Wilderness Australia

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Dear Prof Menzies,

SSD-7592 MOD 11, as amended on 4 March 2025

Introduction to the issues for decision

Wilderness Australia is pleased that the amended SSD-7592 MOD 11 is now limited to operate in April and May 2025. The replacement of the undefined term, "water" as originally proposed with a defined term "blended water" to describe the water transferred to Thompsons Creek Reservoir (TCR) is also an improvement.

As the Independent Planning Commission (the Commission) would be aware, the original Modification 11 proposal was to discharge up to 18.5ML/day of the undefined "water" from TCR. The amended modification omits TCR discharges, except for environmental flows of 0.3 in winter increasing to 0.8ML/day in summer as required by the Natural Resources Access Regulator's Statement of Approval 10CA117220, as specified in condition MW5878-00019.

Following the site inspection on Friday 14 of March 2025, the Commission has now witnessed what may be TCR pre-releases occurring prior to the anticipated April-May outage period for Mt Piper Power Plant (MPPS). Wilderness Australia objects to these apparently unauthorised discharges, apparently with the tacit agreement of regulatory authorities.

The justification for these pre-releases is unstated in the amended Modification assessment report but appears to enable the subsequent improved control of the more saline blended waters (up to a concentration of 850 µS/cm) following its temporary storage in Thompsons Creek Reservoir (TCR) for the duration of the MPPS outage period. Perhaps this pre-release arrangement allows for greater dilution of the blended transfer waters in the TCR subsequently, once greater flows of treated water transfers to the TCR are possible in June. Future anticipated discharges, again perhaps unauthorised, may occur after Modification 11 lapses on expiry at the end of May. These foreshadowed discharges may be less saline than if these releases occurred during the MPPS outage.

The above possible reason for the apparently unauthorised pre-releases is perhaps a generous explanation. It is also equally possible that these pre-releases are occurring to avoid the Commission's determination of these releases. Whatever the reason for the apparently unregulated pre-releases (and unstated but likely post-outage releases of mine water), Wilderness Australia does not support this ad hoc discharge of partially treated mine water pollution into Sydney's drinking water catchment.

An adequate regulatory framework is required and expected for mine water releases, based on protection for the natural aquatic environment and maintenance of Sydney's currently excellent drinking water quality. No ecologically based regulatory framework exists that is tailored to the on-going discharges from Springvale Water Treatment Plant (SWTP). Both Centennial Coal and EnvironmentAustralia apparently assume regulatory authorities and this Commission will condone these pre-releases and likely post-MPPS outage discharges without an independently developed, science-based, well-reasoned and articulated regulatory framework. Salinity levels are instead set by what is likely to be achieved by the proposed MPPS outage arrangements, and then apparently backwards justified in a manner purported to be reasonable based on the polluted condition of downstream receiving waters. Wilderness Australia disagree with these comparisons and considers that the comparison of discharges must be made against the upstream environment.

Development of this proposed regulatory framework is the task of the NSW Environment Protection Authority (EPA), with input from the NSW Department of Planning, Housing and Infrastructure (DPHI), NSW Water and in relation to potential impacts on the World Heritage Area, the NSW National Parks and Wildlife Service and the Federal Department of Climate Change, Energy, Environment and Water. These agencies have had more than twelve months since the withdrawal of SWTP Modification 8 to sort out a discharge regulatory framework for consideration by Centennial Coal, the public and the Commission. Despite engagement with the EPA, Wilderness Australia is aware of no concrete proposal for a scientifically based regulatory framework that would ensure protection of the environment and the quality of raw drinking water from Springvale's mine water discharges.

It is unwise for a regulatory framework for mine water discharges to be imposed on regulatory authorities by Centennial Coal by way of modification proposals that can offer no structural reforms to waste management. Discharge regulation by consent modification is obviously how the development of regulation for Springvale mine water discharges is trending, and that places a burden on voluntary environment organisations to do something effective about it.

Wilderness Australia believes that salinity levels of the proposed outage transfer of blended water are unsatisfactorily elevated relative to the capability of the Springvale Water Treatment Plant (SWTP) that is designed to remove salt to a 300µS/cm performance level. The SWTP should have been designed to accommodate MPPS outages under the 2017 approval. The periods when no ash was being produced by the MPPS because outages were foreseeable. Wilderness Australia believes these omissions now require a plant and waste management redesign.

