

Springvale Water Treatment Project Modification 11

State Significant Development Modification Assessment Report (SSD-7592-Mod-11)

March 2025





Acknowledgement of Country

The Department of Planning, Housing and Infrastructure acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Assessment Report

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Preface

This assessment report provides a record of the Department of Planning, Housing and Infrastructure's (the Department) assessment and evaluation of Modification 11 (Mod 11) of the State significant development (SSD) application for the Springvale Water Treatment Project (SSD-7592), lodged by Springvale Coal Pty Ltd (Springvale Coal). The report includes:

- an assessment of the modification against government policy and statutory requirements, including mandatory considerations;
- a demonstration of how matters raised by the community and other stakeholders have been considered;
- an assessment of the likely environmental, social and economic impacts of the project;
- an evaluation which weighs up the likely impacts and benefits of the project, having regard to the proposed mitigations, offsets, community views and expert advice; and provides a view on whether the impacts are on balance, acceptable; and
- an opinion on whether the project is approvable or not, along with the reasons, to assist the Independent Planning Commission in making an informed decision about whether development consent for the project can be modified and any conditions that should be imposed.

Executive Summary

Springvale Water Treatment Project (SWTP) is a mine water processing facility located northwest of Lithgow, adjacent to the Mount Piper Power Station (MPPS). The facility processes mine water from the nearby Springvale Mine and Angus Place Colliery, for beneficial reuse by the power station.

SWTP operates under State significant development consent SSD-7592 granted by the then Planning Assessment Commission in 2017. The consent, as modified, provides for the transfer and treatment of up to 42 mega litres per day of mine water and transfer of excess treated water to Thompsons Creek Reservoir via the Coxs River Water Supply Pipeline.

SWTP relies on operations at MPPS to consume water for its cooling needs and to dispose of the brine generated by the plant by using it to dampen ash produced by the power station. Under normal operating conditions at MPPS, water consumption and brine production can be balanced with ash production.

During MPPS outages, water usage and ash production is significantly reduced, resulting in an excess of brine and limiting the ability of SWTP to operate at full capacity. Springvale Mine, however, requires ongoing dewatering to ensure continued extraction of coal for supply to the power station. Recent increases in water make at Springvale Mine have reduced the capacity of underground storages available within the mine water management system.

A major outage is scheduled at MPPS commencing 1 April 2025 and lasting for 54 days, during which time the ability of SWTP to process mine water will be limited. To avoid flooding of mine workings, Springvale Coal has submitted a modification application seeking approval to transfer a blend of treated and partially treated mine water to the Thompsons Creek Reservoir during the upcoming April/May outage.

The Department considers the key matter for consideration for the modification is the potential impact on water quality in Thompsons Creek Reservoir and the downstream catchment.

The Department's assessment has found that the modification would not have any material or long-term adverse impact on water quality in Thompsons Creek Reservoir, the downstream catchment or on drinking water quality in the Sydney drinking water catchment.

Water quality in Thompsons Creek Reservoir would remain similar to or better than the downstream environment, even with the modification, and the predicted changes in water quality resulting from the modification are within the range of historical variability in the reservoir and downstream catchment.

Importantly, the modification would not negate the significant improvements that have been made to water quality within the catchment since the commissioning of SWTP.

The Department considers that the limited duration of proposed water transfers and management measures proposed by Springvale Coal would be effective in minimising the potential impacts of the modification on catchment water quality.

Consequently, the Department considers that the proposed modification is in the public interest and is approvable, subject to the recommended conditions.

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1 Introduction

1.1 Background

1. Springvale Water Treatment Project (SWTP) is a water processing facility located approximately 15 kilometres (km) northwest of Lithgow, adjacent to the Mount Piper Power Station (MPPS) (see **Figure 1** and **Figure 2**).
2. SWTP processes mine water from the nearby Angus Place Colliery (currently under care and maintenance) and Springvale Mine, for beneficial reuse in MPPS cooling system. Springvale Mine requires dewatering to ensure continued extraction of coal for supply to MPPS. The project provides for:
 - the transfer and treatment of up to 42 mega litres (ML) per day of mine water from Angus Place and Springvale mines;
 - transfer of processed water to MPPS for beneficial reuse in the cooling towers;
 - the transfer of excess treated water to Thompsons Creek Reservoir via the Coxs River Water Supply Pipeline; and
 - transfer of residual waste from SWTP to the Western Coal Services site via the Residuals Transfer Pipeline.
3. The facility is a joint venture between Springvale Coal Pty Limited (Springvale Coal), a subsidiary of Centennial Coal Company Limited (Centennial), and Energy Australia Pty Limited (Energy Australia), and is operated by Veolia Water Australia Pty Limited.
4. Thompsons Creek Reservoir is a licenced water storage managed by Energy Australia in accordance with the relevant Water Access Licence, water supply and works approval.

