



Springvale Water Treatment Project Modification 7

Extension of timeframe for interim water management strategy
State Significant Development Modification Assessment (SSD 7592 MOD 7)

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Cover image: Coxs River near Wallerawang

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1 Introduction

This report provides the Department of Planning, Industry and Environment's (the Department) assessment of an application to modify the State significant development (SSD) consent for the Springvale Water Treatment Project (Springvale WTP; SSD 7592), approved by the former Planning Assessment Commission (PAC) on 19 June 2017, under delegation from the then Minister for Planning.

The proposed modification seeks approval to extend the timeframe to allow partially treated mine water to be stored in Thompsons Creek Reservoir until 31 October 2021 to avoid flooding of underground workings at Springvale and Angus Place coal mines.

1.1 Background

The Springvale WTP was developed by a joint venture between Springvale Coal Pty Limited (a subsidiary of Centennial Coal Company Limited [Centennial]) and EnergyAustralia Pty Limited (EnergyAustralia). The Springvale WTP is located approximately 15 km northwest of Lithgow, adjacent to the Mount Piper Power Station (MPPS) (see **Figure 1**). The Springvale WTP is operated by Veolia Water Australia Pty Ltd (Veolia) through commercial arrangements; however, Springvale Coal remains the applicant for the Springvale WTP.

The Springvale WTP has been developed as an industrial water reuse scheme to use mine water transferred from the nearby Angus Place Colliery and the Springvale Coal Mine (Springvale) as cooling water at the MPPS. The project allows Springvale to achieve strict water quality performance measures under the Springvale development consent, which required all mine water discharges to the Cocks River (and subsequently Sydney's drinking water catchment) to cease after 30 June 2019.

The project has the capacity to transfer and treat up to 42 million litres per day (ML/day) of mine water from Centennial's Springvale and Angus Place coal mines. Under the consent, excess treated water is transferred from the power station to nearby Thompsons Creek Reservoir using the existing Cocks River Water Supply Pipeline, which forms part of the Cocks River Water Supply System (established to provide water for local power stations).

The development consent has been modified six times, with two modifications (Mod 1 and Mod 2) dealing with pipeline alignment works, three modifications (Mod 3, Mod 4 and Mod 5) involving an interim water management strategy and the most recent modification (Mod 6) involving an alternative mine water management strategy for water that falls outside specification for the Springvale WTP.

The interim water management strategy approved under Mod 3, Mod 4 and Mod 5 allowed for up to 5,760 ML of partially treated (filtered) mine water to be stored in Thompsons Creek Reservoir until 30 June 2020. Only 2,220 ML of the approved transfer volume of filtered mine water was pumped to Thompsons Creek Reservoir to 30 June 2020.

The Springvale WTP has recently experienced periods of non-operation or reduced flows that have resulted in mine water not being treated and mine water accumulating in the underground workings of Springvale and Angus Place. Accumulated water is approaching levels where it could impact infrastructure and operations and could result in unauthorised discharge of untreated water from the mine. As such, an alternative water management strategy is required to allow for critical dewatering of underground mine workings until such time as the Springvale WTP can return to approved operating conditions.