The Commission, however, must deal with the amended Modification 11, not these hypotheticals.

As the Commissioner's are aware, the purpose of Modification 11 is to permit transfer of so-called blended mine water during the MPPS outage by raising the salinity of the TCR transfer water from 500 µS/cm to 850 µS/cm. It is understood that this proposed relaxation of the mine water transfer

salinity standard is due to the capacity of the brine crystalliser being about half the capacity of the Reverse Osmosis (RO) plant. As there is apparently no means of disposing of brine except by crystallisation to solid salts during MPPS outages, the RO plant output must in turn be reduced by about half to around 18ML/day, to match the capacity of the brine crystalliser, as per the amended Mod 11.

A mooted alternative solution obviating the need for Mod 11

The Commissioner's have probably guessed that an alternative to the proposed SWTP transfer to the TCR of blended mine water with a salinity of 850 µS/cm would be to instead store a part of the produced mine water in the Angus Place mine.

The proportion of mine water that would be treated by the RO plant during the MPPS outage except for the apparent limited capacity of the brine crystalliser, could instead be stored in Angus Place Mine. This proportion translates to an amount around 20ML/day of mine water to ensure the blended water transferred to the TCR remains at 500 µS/cm. While this outcome does not approach the 300µS/cm performance standard of the R.O. plant, it is a slight improvement on amended Mod 11.

Wilderness Australia understands from conversations with Centennial Coal that the remaining mine water storage at Angus Place mine is 1400ML. Only a fraction of this 1400ML volume would be required to store in Angus Place the mine water that would otherwise be treated at the R.O. plant but for the brine issue during MPPS outages. The storage of mine water would be no more than about 440ML for the 22 day dual unit MPPS outage and say another 220ML for the 55 day single unit outage period, a total of about 660ML, or less than half the remaining storage capacity. Even given delays during the MPPS outage, this mine water storage alternative is possible, but is it a superior option.

Approximately 700ML Angus Place mine water storage would remain after the MPPS outage period. This storage seems sufficient for other operational contingencies and to prevent unplanned discharges of untreated mine water.

The proposed regulation of Springvale mine water discharges is understood to come into operation during the second quarter of 2025 with proposed Mod 12. The Commission must then balance the risk of unplanned discharges, perhaps in the middle of delicate deliberations over mine water discharge regulation, against approval of SWTP Mod 11.

The ad hoc nature of the proposed Mod 11 changes to waste water management should have been avoided. *The proposed amended Mod 11 "kicks the regulatory can down the road" leaving regulation of future MPPS outages for later, and to mix metaphors, also "attempts to sweep mine water under the carpet" through apparently unauthorised pre-releases from the TCR.*

Outstanding issues to be addressed prior to determination of Mod 11

While the amended Modification 11 is a slight improvement, it is still an unacceptable ad hoc proposal associated with apparently unauthorised pre-releases, and so the following outstanding issues should be addressed during the Commission's determination stage for this proposal:

- On nine occasions, the Response To Submissions report mentions (e.g. ERM, RTS on page 2, 28 Feb 2025) that the water level in TCR shall be sufficiently lowered to provide capacity for surplus mine water transferred to the TCR during the outage period. This water level

"lowering" operation is an intrinsic part of Mod 11 and the contingent mine waste discharge from the TCR should have been regulated under the MPPS environmental protection licence 13007 and the SWTP SSD-7592 consent. The Commission should note that during the last financial year (1 July 2023 to 30 June 2024), an average of 7.45 ML/day to 12.75 ML/day of mine wastewater was released from TCR. These apparently unauthorised discharges were in addition to an approved 15-day emergency discharge of 1,549.8ML, that was licenced under EPL 13007 (see EnergyAustralia NSW, 26 November 2024, *Water Access Licence and Approval Annual Compliance Report for Mt Piper Power Station* (Table 3-1 on page 24) and EPL 13007). Surely regulatory consistency should have required licensing of pre-release discharges from the TCR **see questions 1**;

