flat Creek and the wider Cocks River catchment are considered negligible.

The extension of the permissible time period for filtered water transfers proposed as part of Modification 5 to SSD 7592 will not increase the potential impacts associated with the project and is expected to fall with the conservative modelling assumptions used to assess previous modifications.

Appendices

Appendix A – Agency correspondence



Our reference: DOC20/11158
Contact : Dr Sandie Jones (02) 6333 3801

Iain McGregor
Customer Representative
Project Director
Springvale Mt Piper Power Station Water Treatment Plant
PO Box 198
Wallerawang NSW 2845

Via email to: Iain.McGregor@energyaustralia.com.au

9 January 2020

Dear Mr McGregor

Springvale Water Treatment Project SSD 7592 – Modification 5

I refer to your email to the NSW Environment Protection Authority (EPA) sent on 7 January 2020 and phone discussion of the same date regarding the recent impacts that bushfires have had on key infrastructure related to the Springvale Water Treatment Project. I also refer to the letter to the Resource Assessment team from the Department of Planning, Industry and Environment providing information and enquiring about requirements for a planning modification required as a result of the bushfire impacts.

The EPA have reviewed the information provided in the letter and email. We understand the significant challenges that have resulted from the bushfire damage and support the proposed contingency arrangements detailed in the letter. It is understood that the modification will seek to authorise an extension of time to allow partially treated mine water to be stored within Thompson's Creek Reservoir until 30 June 2020. These contingency arrangements will not change any environmental impacts that have previously been assessed for the project. Therefore, the EPA also support the proposed approval pathway for this modification through Section 4.55 (1A) of the Environmental Planning and Assessment Act 1979.

If you have any questions regarding this matter, please contact Dr Sandie Jones at the Central West (Bathurst) Office of the EPA on (02) 6333 3800 or via e-mail at central.west@epa.nsw.gov.au

Yours sincerely

A handwritten signature in black ink, appearing to read 'Sandie Jones'.

Dr SANDIE JONES
Regional Manager Central West Region
Environment Protection Authority

Karl Rosen

From: McGregor, Iain <Iain.McGregor@energyaustralia.com.au>
Sent: Wednesday, 8 January 2020 4:14 PM
To: Karl Rosen
Subject: FW: FW: SSD 7592 Modification 5 to the Water Treatment Consent due to Bush fires
Attachments: Letter to DPIE - Springvale WTP MOD 5.pdf

FYI

From: Matthew McLellan <matthew.mclellan@dpi.nsw.gov.au>
Sent: Wednesday, 8 January 2020 3:16 PM
To: McGregor, Iain <Iain.McGregor@energyaustralia.com.au>
Cc: Stephen.O'Donoghue@planning.nsw.gov.au; james.wearne@centennialcoal.com.au; Frewin, Mark <Mark.Frewin@energyaustralia.com.au>; Cameron Westaway <cameron.westaway@dpi.nsw.gov.au>; Alistair McBurnie <alistair.mcburnie@dpi.nsw.gov.au>; Kate Martin <kate.martin@dpi.nsw.gov.au>
Subject: Fwd: FW: SSD 7592 Modification 5 to the Water Treatment Consent due to Bush fires

Hi Iain,

Thanks for your email and the follow up phone conversation today.

After considering the information provided we understand the reasoning behind the modification to the permit and have no objection.

Please feel free to contact me if there are any other concerns or requirements you wish to discuss.

regards,
Matthew McLellan
Acting Senior Fisheries Manager-Inland

----- Forwarded message -----

From: McGregor, Iain <Iain.McGregor@energyaustralia.com.au>
Date: Wed, 8 Jan 2020 at 10:38 am
Subject: FW: SSD 7592 Modification 5 to the Water Treatment Consent due to Bush fires
To: Alistair McBurnie <alistair.mcburnie@dpi.nsw.gov.au>, cameron.westaway@dpi.nsw.gov.au
<cameron.westaway@dpi.nsw.gov.au>
Cc: Steve O'Donoghue <Stephen.O'Donoghue@planning.nsw.gov.au>, james.wearne@centennialcoal.com.au
<james.wearne@centennialcoal.com.au>, Frewin, Mark <Mark.Frewin@energyaustralia.com.au>

Hi Alistair/ Cameron

I look forward to speaking to you today on gaining support on the attached modification,

Below for your information we are applying for an extension to the Date of the TCR Modification 4 from the 30th of January 2020 to the 30th of June 2020 **ONLY**.

This Modification will be applied, pursuant to Section 4.55 (1A) and have submitted the attached letter (FYI Only) to the DPIE after a meeting held on the 6th of January 2020.