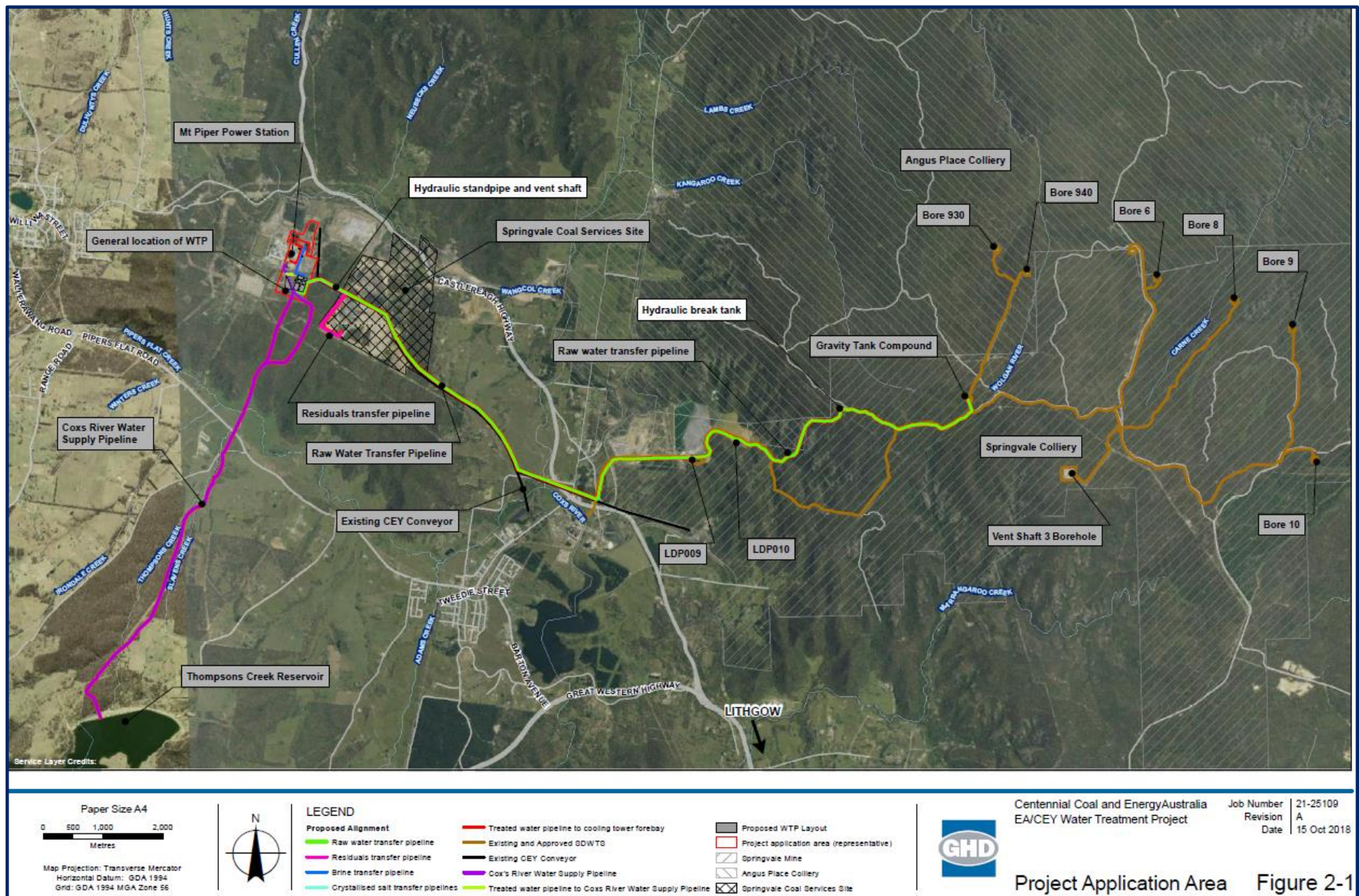


Figure 1 | Springvale WTP location and components

1.2 Strategic context

Local context

Land use in the locality includes the adjacent MPPS, coal mining and handling infrastructure, commercial forestry, and the residential areas of Lidsdale, Portland, Blackmans Flat and Wallerawang located approximately two to five kilometres from the Springvale WTP.

The locality has been subject to extensive mining and power generation activities over the past 100 years.

Catchment context

The Springvale WTP and nearby mines (including Springvale and Angus Place collieries) are within the Coxs River catchment, which forms part of Sydney's drinking water catchment. The Coxs River flows south toward Lake Wallace, Lake Lyell and ultimately Lake Burragorang (approximately 100 km downstream). Given the history of land use, the water catchment has been exposed to impacts from mining and other industries for an extended period, including historical mine water discharges.