- Mine waste discharges are often dirty as the Lithgow Coal Seam is interlayered with minor claystone and mudstone bands, and so turbidity of produced mine water can exceed the 1000NTU level that causes difficulties at the SWTP. In these instances, the R.O. cleansing capacity of the SWTP is reduced. Modification 11 does not consider options to boost filtration capacity to address this occurrence **see questions 2**;
- Total SWTP treated mine water transferred to TCR during 2021 had a yearly annual average salinity performance of 291µS/cm. For 2022 an average annual salinity performance of 274µS/cm was achieved by the SWTP for all water transferred to the TCR. In 2023 the annual average salinity performance of mine water transfers rose to 359µS/cm, due to the portion of Filtered Treated Water sent to TCR under MOD 8 (see Centennial Coal, SWTP 2023 Annual Review, Table 7-3 Treated Water to TCR Quality Performance, page 39) **see questions 3**;
- The alleged need to transfer up to 24 ML/day of filtered water with a salinity of ~1,200µS/cm to the TCR during the MPPS outage is entirely predicated on the alleged limited ability to treat brine generated by the RO plant in the crystalliser and the absence of ash from the MPPS to condition the remaining brine for co-emplacement. These contingencies might be addressed by prior stockpiling of ash for use during the MPPS outage or accessing older stockpiled unconditioned ash, of which there are hundreds of thousands of tonnes available, for reuse in brine conditioning and co-emplacement. Alternatively, but in this instance out of scope for Mod 11, there is a more expensive solution of building additional brine crystalliser capacity at the SWTP to accommodate future outages and the increasingly frequent periods when the MPPS operates below full generation capacity due to green energy reforms and thus generates less ash **see questions 4**.

Questions in relation to the above Issues requiring resolution

1. The Commission could ask EnergyAustralia if they have obtained the necessary approvals for 18.5ML/day pre-release discharges from TCR? The Commission may also ask if Centennial Coal or EnergyAustralia have informed the EPA and DPHI of the need to regulate these polluting discharges arising from lowering the TCR to allow for transfers during MPPS outages? Further, the Commission might wish to ask EnergyAustralia whether it is aware that allowing, causing or permitting apparently unauthorised pre-release discharges from TCR to lower the storage level prior to the April-May MPPS outage may cause an offense under the Protection of the Environment Operations Act 1997? The Commission may also wish to enquire why the EPA licenced an emergency discharge from the TCR and not regular discharges that cause a greater

salinity load on Sydney's drinking water and the Coxs River in the downstream World Heritage Area?

2. The Commission may wish to request of Centennial Coal its turbidity data for the produced mine water to identify periods of "dirty" mine water (>1000NTU)? If the Commission believes these periods of "dirty" mine water are frequent, could the Commission ask Centennial Coal if they intend to augment the SWTP filtration plant so the RO capabilities of the SWTP can be more fully utilized?

3. The Commission may wish to enquire of Centennial Coal whether the yearly average salinity performance of 274µS/cm achieved by the SWTP for all transfers to the TCR in 2022 will ever be achieved again, and if not why not, and if so, when? The Commission may wish to enquire if the SWTP will be redesigned to provide 50 to 100 µS/cm salinity water considered more suitable for MPPS condensers by EnergyAustralia (as stated at the 14/3/2025 site inspection) and also approaches the salinity levels of upstream receiving waters, thus perhaps satisfying the neutral or beneficial discharge test?

4. The Commission may wish to again ask EnergyAustralia to clarify why ash can not be stockpiled or older unconditioned ash accessed to then co-emplace with brine produced during MPPS outages? The Commission may then also wish to ask EnergyAustralia whether they intend to develop a facility to store unconditioned ash obtained either from ash repositories or stockpiled from MPPS ash output? If in the future, as seems likely, ash production becomes insufficient for conditioning of liquid brine co-emplacement, does Centennial Coal and EnergyAustralia intend to build additional crystallizer capacity to store salt in a solid waste state in the ash repository? Critically, the Commission should ask whether EnergyAustralia will cancel its ash recycling contracts to ensure sufficient ash is always available in all circumstances for brine co-emplacement in its now lined ash-brine-salt repository?

Mod 11, only an interim measure

The Commission should describe amended Modification 11 to the SSD-7592 consent as an interim measure. The amended modification contains no provisions and facilities necessary for future outages at the MPPS or for the waste management changes required during the increasingly extended periods when the MPPS is underutilised.