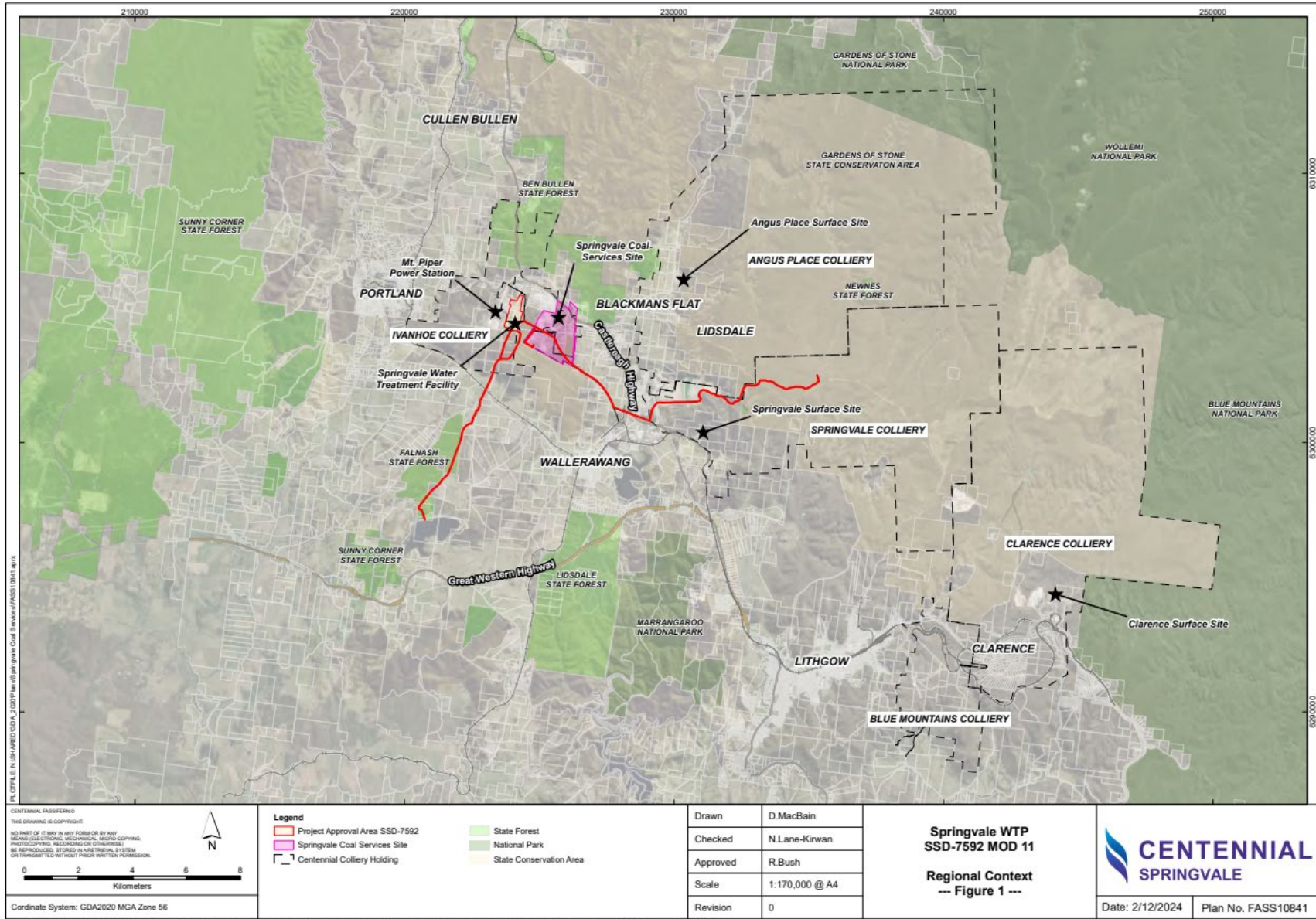


Figure 1 | Regional context map

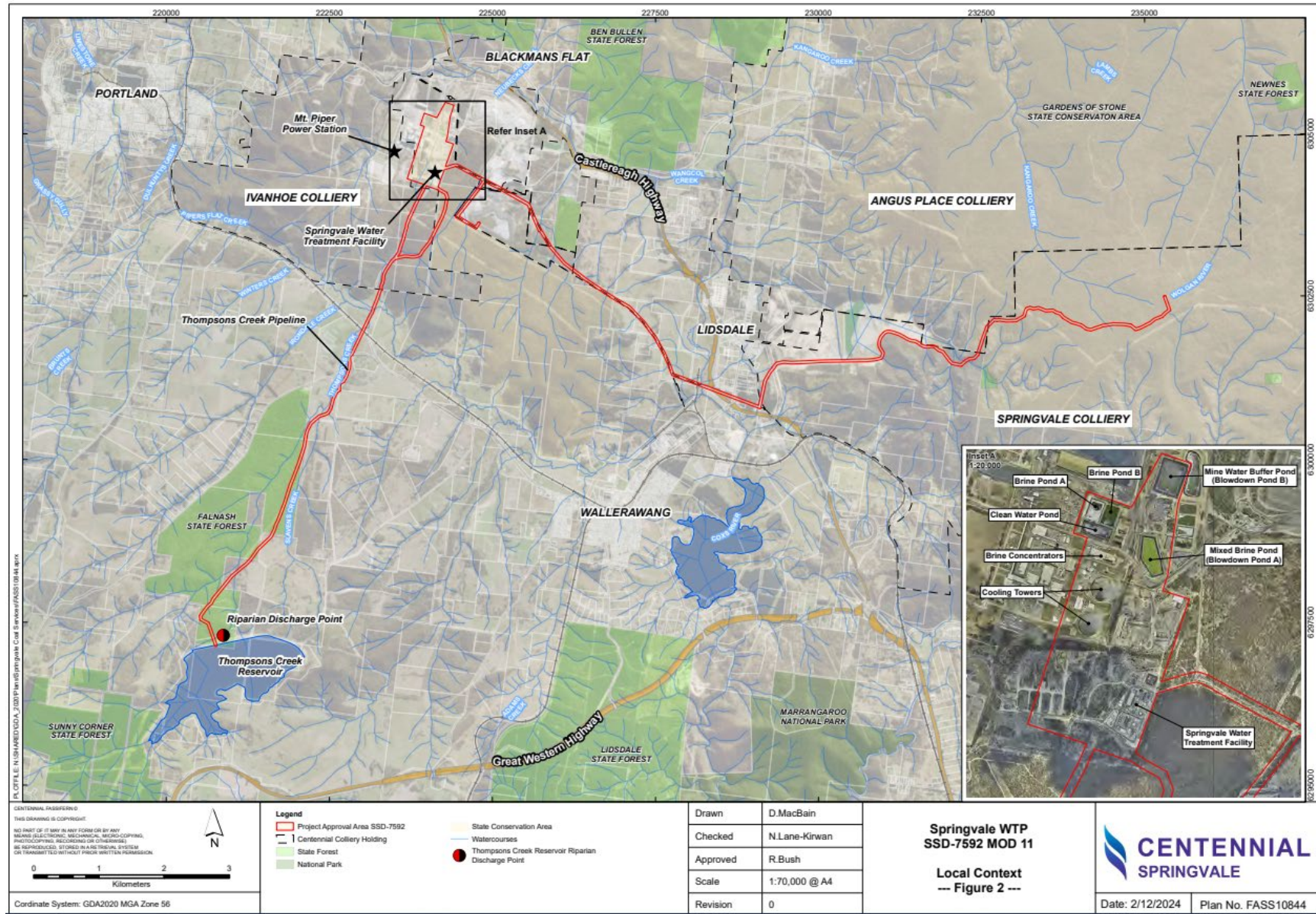


Figure 2 | Local context map

1.2 Approval history

5. SWTP operates under State Significant Development (SSD) consent SSD-7592 granted by the then Planning Assessment Commission on 19 June 2017.
6. As detailed in **Table 1**, the consent has been modified on eight occasions, with Modifications 1 and 2 dealing with pipeline alignment works, and Modifications 3 – 8 involving changes to the project’s water management (see **Table 1**). Modifications 9 and 10 were withdrawn prior to determination.

Table 1 | Summary of modifications to SSD-7592

Modification	Description	Decision-maker	Type	Approval Date
MOD 1	Changes to pipeline alignment, brine management and workforce	Minister	96(1A)	12 January 2018
MOD 2	Change to pipeline alignment	Minister	4.55(1A)	29 October 2018
MOD 3	Interim water management strategy	Minister	4.55(1A)	31 March 2019
MOD 4	Increased volume for interim water management strategy	Minister	4.55(1A)	5 November 2019
MOD 5	Extend timeframe for interim water management strategy	Minister	4.55(1A)	30 January 2020
MOD 6	Receipt of water from Angus Place	Minister	4.55(1A)	19 March 2021
MOD 7	Extend timeframe for interim water management strategy	Minister	4.55(1A)	8 June 2021
MOD 8	Extension of timeframe for interim water management strategy	Minister	4.55(1A)	21 October 2022
MOD 9	Extension of timeframe for interim water management strategy	N/A	N/A	Withdrawn
MOD 10	Temporary increase of residual waste transfer rates	N/A	N/A	Withdrawn

2 Proposed modification

7. SWTP relies on operations at MPPS to consume water for its cooling needs and to dispose of the liquid and solid brine waste stream generated by SWTP. Liquid brine is used to dampen ash produced by the power station, which is then co-disposed with crystallised brine in the MPPS ash emplacement. Under normal operating conditions at MPPS, water consumption and brine production can be balanced with ash production.
8. During MPPS outages, water usage and ash production is significantly reduced. The reduction in ash means that brine cannot be combined and co-disposed at the same rate, resulting in an excess of brine and limiting the ability of SWTP to operate.
9. To avoid flooding of mine workings at Springvale Mine, Springvale Coal has submitted a modification application seeking approval to transfer a blend of treated and partially treated mine water to Thompsons Creek Reservoir during a planned outage at MPPS commencing in April 2025.
10. Water transfers would occur under the following conditions:
 - up to 24 ML/day of partially treated (filtered) water, with an indicative electric conductivity (EC) range of up to 1,200 $\mu\text{s}/\text{cm}$; or
 - up to 42 ML/day of blended water with indicative EC range of between 600 and 900 $\mu\text{s}/\text{cm}$, consisting of a mix of fully treated water and partially treated (filtered) water.
11. Water transfers are proposed to occur for the duration of the upcoming 54-day outage, as well as a buffer period of up to 14 days prior to, and seven days following, the outage period.