However, in recent years, the NSW Government has been working to improve water quality across the region through stronger regulation of mining and other land uses. A key step in this process was the imposition of strict conditions of consent on Springvale mine, which included a staged program of water quality improvements. A key improvement was the development of a \$100 million reverse osmosis Springvale WTP.

Water management context

Mount Piper Power Station

MPPS requires large volumes of water in its power generation operations, which is primarily used in the cooling towers. The power station is licensed to extract fresh water from the Coxs River. On average, the power station uses 40 ML/d of water, and up to 54 ML/d when operating at full capacity. The Springvale WTP has allowed the reuse of up to 43 ML/d of treated mine water to supplement and replace the use of water from the Coxs River catchment.

MPPS operates a range of approved water storages with its water management system.

Dewatering of underground mines

The removal of groundwater is an essential aspect of underground mining. Inflows to mine workings must be managed to avoid flooding of underground workings. This is managed at Springvale and Angus Place by transferring groundwater inflows from dewatering facilities on the Newnes Plateau to the Springvale WTP via a transfer pipeline at a rate of up to 42 ML/day.

Springvale water treatment facility

The Springvale WTP is integrated with the MPPS operations by sharing water management infrastructure and supplying treated water to meet cooling water demand requirements at the power station.

1.3 Need for modification

Operation of the Springvale WTP enables the nearby Angus Place and Springvale mines to be dewatered. Recently, the Springvale WTP has had periods of non-operation or low flow leading to an accumulation of water in underground workings at Springvale and Angus Place. While the Springvale WTP is still able to undertake pre-treatment of water, it has experienced recent challenges operating the reverse osmosis plant due in part to:

- needing to treat mine water with higher sediment loads; and
- being unable to promptly source replacement filter cartridges for the reverse osmosis units.

The accumulation of mine water is reaching critical levels and could lead to unauthorised discharges of untreated mine water into the Coxs River catchment or Newnes Plateau, and significantly impact mine infrastructure and operations. If the underground water storage capacities are exceeded, water would flow into underground roadways that are used to access approved (but yet to be extracted) and future coal reserves. The condition of these roadways would deteriorate and render them unable to be safely used.

Springvale Coal is therefore seeking to extend the timeframe for the previously approved interim water management strategy allowing partially treated (filtered) mine water to be transferred to Thompsons Creek Reservoir for storage until 31 October 2021. The proposed extension would allow for critical dewatering of underground mine workings until such time as the Springvale WTP can source sufficient filter cartridges for the plant to return to approved operating conditions.

2 Proposed modification

The interim water management strategy approved under Mod 3, Mod 4 and Mod 5 allowed for up to 5,760 ML of partially treated (filtered) mine water to be stored in Thompsons Creek Reservoir until 30 June 2020. During this period, 2,220 ML of the approved transfer volume was directed to the Thompsons Creek Reservoir.

On 4 June 2021, Centennial submitted a modification application and supporting modification report (see **Appendix A**) seeking to extend the timeframe for the interim water management strategy from 30 June 2020 to 31 October 2021. This extension would allow for the transfer of partially treated mine water to Thompsons Creek Reservoir using the Coxs River Water Supply Pipeline (refer to **Figure 1**).

The temporary transfer of filtered mine water to Thompsons Creek Reservoir would utilise available capacity within the previously assessed and approved limit of 5,760 ML. No increase to the approved volume of filtered mine water transferred to Thompsons Creek Reservoir is sought. Flows would be transferred at up to 42 ML/day in accordance with the consent.

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. Water transferred to Thompsons Creek Reservoir would subsequently be reused within the MPPS cooling water system.

No additional infrastructure would be required to facilitate the proposed transfer of mine water to the reservoir and no other changes are proposed for the project.