As the Mt Piper Power Station ages, it will require more frequent and longer periods of scheduled maintenance. During these future MPPS outages, longer periods and greater flows of filtered mine water could increasingly obviate the benefits of the R.O. water treatment plant, unless waste management facilities are appropriately reconfigured. Similarly, the increasing underutilisation of MPPS due to energy reforms will reduce the benefits of the R.O. plant due to brine storage constraints.

Wilderness Australia believes that the Commission's determination remarks in regard to Modification 11 should elucidate the short comings of this interim measure as part of its reasons for the decision. Wilderness Australia anticipates that Centennial Coal may seek regular time extensions for this inadequate Modification 11 to address future MPPS outages, and the Commissions reasons should also consider this matter.

The proposed ad hoc approach to mine waste water management through consent Modifications perpetuates existing structural inadequacies of ash, brine, salt and mine wastewater management, and partially defeats the benefits of R.O. treatment by the SWTP that according to discussions with the EPA on 4/3/2025 is contracted to operate at a rate of 42ML/day.

The necessary future maintenance for MPPS and the need to develop alternative, more appropriate and comprehensive measures to manage ash, brine, salt and mine wastewater are unlikely to be adequately addressed by proposed Modification 12, SSD-7592, foreshadowed for the second quarter of 2025.

Transitioning Springvale and Angus Place mines, MPPS and SWTP waste management for a future less reliant on coal powered electricity generation

Due to the transition of the electricity energy grid from fossil fuels, MPPS is generating less electricity with every passing year. In consequence the proportions of mine water, salt, brine and ash shall vary more dynamically during this energy transition period. Current brine co-emplacement arrangements shall become problematic due to the lack of ash supply and mine water production shall continue to increase well beyond 42ML/day SWTP consent limit towards 50ML/day. Additional waste management structures and enhancements should be put in place as soon as possible to retain and enhance the performance of the R.O. capabilities of the SWTP during this transition.

The above circumstances are not a reason for deregulation. For example, EnergyAustralia seeks removal of the Water Licence provision that requires the MPPS to use all available mine water from its storages before accessing water from the Coxs River (i.e. condition MW5870-00001 in WAL 27428). This deregulation proposal would save money for EnergyAustralia and Centennial Coal but also must lead to worse outcomes for receiving waters and Sydney's water consumers who would then be the recipients of additional mine water discharges. It is likely that the above mooted licence variation would be a contingent outcome of Springvale wastewater regulation if it remains fixed to minor proposed consent modifications. Without restructuring, mine water discharges shall increase, and salinity rise until the above water licence provision becomes a "paper tiger".

Modification 11 and its amendment could not have considered new infrastructure, such as the proposed pre-storage of additional ash, as new infrastructure usually requires major project planning processes. Perhaps the modification process "tail" is wagging the appropriate waste management "dog".

Approval of Modification 11 would, however, end an interregnum. The apparently unauthorised TCR discharges of partially treated mine waste would cease (apart from required environmental flows) and would the zero discharge management of mine water would be reinstated for MPPS, the SWTP, and Angus Place and Springvale mines. In other words, adoption of Modification 11 would restore a zero discharge operational framework that once existed in the SWTP consent, but only for two months.

A foreshadowed regulated discharge arrangement may then replace Modification 11 with a future Modification 12, but this proposed regulatory change must also be without any significant structural changes to waste management. Such a proposal appears to be set up to fail.

The mine wastewater management must segway from industrial reuse in the MPPS with no discharge to a situation where mine wastewater is increasingly discharged and reused as a drinking water resource consumed by five million people. The proposed authorised discharges to receiving waters would also flow through the Greater Blue Mountains World Heritage Area. The transition of mine wastewater management to drinking water reuse is a development with potentially significant impacts on a World Heritage Area and drinking water. New waste management structures are necessary for such a change to prevent significant environmental impacts on millions of people.

Additional mine water management infrastructure requires a state significant development process

A proposal for the mine wastewater management revisions required for energy transition should trigger an environmental impact statement, public comment and review processes, including a public inquiry. The required structural changes to renovate and augment mine wastewater, ash, brine and salt management facilities would require a major project to be initiated.