12. The following controls are proposed to minimise the impacts of proposed water transfers:
 - water quality in Thompsons Creek Reservoir does not exceed 600 $\mu\text{s}/\text{cm}$;
 - water level in Thompsons Creek Reservoir does not exceed High Operating Level; and
 - environmental releases from the reservoir would be limited to the minimum daily volume required under Energy Australia's Water Access License (0.3ML/day between May and August and 0.8 ML/day between September and April) for the duration of any transfers.
13. Transfers would be undertaken via the existing Coxs River Water Supply Pipeline (**Figure 2**).

2.1 Justification and alternatives

14. Centennial operates a complex mine water management system that involves balancing water storage capacity at Springvale and Angus Place coal mines with water treatment capacity at SWTP. Recent increases in mine water make at Springvale Mine have reduced the capacity of underground storages available within the mine water management system to such an extent that interruptions to water treatment capacity can result in groundwater inflows threatening to flood the mine workings.
15. Given the limited available storage capacity, a temporary water management solution is required during the upcoming MPPS outage to ensure continued supply of coal to MPPS.
16. A number of alternative water management strategies have been considered by Centennial as are outlined in Springvale Coal's Submissions Report (refer to **Appendix B**). These strategies were found not to be feasible due to the timeframe required to implement them, lack of relevant approvals, greater environmental risk, and/or risk of inundation of mine workings.

3 Strategic context

3.1 Energy security

17. The Lithgow region is a strategically important coal mining centre that is important for cost effective generation of electricity for NSW. MPPS is capable of supplying around 10% of the State's peak electricity demand and is important in managing energy reliability risks as the State transitions to renewable energy. MPPS is the newest coal-fired power station in the State and is also expected to be the last operating, with an expected closure date of 2040.
18. Springvale Mine is the main local supplier of coal to MPPS, providing around 70% of its coal.
19. Alternative coal supply to MPPS is limited by a lack of rail access from the Hunter Valley coal supply chain. MPPS has alternative coal supply but not at an adequate volume without impacts on regional communities or additional Government intervention (such as for coal trucking). In the future it may be feasible to supply coal via rail from other existing mines located further afield in the Mudgee area, however this is not currently a commercially viable or approved option.
20. Operation of the Springvale Mine relies on effective water management infrastructure, including SWTP to manage mine inflows, create a safe mining environment for workers and support ongoing coal supply to MPPS.