Considering the amount of water that is required to be stored, there are no feasible or safe alternatives to storing the water in the reservoir. There is not enough underground storage at the

Springvale and Angus Place mines or capacity in the other storages at the power station. The potential consequences of the proposed modification not going ahead would be:

- flooding of active mine workings at Springvale and Angus Place, and potential impacts to the integrity of underground infrastructure;
- potential unauthorised discharges into the Cocks River Catchment or Newnes Plateau; and
- Springvale having to reduce or stop its production and ability to supply coal to the power station, with potential impacts to energy generation in NSW.

3 Statutory context

3.1 Scope of modification

The modification was lodged on 4 June 2021 under section 4.55(1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Department considers that the modification application can be characterised as a modification involving minimal environmental impacts as the proposal:

- would not significantly increase the environmental impacts of the project as approved;
- does not seek to alter the nature or scale of the proposed development and is substantially the same development as originally approved; and
- would not involve any further disturbance outside the already approved disturbance areas for the project.

Therefore, the Department is satisfied the proposed modification application is within the scope of section 4.55(1A) of the EP&A Act, rather than requiring a new development application to be lodged.

3.2 Consent authority

The Minister for Planning and Public Spaces is the consent authority for the modification application under section 4.5(a) of the EP&A Act. However, under the Minister's delegation dated 26 April 2021, the Director – Resource Assessments, may determine the modification application, as:

- Lithgow City Council did not object to the application;
- Springvale Coal Pty Limited did not report any political donations; and
- no objections were lodged.

3.3 Mandatory matters for consideration

In accordance with sections 4.15(1) and 4.55(3) of the EP&A Act, the following aspects must be considered in determining the modification application:

- environmental planning instruments or proposed instruments;
- any planning agreement;
- EP&A regulation;
- likely impacts of the modification application, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;

- suitability of the site;
- any submissions;
- the public interest; and
- the reasons for granting approval for the original application.

The consent authority must also consider the objects of the EP&A Act when making decisions under the Act.

The Department has considered these matters carefully and has summarised its findings in **Sections 5 and 6** of this report.

Environmental planning instruments or proposed instruments

Several environmental planning instruments apply to the modifications, including:

- *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (the Mining SEPP);
- *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*;
- *State Environmental Planning Policy No. 33 (Hazardous and Offensive Development)*;
- *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP);
- *State Environmental Planning Policy No. 55 (Remediation of Land)*; and
- *Lithgow Local Environment Plan 2014*.

The Department has considered the proposed modification against the relevant provisions of these instruments. The Department has concluded that the proposed modification can be carried out in a manner that is generally consistent with the aims, objectives and provisions of these instruments.

The reasons for granting the consent for the original application

In determining the Springvale WTP (SSD 7592), the (then) PAC concluded that the benefits of the project outweighed the impacts, and imposed a range of strict conditions to appropriately manage the impacts. The Department has considered the proposed modification against the reasons the PAC provided for determining the project and considers that none of these reasons would preclude the approval of the application.

Conclusion

The Department considers the modification application does not result in significant changes that would alter the mandatory matters for consideration under section 4.15 of the EP&A Act and conclusions made as part of the original assessment.

Objects of the EP&A Act

The consent authority has assessed the proposed modification against the current objects of the EP&A Act. The objects of most relevance to the decision on whether or not to approve the proposed modification are found in section 1.3 of the EP&A Act; and are:

- Object 1.3(a): to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources;

- Object 1.3(b): to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment;
- Object 1.3(c): to promote the orderly and economic use and development of land;
- Object 1.3(e): to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats;
- Object 1.3(f): to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage);
- Object 1.3(i): to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State; and
- Object 1.3(j): to provide increased opportunity for community participation in environmental planning and assessment.

The Department is satisfied that the proposed modification encourages the proper management and development of resources, including facilitating the continued operation of the Springvale Mine and related implications for energy security in NSW (Object 1.3(a)), and the promotion of the orderly and economic use of land (Object 1.3(c)).

