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Our Ref: D2016/121748

Paul Freeman
A/Team Leader, Resource Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Anthony Ko

Dear Mr Freeman

Springvale Water Treatment Project (SSD 7592)
Review of Environmental Impact Statement

I refer to your email received 26 September 2016 seeking WaterNSW's comments and recommended conditions on the Springvale Water Treatment Project (SWTP). WaterNSW appreciates the opportunity.

WaterNSW understands that Springvale Coal Pty Limited has proposed an amendment to the SWTP which involves transfer of treated mine water, not used by Mount Piper Power Station, to Thompsons Creek Reservoir, instead of discharging to Wangcol Creek. WaterNSW also notes that Springvale Coal has requested the Department provide any further assessment requirements for this amendment. WaterNSW has provided the Department its further assessment requirements for the amendment. Notwithstanding this proposed amendment to the SWTP, the Department has requested comments on the EIS.

WaterNSW supports the implementation of the SWTP including the proposal to store excess treated mine water in Thompsons Creek Reservoir rather than discharging to Wangcol Creek. The SWTP has been proposed to meet performance measures for salinity of the discharge mine water required in the Springvale Mine Extension Project (SSD 5594) approval conditions including the Upper Coxs River Action & Monitoring Plan.

WaterNSW has reviewed the current EIS for the SWTP and identified some inconsistencies and deficiencies (see Attachment 1). WaterNSW requests that these inconsistencies and deficiencies be addressed.

WaterNSW considers Springvale Coal should also investigate the provision of additional capacity at the water treatment plant for future integration of mine water from other current and future mining operations within the vicinity, particularly within the Wangcol Creek catchment. This would include consideration of LDP006 discharges and any discharges from the Neubecks Creek Coal Project, should this be approved.

WaterNSW will provide recommendations regarding conditions following assessment of the documentation on the amended Project.

WaterNSW requests the opportunity to continue to be involved in any ongoing assessment of the Project. Further queries about our submission can be directed to Nicole Wallwood on 4724 2458 or Girja Sharma on 47242459.

Yours sincerely

MALCOLM HUGHES
Manager Environment and Planning
CC: Darryl Clift - EPA

14/11/16

Attachment 1: WaterNSW's comments on the EIS for the Springvale Water Treatment Project (SSD 7592)

1. NorBE Assessment

The neutral or beneficial effects (NorBE) assessment for the SWTP is mainly focused on salinity and associated impacts on water quality. The following have not been considered in the NorBE assessment:

- a detailed discussion of other water quality parameters (such as metals etc) during operations
- how the SWTP will have a neutral or beneficial effect on water quality during construction and decommissioning.

Discussion on page 10-44 and 10-45 reports a slight deterioration in water quality at Wangcol Creek compared to existing conditions through increased discharges at LDP006 as a result of disposal of residue material from the treatment plant at the reject emplacement area (REA). This is considered to be a detrimental impact, not a beneficial impact as stated in the EIS.

2. Assessment of Impacts on Existing Licensed Discharge Point (LDP006)

The disposal of solids from the treatment plant in the REA at the Springvale Coal Services Site (SCSS) and highly concentrated brine disposal with ash at Mount Piper Power Station (MPPS) have not been thoroughly assessed for their impact on LDP006. While it is noted that LDP006 is not part of the SWTP, the salt and water balances indicate discharges will be further impacted by the Project.

- The discharge volumes from the SCSS at LDP006 are reported on average to be 1.29 ML/day, with historical ranges between 0-14 ML/day. WaterNSW understands that current discharges at LDP006 are close to 4-5ML/day. The correct volume should be identified and water and salt balance modelling should be updated accordingly.
- LDP006 discharge salinity is currently more than 3000 µS/cm. It is likely that the salinity of existing discharges from LDP006 may increase due to disposal of SWTP solids at the REA at the SCSS. There may also be other potential water quality impacts from residue materials being deposited at the REA which have not been addressed in the EIS. The potential surface water and groundwater quality impacts should be thoroughly assessed.
- WaterNSW considers Springvale Coal should incorporate discharges from LDP006 into the SWTP. It is noted that the salinity levels at LDP006 are currently considered too high to treat, and would require a new brine concentrator to be installed as part of the Project. WaterNSW understands an investigation is proposed to clarify where the increased dirty water is coming from, and results of investigations may lead to further modifications of the SWTP in the future. WaterNSW requests involvement in any discussions relating to LDP006.
- Appendix B, Page 169 - Water Resources Impact Assessment (WRIA) reports that Wangcol Creek discharges at LDP006 are expected to increase by 0.43ML/day. This figure is inconsistent with all other figures throughout the EIS, including the difference between discharges at LDP006 from the do nothing Scenario and Scenario 3 in the annual water transfers diagrams (Figures 6-7 and 6-8), which indicates a 0.2ML/day increase. This inconsistency needs clarification and correction. Given the salt and water balances indicate increased discharges and salt loads from LDP006, WaterNSW considers Wangcol Creek would be negatively impacted by the project. WaterNSW recommends a proposal be developed to offset this negative impact on the water quality of Wangcol Creek. This should also be incorporated in the updated draft Upper Coxs River Action and Monitoring Plan (UCRAMP).