3.2 Environmental context

21. SWTP is located 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, which is the primary reservoir for drinking water supply to Sydney.
22. Flow in the Coxs River is regulated by three reservoirs, Thompsons Creek Reservoir, Lake Wallace and Lake Lyell, which form part of the Coxs River Water Supply Scheme that supplies water for the operation of MPPS.
23. The Upper Coxs River catchment has been exposed to impacts from mining and other industries for an extended period. Historical mining activities have included the direct discharge of mine water into the surface water environment. Given this, water quality within the catchment has been historically poor with elevated salinity recorded across the catchment.
24. The commissioning of SWTP in 2019 has resulted in a material improvement in catchment water quality by removing a significant discharge of untreated mine water from Springvale Mine and enabling MPPS to reuse up to 42 ML per day of treated mine water in place of fresh water from the Coxs River catchment.
25. WaterNSW monitoring of salinity levels in the Upper Coxs River catchment has shown a declining trend in electrical conductivity (EC) since the commissioning of the SWTP in 2019.
26. The Department notes that this declining trend in EC has continued despite periods of partially treated mine water being transferred to Thompson Creek Reservoir under the approved interim water management strategy that occurred between May 2019 and October 2023.
27. Importantly, water quality within Thompsons Creek Reservoir is generally better and less saline than downstream catchment water quality. In the 12 months to October 2024, the 95th percentile EC concentration in Thompsons Creek Reservoir was 525 $\mu\text{s}/\text{cm}$, while 95th percentile EC concentrations at the nearest Coxs River downstream monitoring point (WX9) was 879 $\mu\text{s}/\text{cm}$ over the same period.
28. Water quality improves further downstream at Lake Lyell, where 95th percentile EC concentrations over the 12 months to October 2024 were 354 $\mu\text{s}/\text{cm}$.
29. Water quality in the Thompsons Creek Reservoir and local downstream catchment is above the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)* (ANZECC Guideline) default trigger level for upland rivers of 350 $\mu\text{s}/\text{cm}$.

30. The Department notes however that Thompsons Creek Reservoir water quality is well below the Australian Drinking Water Guideline value considered to constitute good quality drinking water, that being water up to ~940 $\mu\text{S}/\text{cm}^1$.

3.3 Thompsons Creek Reservoir

31. Thompsons Creek Reservoir forms part of the Cox River Water Supply Scheme that supplies water to MPPS. The reservoir is considered an off-stream storage and has a small catchment area of less than 10km². Thompsons Creek Reservoir is a declared dam regulated under the *Dams Safety Act 2015*.
32. Energy Australia manages water levels in the dam between a low and high operating level. Water levels are managed through a combination of controlling the volume of inflows from SWTP, transfers from Lake Lyell, daily environmental releases to Thompsons Creek and, where required, emergency discharges.
33. Daily environmental releases are a condition of Energy Australia's Water Supply Work and Water Use Approval. This approval requires a minimum daily environmental release into Thompsons Creek of 0.3ML/day (between May and August) and 0.8 ML/day (between September and April). The maximum daily environmental release possible is 18.5 ML/day.
34. For clarity, Springvale Coal has committed to limit environmental releases to the minimum daily volumes during any water transfers associated with the modification.
35. Emergency discharge provisions exist under the *Dams Safety Act 2015* that require water levels to be lowered where there is a risk of exceeding the dam's full supply level. Energy Australia manage water levels in Thompsons Creek Reservoir to reduce the risk of an emergency discharge. For context, emergency discharges have only been required on two occasions since the commissioning of SWTP in response to heavy rainfall periods in 2022 and 2023.
36. To reduce the risk of an emergency discharge event, water inflows from SWTP are required to cease once water levels reach the high operating level.
37. Energy Australia has advised that there is sufficient capacity within Thompsons Creek Reservoir to receive water transfers for the duration of the proposed MPPS outage, and that

¹ Based on Australian Drinking Water Guidelines (NHMRC and NRMCC, 2011) and approximate conversion from total dissolved solids (TDS) to electrical conductivity (EC) using conversion factor 0.64. TDS less than 600 mg/L (~940 $\mu\text{S}/\text{cm}$) is considered good quality drinking water.

water levels in the reservoir would be pre-emptively lowered to accommodate the required transfers.

3.4 Sydney drinking water catchment

38. SWTP is located in Sydney's drinking water catchment. Under Section 6.61(1) and 6.63 of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (Biodiversity and Conservation 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 (NorBE).
39. Although the NorBE test does not strictly apply to modification applications², it is clear that the intent behind Section 6.61(1) and 6.63 of the Biodiversity and Conservation SEPP is to protect Sydney's drinking water quality, and the Department considers that this should be taken into account in assessing the modification application.
40. Consideration of NorBE is presented in **Section 6.2** of this report.

4 Statutory context

4.1 Scope of modification and assessment pathway

41. The modification application has been lodged under section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Under section 4.55(2) of the EP&A Act, a development consent cannot be modified unless the consent authority is satisfied that the modified proposal is substantially the same as the development for which consent was originally granted.
42. The Department has considered the scope of the modification and is satisfied that the modified development would remain substantially the same as the development for which consent was originally granted, as it:
 - would not change the purpose or nature of the approved development;
 - does not propose the construction of any additional infrastructure and does not involve any changes to the development's disturbance footprint;
 - would not significantly increase the environmental impacts of the development; and

² Sections 4.55(4) and 4.56(1C) of the EP&A Act each provide that a modification of a development consent is "not taken to be granting of development consent".

- would provide contingency to continue operating the development during circumstances not envisaged at the time of the original approval.