The Department has considered the principles of ecologically sustainable development (ESD, Object 1.3(b)) in its assessment of the proposed modification. The Department considers that the proposed modification may be carried out in a manner that is consistent with the principles of ESD. The Department's assessment has sought to integrate all significant environmental, social and economic considerations. In particular, the Department considers that the proposed modification would continue to provide an overall benefit to the water catchment while utilising established infrastructure and ensuring minimal environmental impacts by providing a logical and economic temporary solution for critical mine dewatering.

The Department has carefully considered the environmental impacts of the proposed modification, including potential impacts on the natural, cultural and built environments (Object 1.3(e) and (f)). The key findings of the Department's assessment are summarised in **Section 6**.

The Department consulted with key stakeholders, including Lithgow City Council (Object 1.3(i) and (j)). The outcomes of the Department's consultation process are outlined in **Section 4**.

3.4 Impacts on biodiversity values

Under the relevant provisions of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*, the Department is satisfied that a Biodiversity Development Assessment Report (BDAR) is not required to be submitted with the application as the modification would not increase impacts on biodiversity values.

4 Engagement

4.1 Department's engagement

Clause 117(3B) of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) specifies that the notification requirements of the EP&A Regulation do not apply to section 4.55(1A) modifications with minimal environmental impacts. Accordingly, the application was not notified or advertised. However, the application was made publicly available on the Department's Major Projects

website from 4 June 2021, and was referred to the Environment Protection Authority (EPA), Lithgow City Council and WaterNSW for comment. The advice from government agencies and Lithgow City Council is summarised in **Section 4.2** and provided in **Appendix B**.

4.2 Summary of advice

The EPA and WaterNSW did not object to the proposal, noting that the proposed contingency arrangements would not result in any additional environmental impacts beyond those already assessed and approved for the project.

Lithgow City Council did not object to the proposal.

5 Assessment

In assessing the merits of the proposal, the Department has considered all the requirements of the EP&A Act and EP&A Regulation, and all relevant information including:

- the Modification Report and accompanying modification application;
- previous environmental assessments for the project;
- submissions received from the NSW Government agencies and Lithgow City Council; and
- relevant EPIs, policies and guidelines.

As the proposed modification is for an extension of time to the previously assessed and approved interim water management strategy, and does not seek to increase the volume or alter the quality of water transferred to Thompsons Creek Reservoir, the Department considers the environmental impacts to be minimal.

The Department has considered the potential impacts of the proposed modification, which is summarised in **Table 1**.

Table 1 – Consideration of other issues

Issue	Findings	Recommendations
Water quality	• Springvale Coal conducted a review of the water resources assessments undertaken for modifications 3 and 4 (including geochemical modelling and water and salt balances) and concluded that the environmental impacts associated with the proposed modification would fall within the already approved range of predicted impacts for the interim strategy. • Mine water would be filtered to partially treat the water (bypassing the reverse osmosis desalination units) to remove solids before being directed to the Thompsons Creek Reservoir. • Water quality within Thompsons Creek Reservoir would be monitored weekly. Water quality in downstream creeks would continue to be monitored quarterly.	• No changes to conditions required.