In the coming months Centennial Coal intends to lodge a Modification 12 proposal to discharge additional flows of mine wastewater into Sydney's water catchment. Under the Modification 12 proposal, Centennial Coal plans to pump out wastewater stored in the Angus Place mine at a rate of 10ML/day over four years to bring that mine back into production. This waste has a salinity of ~1,200µS/cm. In Mod 12, Centennial Coal proposes to dilute this stored mine wastewater with R.O. treated wastewater before discharge at a salinity mooted to be 700µS/cm.

Perhaps regulators shall lower proposed discharge salinity concentration levels, but the foreshadowed Modification 12 is unlikely to be acceptable to Wilderness Australia and probably most of Sydney's drinking water consumers at the receiving end of these additional future mine waste discharges. As has been outlined to Wilderness Australia, proposed Mod 12 foreshadows a new discharge point for Wangcol Creek that would potentially cause additional impacts to aquatic environments and adversely alter the character of Sydney's drinking water.

Wilderness Australia believes that Modification 12 should instead be a State Significant Development to effectively address the segway to a more dynamic waste management environment.

Wilderness Australia believes all produced mine wastewater should be treated through an augmented R.O. plant that produces soft drinking water equivalent to what Sydney residents now enjoy and is comparable with the upstream water environment with a salinity of 30µS/cm.

Making treated water comparisons with the receiving waters contaminated by very saline exudate from the Mount Piper Ash Repository and Centennial Coal's apparently unauthorised discharges from the TCR are unreasonable comparisons. The large slugs of brine from the repository entering Wangcol Creek after heavy rain and the apparently unauthorised discharge from TCR entering Thompsons Creek distort considerations of any claimed neutral or beneficial effect from a future proposed mine water discharge proposal. In this contaminated downstream context, comparisons of proposed discharges excuse the polluter for adding to its pollution. Reasonable comparisons are made when proposed discharges are compared with upstream receiving water environment above Centennial Coal and EnergyAustralia's impacts. When such upstream comparisons are made a future discharge proposal must limit mine water pollution. WildernessAustralia labours this point as the original Mod 11 assessment report made these downstream comparisons.

Last financial year, 3,975ML (3.975GL) of Centennial Coal's inadequately treated mine water were discharged from Thompsons Creek Reservoir (TCR) by EnergyAustralia into Sydney's drinking water catchment, apparently without planning consent or a pollution licence. These unauthorised discharges were in addition to a 15-day emergency discharge of 1,549.8ML that was granted a pollution licence.

New pollution discharges of the gigalitre a year scale require regulation in a manner that can protect the quality of Sydney's drinking water. Consent modification processes are unsuitable for new mine water pollution discharges of this scale. That these discharges have been occurring apparently without consent are irrelevant. Determination of how to regulated these industrial scale discharges into a drinking water supply must be a major project.

Further, Centennial Coal and EnergyAustralia should not in effect be rewarded for apparently unauthorised discharges by granting consent for them through a modification process without making any further efforts to reduce environmental impact of discharges. Modification proposals are simply a polluter seeking to not pay for additional industrial scale pollution of Sydney's water supply.

Determination of Modification 11 and the pre-releases from TCR

The prerelease of mine water from TCR being undertaken prior to the commencement of amended Mod 11 continues earlier alleged unauthorised discharges and should not be condoned by regulators or the determining authority, as doing so is a slippery slope. The Commission has now witnessed this discharge. The Commission is required to pronounce judgement on this pre-release or be considered by some perhaps to be "turning a blind eye to it". The pre-release is really a part of Modification 11, as Modification 11 only can work with the pre-release. The Commission may conclude its is unable to regulate these discharges as they may be out of scope, but the Commission can express a view in relation to it in its determination remarks, and in private dealings with the regulators, EnergyAustralia and Centennial Coal.

Similarly, the interagency group working on regulation of these mine water discharges must develop more environmentally sustainable options for Centennial Coal's mine water, if Sydney is to continue enjoying some of the best drinking water in the world and the Coxs River remain worthy of being a stream in a World Heritage Area. The interagency group addressing mine wastewater must not constrain its thinking to only consent modifications as these apparently prevent the necessary structural changes of water management required.

Yours sincerely,

[redacted]

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