43. Therefore, the Department is satisfied the modification is within the scope of section 4.55(2) of the EP&A Act and can be assessed and determined under this section.

4.2 Consent authority

44. Centennial, the parent company to Springvale Coal (the applicant for the modification application), disclosed a reportable political donation under section 10.4 of the EP&A Act.

45. As such, in accordance with section 4.5(a) of the EP&A Act and clause 2.7(1) of the *State Environmental Planning Policy (Planning Systems) 2021*, the Independent Planning Commission of NSW (the commission) is the consent authority for the application.

4.3 Mandatory matters for consideration

46. In determining the modification, the consent authority must take into consideration the relevant matters referred to in section 4.55(1) and 4.55(3) of the EP&A Act, including the objects of the Act, applicable environmental planning instruments, the likely impacts of the modification application, site suitability and the public interest.

47. The Department has considered these matters carefully and has summarised its findings in **Section 6** and **Appendix C**.

4.4 Other approvals and authorisations

48. Energy Australia holds EPL 13007 under the *Protection of the Environment Operations Act 1997*, which includes surface water monitoring requirements at the Thompsons Creek Reservoir discharge point. Should the modification be approved, the EPL would not require a variation.

4.5 Amended application

49. In accordance with section 113 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), a modification application can be amended at any time before the application is determined.

50. Springvale Coal sought to amend its application in March 2025 (see **Appendix A**) to:

- limit the timeframe for proposed water transfers to the upcoming MPPS outage scheduled for April/May 2025;

- reduce the water quality discharge limit in Thompsons Creek Reservoir from 650 µs/cm to 600 µs/cm; and
 - limit environmental releases from Thompsons Creek Reservoir to the minimum daily volume of between 0.3 and 0.8 ML/day for the duration of any blended or partially treated water transfers.
51. Under the commission’s delegation of 14 June 2022, Director, Energy and Resource assessments, accepted the amendment to the modification on 4 March 2025. The amendment was accepted on the basis that the proposed amendments directly responded to issues raised in agency advice and submissions and would not increase the impacts of the development as a whole.

5 Engagement

5.1 Department’s engagement

52. The Department publicly exhibited the modification for a period of 22 days from 16 January 2025 until 6 February 2025 on the NSW planning portal and notified each person who made a submission in relation to the original development application as well as relevant government agencies and Lithgow City Council (Council).
53. The Department also requested advice from the Independent Expert Advisory Panel for Mining in relation to the modelling of water quality impacts for the modification. This advice will be provided to the IPC once received.

5.1.1 Summary of public submissions

54. 143 submissions were received, including 131 from individuals and 12 from special interest groups. Of these, 28 supported the modification and 114 objected to the modification.
55. The key concerns raised in the objecting submissions were in relation to:
- water quality impacts on Thompson Creek Reservoir and the broader water catchment, including impacts on the Sydney drinking water catchment;
 - change from a zero-discharge water management system;
 - impacts on biodiversity and aquatic ecology;
 - alternatives considered and proposed management measures, including monitoring programs;
 - impacts on cultural heritage;

- cumulative impacts; and
- the selected assessment pathway for the modification.

56. Objecting submissions also raised concerns in relation to Centennial’s compliance record and planning applications that are yet to be submitted. The Department notes that these matters do not form relevant considerations for the assessment of this modification under the EP&A Act.

57. Supporting submissions raised economic and social benefits associated with the continued operation of SWTP and MPPS.

5.1.2 Summary of agency advice

58. A summary of advice received from government agencies is provided in **Table 2**. A link to the full copy of the advice is provided in **Appendix B**.

Table 2 | Summary of agency advice

Agency	Advice summary
Environment Protection Authority (EPA)	<ul style="list-style-type: none"> • Raised a number of concerns including in relation to: <ul style="list-style-type: none"> – the water impact assessment for the modification and recommended an independent review of the assessment by a suitable expert; – the alternatives considered as part of the assessment; and – cumulative impacts from the future or ongoing MPPS outages. • Recommended a number of mitigation measures, including a request that EPA and WaterNSW are notified if the EC in Thompsons Creek Reservoir exceeds 550 µs/cm. • Following review of the Submissions Report, EPA acknowledged the adoption of recommended mitigation measures and agreed with the recommended conditions for the modification.
WaterNSW	<ul style="list-style-type: none"> • Requested further information in relation to: <ul style="list-style-type: none"> – proposed water quality and transfer volume monitoring; – cumulative impacts in relation to Centennial’s broader water management system; – contingencies and management responses for when Thompsons Creek Reservoir is unable to receive water transfers due to the exceedance of high operating level and EC trigger level;

Agency	Advice summary
	<ul style="list-style-type: none"> - the reason for the proposed buffer period of 14 days prior and seven days following MPPS outage; and - proposed brine management. <ul style="list-style-type: none"> • Following review of the Submissions Report, WaterNSW supported the amendments made to the modification and confirmed its view that the amended modification would be unlikely to adversely impact water quality, provided the management measures proposed by Springvale Coal are implemented. • WaterNSW reiterated the need for continued development of a long-term solution that addresses water/salt management and ongoing flooding issues to achieve a neutral or beneficial effect on water quality.
NSW Department of Climate Change, Energy, the Environment and Water - NSW Jurisdictional System Security Coordinator	<ul style="list-style-type: none"> • Advised that MPPS is important to NSW electricity supply and receives the majority of its coal from Springvale Mine. • Noted that without a modified water management solution, there is a risk that Springvale Mine could flood and permanently cease production. • Confirmed that NSW would face increased electricity reliability risks were the water management at Springvale mine to fail and the mine to permanently cease production.
NSW Department of Climate Change, Energy, the Environment and Water – Water Group	<ul style="list-style-type: none"> • Raised no specific concerns.

5.1.3 Summary of council submission and advice

59. Council raised no concerns (refer **Appendix B**).

5.2 Response to submissions

60. Following public exhibition, the Department requested that Springvale Coal respond to the issues raised in submissions and the advice received from government agencies.