Issue	Findings	Recommendations
Water Transfer volume	- The proposed modification would not increase the total volume of partially treated mine water approved to be transferred to the reservoir (5,760 ML), which equates to around 21% of the storage capacity of the Thompsons Creek Reservoir (27,500 ML). - Up to 30 June 2020, 2,220 ML (39%) of the approved water transfer volume had been transferred to the reservoir, with approximately 3,540 ML remaining that would be permitted to be transferred until 31 October 2021. - Partially treated mine water would continue to be transferred to the reservoir via the existing Cocks River Water Supply Pipeline at up to 42 ML/day and no additional infrastructure would be required to support the proposal.	- Amendment to condition 6A of Schedule 2, to extend the interim water management strategy timeframe until 31 October 2021. - Springvale Coal would also be required to review and if necessary, revise its Water Management Plan.
Reservoir infrastructure	- Thompsons Creek Reservoir can hold up to 27,500 ML of water. Water in the reservoir is predominantly used as storage to supply the MPPS demand for makeup water. There is ongoing high demand for makeup water. - No additional dam infrastructure would be required to support the proposal. - Water levels within the reservoir are actively managed between high and low operating levels based on catchment rainfall, management requirements and safety freeboard requirements. - Thompsons Creek Reservoir is currently operating at 1,265 ML below low operating level and the Department is satisfied that the storage can be managed to accommodate the proposed mine water flows without compromising the storage capacity of the reservoir or increasing the risk of water overflows. - Springvale Coal has developed appropriate emergency spill protocols in consultation with the EPA and WaterNSW and incorporated this into its Water Management Plan.	No changes to conditions required.
NorBe - 'neutral or beneficial effect' test	The neutral or beneficial effect test in the <i>State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011</i> does not strictly apply to modification applications. Nevertheless, the assessment has again demonstrated that the interim strategy would have a negligible change when compared to the approved project.	No changes to conditions required.
Economic	- If the underground workings were to flood into the developed mains headings/roadways it would significantly affect access to approved and potential future coal resources at Angus Place and Springvale collieries. - Flooding of workings would increase costs due to additional dewatering infrastructure.	No changes to conditions required.
Social	Springvale employs up to 450 full-time-equivalent personnel and provides significant flow on economic benefits to the Lithgow community. Any potential impacts	No changes to conditions required.

Issue	Findings	Recommendations
	to coal reserves at the mine would have significant flow on social impacts to the Lithgow community. Springvale is the main supplier of coal to MPPS, which provides approximately 15% of the electricity to NSW and is critical to maintaining energy security.	

6 Evaluation

The Department has assessed the merits of the proposed modification and has considered its potential environmental, social and economic impacts in accordance with the requirements of the EP&A Act, in consultation with relevant Government agencies and Lithgow City Council.

The Department recognises the need to manage the water which inflows into the mine workings at the Angus Place and Springvale coal mines. The Department considers that extending the timeframe for transferring mine water to Thompsons Creek Reservoir until the Springvale WTP can return to approved operating conditions to be the most feasible option for managing excess mine water.

The Department's assessment has found that the proposed modification would have a negligible impact on the water quality in Thompsons Creek Reservoir and would be unlikely to spill and affect the downstream catchment water quality.

The transfer of water would be managed under the existing conditions of consent, which includes a total limit of up to 5,760 ML of partially treated water that can be transferred to Thompsons Creek Reservoir. The Department has recommended that the time period for this be extended until 31 October 2021.

If the proposed modification is not approved, mine workings would flood and damage mine infrastructure. Mine water could also potentially be discharged into the Cocks River Catchment and/or Newnes Plateau. Failure to properly manage the water at the mines would subsequently affect current mining operations at Springvale, leading to flow on impacts to coal supply to the MPPS, which supplies approximately 15% of NSW energy needs.

Therefore, the Department considers that the proposed modification is in the public interest and should be approved, subject to the recommended change to conditions which include a reference to the Modification Report and an extension in time to discharge water to Thompsons Creek Reservoir until 31 October 2021 (See **Appendix C** – Consolidated Consent and **Appendix D** – Instrument of Modification

7 Determination

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

- **considers** the findings and recommendations of this report;
- **determines** that the modification application SSD 7592 MOD 7 falls within the scope of section 4.55(1A) of the EP&A Act;
- **accepts and adopts** the findings and recommendations in this report as the reasons for making the decision to approve the modifications;
- **modifies** the consent SSD 7592; and
- **signs** the attached approval of the modification (**Appendix D**).

Recommended by:



8 June 2021

Gabrielle Allan

Principal Planning Officer
Resource Assessments

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



8 June 2021

Steve O'Donoghue

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

Appendices

Appendix A – Modification report

Appendix B – Advice

Appendix C – Consolidated consent

Appendix D – Notice of modification

Appendices A-D: see the Department's Major Projects website at
<https://www.planningportal.nsw.gov.au/major-projects/project/42026>