- The brine concentration process is estimated to increase total dissolved solids (TDS) from 180,000 mg/L to 500,000 mg/L. The increases are proposed to be managed as part of the existing ash emplacement management strategy in place at MPPS and the EIS claims the SWTP would not increase the potential for impact to the groundwater environment from the current ash placement conditions. There is no justification for this claim and it is a particular concern for WaterNSW, considering there has been a continued increase in chloride levels at various groundwater monitoring sites within the MPPS site including at Neubecks Creek (Wangcol Creek upstream of LDP006) in recent years, the source of which is still yet to be determined.
- The indicative metal loads from the residual materials stream are outlined on page 222 of the WRIA (Appendix B). Arsenic, boron, nickel, zinc and iron are identified as primary issues, with iron particularly due to use of ferric chloride as a coagulant in the treatment plant. The expected iron output of 968 kg/day for the residual waste is a concern for WaterNSW given the existing water quality issues in Wangcol Creek via LDP006, specifically with regard to significant iron precipitate observed in the creek, and the low riparian, channel and environmental inventory and low diversity of macroinvertebrates outlined in the Aquatic Ecology Impact Assessment. It is expected that the disposal of residual materials at the REA would compound the existing issues. WaterNSW considers that further assessment of the impacts of these metals including arsenic, boron, nickel, zinc and iron on Wangcol Creek from discharges at LDP006 should be undertaken.

3. Other Comments

- Given the late change in directing SWTP discharges to Thompsons Creek Reservoir instead of Wangcol Creek via a new LDP, it is not clear whether upgrades to the existing discharge point LDP006 and channel within Wangcol Creek are still proposed. This should be clarified and included in the amended EIS and the Soil and Water Management Plans for the Project.
- Appendix B – WRIA, Pages 241-242 and Table 9-3 proposes additional surface water monitoring locations. These will need to be updated in light of the change in proposed discharges to Thompsons Creek Reservoir and should also consider additional groundwater monitoring downstream of the salt slurry ponds within the MPPS.
- There are no details of the likely chemicals to be used through the reverse osmosis treatment process, the resultant quality of backwash water, and their potential environmental impacts. Pages 6-11 of the EIS briefly discusses storage of hazardous chemicals but no detail of how they will be managed and stored on site and the appropriate transportation and disposal of chemicals. WaterNSW had required this detail in our recommendations for the SEARs. This should be addressed in the amended EIS.
- Given the proximity of the proposed salt slurry ponds to identified areas of groundwater contamination within the MPPS site, WaterNSW considers that stringent design, construction and management measures should be required for these ponds to ensure no additional impacts on groundwater in this location, and potentially on Neubecks (Wangcol) Creek. This should include appropriate lining of the ponds, and appropriate monitoring and management of storage levels, surface water and groundwater quality.
- There are discrepancies between water and salt balance figures in the draft UCRAMP compared to the WRIA (Appendix B) for the existing conditions indicating that the impacts from Upper Coxs River catchment to Lake Burragorang were underestimated in the draft UCRAMP, which should be updated accordingly.
- It is noted on Page 82 of the WRIA (Appendix B) that the LDP009 sedimentation ponds are dredged twice annually and materials are placed in the REA at SCSS.

Given discharges from LDP009 will cease as a result of the project, there is no indication as to whether these ponds would be decommissioned. This should be addressed.

- It is noted on Page 217 of the WRIA (Appendix B) that the nature of discharges cannot be established until the WTP is constructed. WaterNSW would like to be consulted once the quality of treated water and discharges, and ecotoxicology testing from the project are known.
- The proposal assumes salinity of treated mine water of 450 µS/cm will be achieved and assessment predictions are based on this salinity, however Table 10.13 and Page 232 of Appendix B proposes limits of 901 µS/cm in the new EPL. WaterNSW considers this limit unsuitable. Considering treated mine water is proposed to be directed to Thompsons Creek Reservoir, a new LDP will not be required.