Key Actions from this meeting;

- Submit a letter of Modification on the DPIE Portal (Completed 6th of January attached)
- Produce a Modification report for submission (before 10th of Jan – Underway)
- Call all departments (WaterNSW, EPA, DPI, Lithgow council, and community groups) to update on the issues and requirement for Modification, to mitigate the need of exhibition and save time on determination. (Underway)
- The DPIE will follow up with the key departments to gauge support for the modification to **Time Only** to understand determination timeline

Key Update;

- All construction works are completed with only the Crystalliser (Starting today) and Mine Water Buffer pond Acceptance testing (March 20) to be completed
- Acceptance testing passed on the 15th of December for the Brine and Water circuit on reduced flow 24MLD instead of 36MLD due to pumping issues
- Mine assets became fully affected by Fire on the 16th of December and will only recover power to all the assets on the 14th of Jan or later
- From the 5760ML approved under Mod 4 only 2220ML has been used (38%), the modelling was worst case of a consistent 24MLD up to the 5760ML of Filtered water to TCR, this has not been required with 1215ML of treated water since September bettering the environmental position than modelled in the Modification 4 approval.
- The Fire has had a significant affect to the power supplies to the Mine Assets tripping all dewatering on 16th of December with evacuation to Mount Piper/ Water treatment facility on the 17th of December impacting final commissioning and completions at the WTF.
- Current consent redundancy measures include, Mine Water Buffer pond to protect the Water treatment RO in variable flows (Unfortunately this pond was required to allow the Power station to keep operating through the construction delays and has not been handing over for use as part of the Water treatment facility controls, this pond requires relining to protect the site over the 15yrs operations which due to Force Majeure events will not be completed until March 2020, this is due to our other mitigation the new 60ML pond against the EA consent again being affected by the Fires now operational in February.
- Redundancy measure, Mine storage depleted due to Fires stopping dewatering due to power supply damage, the Storage within the mine been significantly impacted putting the Mine at risk.
- Angus Place temporary RO plant treating 10MLD discharged through LDP02 expired on the 30th of December. All flows minimum of 34MLD to go to WTF. Water has been stored in this location since the start of December further impacting storage.
- The Water Treatment Facility has been operating at 24MLD consistently since September, will be required to run at full emergency flow of 42MLD without redundancy measures!. Need to recover the mine storage, without TCR in place during this period we have a significant risk as the facility has not been fully optimised or run at high flows for long periods of time.

This modification is based on an Extension of time as a **Contingency only**, and in no way affects the previously approved modelling results which hopefully allows this to be a simple administrative change, only in an event if something goes wrong will this be used as we have been treating the Water since September and not utilised the fully allocation of the 5760ML under the approval.

As you are aware the unprecedented fires that are currently affecting large parts of Australia has meant that this modification is required to protect the Mine and future operations of the Water treatment facility

Again I look forward to discussing this with you today and if you could on behalf of DPI support this modification that would be appreciated

Regards

Iain McGregor
Customer Representative

Project Director

Springvale MPPS Water Treatment Project
M. 0499997542
iain.mcgregor@energyaustralia.co.au



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Alistair McBurnie | Fisheries Manager

Recreational and Aboriginal Fisheries

NSW Department of Primary Industries | Fisheries
5/620 Macauley Street | Albury | NSW 2640
T: +61 2 6051 7769 | M: 0428 601 680 | E: alistair.mcburnie@dpi.nsw.gov.au

Stronger Primary Industries



Department of Primary Industries



Appendix B – Biodiversity assessment report waiver

Table 1: Impacts on biodiversity values from the proposed modification			
Biodiversity values	Meaning	Relevant or NA* (✓ or NA)	Likely impacts
Vegetation integrity	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state	NA	The proposed modification to consent is to seek approval for the extension to the allowable time for operation of the interim water management strategy. The strategy will utilise existing infrastructure approved for use in accordance with the consent and will not result in any additional land clearance or removal of vegetation.
Habitat suitability	Degree to which the habitat needs of threatened species are present at a particular site	NA	The water treatment plant site has been previously cleared of native vegetation and is an active construction site. The proposed modification has avoided impacts upon threatened species or ecological communities and their habitats through the use of existing infrastructure approved for use as part of the project. There will be no additional clearing required for implementation of the extension of time for operation of the interim water management strategy.
Threatened species abundance	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	NA	The proposed modification has avoided impacts upon threatened species or ecological communities and their habitats through the use of existing infrastructure approved for use as part of the project. There will be no additional clearing required for implementation of the extension of time for operation of the interim water management strategy.
Vegetation abundance	Occurrence and abundance of vegetation at a particular site	NA	The water treatment plant site has been previously cleared and is an active construction site.
Habitat connectivity	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range	NA	The development site does not contribute to habitat connectivity. There will be no physical disturbance associated with the modification which is an extension of existing operational practices.
Threatened species movement	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	NA	The proposed modification will not impact upon the movement of threatened species

Table 1: Impacts on biodiversity values from the proposed modification			
Biodiversity values	Meaning	Relevant or NA* (✓ or NA)	Likely impacts
Flight path integrity	Degree to which the flight paths of protected animals over a particular site are free from interference	NA	The proposed modification will utilise existing approved infrastructure and will not impact upon the flight path of any protected animals.
Water sustainability	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site	NA	The interim water management strategy involves the storage of filtered mine water within Thompsons Creek Reservoir to allow subsequent reuse at the Mount Piper Power Station. Detailed water quality investigations have been undertaken to demonstrate the modification will have negligible impact upon water quality within both Thompsons Creek Reservoir and the broader Cocks River catchment. The proposed modification will not impact upon water quality or hydrological processes that sustain threatened species or threatened ecological communities.

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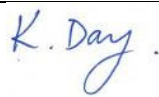
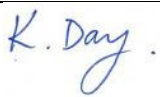
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Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
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