61. Springvale Coal provided a submissions report to the Department on 28 February 2025 (see **Appendix B**), and the Department published the report on the NSW planning portal.

62. In responding to submissions, Springvale Coal made amendments to the originally proposed modification (see **Section 4.5**).

6 Assessment

63. As the modification does not include any additional disturbance or infrastructure, the Department considers that the key issue for the assessment is the effect that water transfers would have on the water quality in Thompsons Creek Reservoir and its downstream receiving environment.

64. The Department's assessment of this issue is provided in **Section 6.1**. The Department's assessment of other issues associated with the proposed modification is provided in **Section 6.2**.

6.1 Water quality

65. A detailed Water Impact Assessment was prepared by ERM to assess the impacts that blended and partially treated mine water would have on the quality of water stored in Thompsons Creek Reservoir over different outage periods.

66. Under all the modelled outage periods, EC in Thompsons Creek Reservoir was predicted to remain below 600 $\mu\text{s}/\text{cm}$. The maximum 95th percentile EC predicted from all outage scenarios modelled was 576 $\mu\text{s}/\text{cm}$ at the end of a 111-day outage. This result is highly conservative in the context of the proposed April/May outage, noting that:

- water transfers are proposed for a period of up to 75 days, not 111 days as modelled; and
- actual EC levels in Thompsons Creek Reservoir in February 2025 were 481 $\mu\text{s}/\text{cm}$, which is materially lower than the modelled starting value of 506-526 $\mu\text{s}/\text{cm}$.

67. The Water Impact Assessment also considered impacts on downstream catchment water quality and salt loads in Coxs River associated with daily environmental releases from the reservoir during and following outage periods.

68. The assessment conservatively assumed that the maximum daily volume of environmental releases (18.5 ML/day) would be ongoing throughout any outage period. Springvale Coal has subsequently committed to limit environmental releases to the minimum daily volume of between 0.3 and 0.8 ML/day for the duration of any blended or partially treated water transfers.

69. The assessment found that environmental releases from Thompsons Creek Reservoir would have a lower EC value than the downstream catchment (upstream of Lake Wallace), even with the modification, and would therefore be unlikely to adversely influence local catchment water quality.
70. The Department agrees that the modification is even less likely to adversely influence EC further downstream in the catchment at and beyond Lake Lyell.
71. The additional salt load associated with maximum daily environmental releases represent an approximately 1.42% to 2.85% increase in baseline salt load in the downstream catchment (upstream of Lake Wallace). The Department agrees that this increase is minor and unlikely to adversely impact long term catchment water quality due to the short duration of the increase and the environmental variability experienced in this part of the catchment.
72. Based on these findings, the Department considers that the modification would not have any material or long-term adverse impact on catchment water quality or on drinking water quality in the Sydney drinking water catchment. In particular, the Department notes that:
- water quality in Thompsons Creek Reservoir is better than downstream catchment water quality, even with the modification;
 - salinity in Thompsons Creek Reservoir is predicted to remain within the range of historical variability and would remain well below the Australian Drinking Water Guideline value considered to constitute good quality drinking water; and
 - restricting the volume of daily environmental releases to 0.3ML/day or 0.8ML/day significantly limits the potential for impacts on downstream water quality during blended or partially treated water transfers.
73. WaterNSW has confirmed, and the Department agrees, that the modification is unlikely to adversely impact water quality.

6.1.1 Monitoring and management measures

74. Centennial monitors trends in water quality and aquatic ecology in the Upper Coxs River catchment. The scope of the monitoring program is outlined in the SWTP Water Management Plan and the Upper Coxs River Action and Monitoring Program. Additionally, Energy Australia monitors water quality in Coxs River and in Thompsons Creek below the reservoir environmental release point, as well as monthly monitoring of Thompsons Creek Reservoir water quality.

75. As part of this modification, Springvale Coal has committed to install a new continuous water quality monitor in Thompson Creek Reservoir prior to commencing transfer of blended or partially treated water.
76. The key management measures adopted for the modification include:
- lowering the water level in Thompsons Creek Reservoir as required prior to commencing water transfers associated with outages, to provide sufficient capacity;
 - ceasing transfers of blended or partially treated water to Thompsons Creek Reservoir if the High Operating Level of the reservoir is exceeded;
 - ceasing transfers of blended or partially treated water to Thompsons Creek Reservoir if EC levels are likely to exceed 600 $\mu\text{s}/\text{cm}$;
 - notifying EPA and WaterNSW if EC levels in Thompson Creek Reservoir exceed 550 $\mu\text{s}/\text{cm}$; and
 - limiting environmental releases to the minimum daily volume required by Energy Australia’s water access licence.
77. The Department considers that with the implementation of the above monitoring and management measures, water quality impacts in Thompson Creek Reservoir and the downstream catchment can be managed within acceptable environmental limits.

6.2 Other issues

78. The modification does not propose changes to the development footprint or infrastructure and would therefore not result in any additional impact on terrestrial ecology, Aboriginal heritage, historic heritage, amenity or soil from those already approved.
79. The Department’s consideration of other issues is summarised in **Table 3**.

Table 3 | Assessment of other issues

Issue	Findings and conclusions
Reservoir capacity	<ul style="list-style-type: none"> • Thompsons Creek Reservoir has a total capacity of 27,500 ML. The full supply level at the reservoir is set 0.3 m below the invert level of the spillway to allow the reservoir to hold any catchment run-off without spilling. • Water levels in the reservoir are generally maintained by Energy Australia close to its Low Operating Level to maintain sufficient capacity to store periodic water transfers and any elevated rainfall events.

Issue	Findings and conclusions
	<ul style="list-style-type: none"> Water levels are also managed in accordance with the requirements of the <i>Dam Safety Act 2015</i> and <i>Dam Safety Regulations 2019</i>, including provision for emergency discharges, if required, to avoid water levels exceeding the full supply level. Energy Australia has advised that storage levels in Thompsons Creek Reservoir would be proactively reduced prior to commencing transfer of any blended or partially treated water in order to maximise storage capacity and avoid the need for an emergency discharges. This may include lowering the water storage level below the low supply level to accommodate longer duration outages. The Department is satisfied that storage capacity can be managed to accommodate the proposed transfer volumes without compromising the storage capacity of Thompsons Creek Reservoir or increasing the risk of emergency discharges.
Sydney drinking water catchment	<ul style="list-style-type: none"> The NorBE test in the Biodiversity and Conservation SEPP does not apply to modification applications. As discussed in Section 3.4, commissioning of SWTP has resulted in a material improvement in water quality within the Coxs River catchment. The Department acknowledges that the proposed short-term transfers of blended or partially treated water would likely result in a temporary increase in salinity within Thompsons Creek Reservoir. However, the Department notes that even with the modification, salinity levels would remain below those of the downstream catchment and are therefore unlikely to adversely affect water quality immediately downstream in the Coxs River or result in any significant adverse impact on the broader catchment (see Section 6.1). Furthermore, the Department considers that the predicted temporary water quality impacts in Thompsons Creek Reservoir would not negate the significant improvements that has been made to water quality within the catchment since the commissioning of SWTP. The Department considers that the proposed modification would assist in ensuring continued operation of the SWTP, which would continue to deliver a significant benefit for the catchment. WaterNSW agree that the modification is unlikely to adversely impact water quality.
Aquatic ecology	<ul style="list-style-type: none"> A number of public submissions raised concerns in relation to potential impacts on aquatic ecology, including potential impacts on platypus.

Issue	Findings and conclusions
	<ul style="list-style-type: none"> Biannual aquatic ecology monitoring has been ongoing in Coxs River and Pipers Flat Creek since 2017. Monitoring results to date indicated that the macroinvertebrate communities remain in good condition. Given the minor and temporary nature of the predicted water quality impacts (see Section 6.1), the Department considers that the modification application would not result in adverse impacts on aquatic ecology within the catchment.
Cumulative impact	<ul style="list-style-type: none"> The potential cumulative impacts of the modification on water quality in the Upper Coxs River catchment have been assessed as part of the Water Impact Assessment (refer to Section 6.1).
Alternatives	<ul style="list-style-type: none"> As discussed in Section 2.1, a number of alternative water management strategies have been considered by Centennial. The modification was considered the only feasible alternative that was achievable within the timeframe required by the upcoming MPPS outage. The Department agrees that the strategies considered by Centennial were not feasible due to the timeframe required to implement them, lack of relevant approvals, greater environmental risk, and/or risk of inundation of mine workings. The Department does however consider that alternative strategies may potentially be feasible to address future MPPS outages and should be further pursued by Springvale Coal. The Department agrees that the 'do nothing' option is not desirable and would increase the risk of flooding of mine workings at Springvale or Angus Place. The Department considers that flooding of these mine workings is not in the public interest due to the extent of recoverable resource that would potentially be sterilised, as well as the potential risk to NSW energy security should supply to MPPS be interrupted (see Section 3.1). Further, the Department acknowledges that flooding of the remaining mine workings at Springvale and/or Angus Place increases the risk of an uncontrolled discharge of untreated mine water from the mine into the catchment. The Department considers that an uncontrolled discharge of untreated mine water would result in a poorer environmental outcome than that proposed by the modification and is not in the public interest. Limiting the timeframe for the modification to the upcoming outage period would provide Centennial the opportunity to further develop some of the longer-term alternative measures currently under consideration.

Issue	Findings and conclusions
	<ul style="list-style-type: none"> Following review of the alternative water management strategies, the Department agrees that the modification is the preferred option to manage excess water during the upcoming MPPS outage period.

7 Evaluation

80. The Department has assessed the merits of the modification in accordance with the requirements of the EP&A Act, and with consideration to advice from government agencies and submissions from Council and the public.
81. The modification has been proposed to provide a temporary solution to water management challenges at Springvale Mine that threaten to flood Springvale and/or Angus Place mines. Flooding of mine workings has the potential to result in loss of equipment, sterilisation of coal reserves and a permanent cessation of production that would leave MPPS without its main source of coal.
82. Without a solution to these water management challenges, NSW faces increased electricity reliability risks, particularly at periods of peak demand.
83. The Department considers the key matter for consideration for the modification is the potential impact on water quality in Thompsons Creek Reservoir and the downstream catchment, which forms part of Sydney’s drinking water catchment.
84. The Department’s assessment has found that the modification would not have any material or long-term adverse impact on downstream catchment water quality or on drinking water quality in the Sydney drinking water catchment.
85. Thompsons Creek Reservoir water quality would remain similar to or better than the downstream environment, even with the modification, and the changes predicted to water quality are within the range of historical variability in the reservoir and downstream catchment.
86. Total additional salt load in the downstream catchment resulting from the modification would be minor and unlikely to adversely impact long-term catchment water quality due to the short duration of the increase and the environmental variability experienced in this part of the catchment.
87. Importantly, the modification would not negate the significant improvements that have been made to water quality within the catchment since the commissioning of SWTP.

88. The Department considers that monitoring and management measures proposed by Springvale Coal would be effective in minimising the potential impacts of the modification on catchment water quality.
89. Consequently, the Department considers that the modification is in the public interest and is approvable, subject to the recommended conditions set out in the instrument of modification (see **Appendix D**). A consolidated development consent incorporating the recommended changes is provided in **Appendix E**.

Appendices

Appendix A – Summary of amendments to the modification application

Since lodgement, some key aspects of the modification application have been amended. A summary of the key amendments is provided in **Table A1** below.

Table A1 | Key project changes

Aspect	Modification Report	Final proposed project	Reason for change
Timeframe of the water transfers	During Mount Piper Power Station (MPPS) outages between 2025 and 2038	During the scheduled 54-day MPPS outage in April/May 2025	Following review of submissions on the modification application
Water quality transfer limit in Thompsons Creek Reservoir	650 µs/cm	600 µs/cm	Following review of submissions on the modification application
Environmental releases from Thompsons Creek Reservoir	Up to 18.5 ML/day	Limited to minimum daily volume of 0.3ML/day (between May and August) and 0.8 ML/day (between September and April) for the duration of any blended or partially treated water transfers	Following review of submissions on the modification application

Appendix B – List of referenced documents

B1 – Modification Report: Refer to the ‘Modification Application’ folder under the ‘Assessment’ tab of the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/mod-11-water-management-during-mpps-outages>

B2 – Submissions: Refer to ‘Submissions’ tab of the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/mod-11-water-management-during-mpps-outages>

B3 – Submissions Report: Refer to the ‘Response to Submissions’ folder under the ‘Assessment’ tab of the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/mod-11-water-management-during-mpps-outages>

B4 – Agency Advice: Summarised in Table B1. Refer to the ‘Agency Advice’ folder under the ‘Assessment’ tab of the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/mod-11-water-management-during-mpps-outages>

Table B1 | Agency advice

Agency	Advice
Environment Protection Authority (EPA)	EPA advice on MOD 11
WaterNSW	WaterNSW advice on MOD 11
NSW Department of Climate Change, Energy, the Environment and Water – Water Group (NSW Water Group)	NSW Water Group advice on MOD 11
NSW Department of Climate Change, Energy, the Environment and Water - NSW Jurisdictional System Security Coordinator	Energy Security Coordinator advice on MOD 11
Lithgow City Council	Lithgow City Council advice on MOD 11

Appendix C – Statutory considerations

Objects of the EP&A Act

A summary of the Department’s consideration of the relevant objects (found in section 1.3 of the EP&A Act) are provided in **Table C1** below.

Table C1 | Objects of the EP&A Act and how they have been considered

Object	Consideration
(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,	<p>The modification meets this objective because it would provide ongoing dewatering of Springvale and Angus Place mines, enabling safe production and avoid sterilisation of these resources.</p> <p>Overall, the Department considers that any minor impacts can be appropriately managed under existing and recommended conditions.</p>

Object	Consideration
<p>(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,</p>	<p>The Department considers that the modification can be carried out in a manner that is consistent with the principles of ecologically sustainable development as it would:</p> <ul style="list-style-type: none"> • not require clearing of any native vegetation; • have no impact on Aboriginal cultural heritage or historic heritage; • be temporary in nature; and • provide ongoing employment in the region and result in associated economic benefits.
<p>(c) to promote the orderly and economic use and development of land,</p>	<p>The modification represents a continuation of land use which is permissible on the subject land.</p> <p>The Department considers this represents an orderly and economic use of the land.</p>
<p>(d) to promote the delivery and maintenance of affordable housing,</p>	<p>This object is not applicable to the proposed modification.</p>
<p>(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,</p>	<p>The modification does not require any land clearing and avoids impacts to threatened species and communities and key habitats.</p>
<p>(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),</p>	<p>The modification would not impact Aboriginal cultural heritage or historic heritage.</p>
<p>(g) to promote good design and amenity of the built environment,</p>	<p>The modification would not require any changes to the existing built environment.</p>
<p>(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,</p>	<p>The modification does not require the construction of any buildings.</p>

Object	Consideration
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	The Department has assessed the modification application in consultation with Lithgow City Council and other relevant NSW government authorities and considered the issues raised by these agencies in its assessment.
(j) to provide increased opportunity for community participation in environmental planning and assessment.	The Department publicly exhibited the Modification Report and application and considered all submissions in its assessment.

Environmental Planning Instruments (EPIs)

To satisfy the requirements of section 4.15(1)(a)(i) of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the following considers the relevant provisions of the EPIs that govern the carrying out of this project and have been taken into consideration in the Department’s environmental assessment.

Lithgow Local Environmental Plan 2014 (Lithgow LEP 2014)

SWTP is located within the Lithgow City local government area. Under the *Lithgow Local Environmental Plan 2014 (Lithgow LEP 2014)*, the proposed development area includes land zoned as:

- RU1 - Primary Production;
- RU2 - Rural Landscape;
- RU3 - Forestry; and
- SP2 – Infrastructure.

Water supply systems are permissible with consent in the RU1 and RU2 zones. Non-forestry land uses in State Forests are permitted in accordance with the *Forestry Act 2012* and are subsequently permissible without consent in the RU3 zone. Development that is ancillary to the operation of the Mount Piper Power Station is permissible with consent in the SP2 zone.

Consequently, the project is permissible with development consent.

State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP)

The proposed modification is for the purposes of mining related works which is identified as State Significant Development through Clause 5 of Schedule 1 of the Planning Systems SEPP.

As Centennial has disclosed a reportable political donation, under Section 2.7(1)(c) of the Planning System SEPP and in accordance with Section 4.5(a) of the EP&A Act the Independent Planning Commission is the consent authority.

State Environmental Planning Policy (Resilience and Hazards) 2021

Hazardous and offensive development Chapter 3 of this SEPP requires persons proposing to carry out development for the purposes of potentially hazardous industry to prepare a Preliminary Hazard Analysis and to submit this with the development application.

The proposed modification is not considered a “potentially hazardous industry” or “potentially offensive industry” as described in this SEPP. Consequently, Springvale Coal did not prepare a preliminary hazard analysis, and the Department considers that Part 3.11 of the SEPP does not apply to determination of the modification application.

Appendix D – Instrument of modification

<https://www.planningportal.nsw.gov.au/major-projects/projects/mod-11-water-management-during-mpps-outages>

Appendix E – Consolidated development consent

<https://www.planningportal.nsw.gov.au/major-projects/projects/mod-11-water-management-during-mpps-outages>