

Mining and Industry Projects  
NSW Department of Planning & Environment  
GPO Box 39  
SYDNEY NSW 2001

Dear Sir/ Madam

**RE: 4Nature Submission - Springvale Water and Treatment Project SSD 16\_7592**

**1. INTRODUCTION**

The proponent's EIS describes a project which aims to transfer mine water from Springvale underground coal mine to Mount Piper Power Station (MPPS) for re-use. As outlined in the proponent's EIS all the mine water will be re-used if the MPPS is operating at or above 50% capacity. When the MPPS is operating at levels below 50%, up to 32 ML/day of treated mine water would be discharged into Wangcol Creek, a tributary of the Coxs River.

In broad terms, 4Nature supports the intent of the project to re-use Springvale mine water and cease the discharge of mine water at Licensed Discharge Point (LPD 09) into Sawyers Swamp. 4Nature supports this project because these outcomes have the potential to improve water quality in the Coxs River catchment. However, as currently described the proposal will increase salinity in the Coxs River catchment which forms part of Sydney's drinking water supply. We have identified three major issues with this project;

- (i) the discharge of low quality treated water and the proposed use of Wangcol Creek as a new discharge point,
- (ii) lack of detail about increasing flows into the Coxs River, and
- (iii) the proposed new easement for the pipeline rather than use the existing easement.

If these three issues are properly addressed, then the project could have appreciable beneficial effects for the environment.

**2. WATER QUALITY**

**2.1 Salinity levels of discharge water are too high**

The project intends to discharge up to 32ML/day of re-used water into Wangcol Creek. The proposed salinity level, measured as electrical conductivity, for this discharge is 500 $\mu$ S/cm (90<sup>th</sup> percentile by June 2019). When compared with the naturally occurring levels of salinity in the catchment waters the treated water discharges with this level of salinity are too high and would increase the salinity levels in the Coxs River catchment.

Based on the available information the salinity levels in the relatively undisturbed headwaters of the Coxs River range from 30 $\mu$ S/cm<sup>(1)</sup> to 100 $\mu$ S/cm<sup>(2)</sup>. Downstream from the project site the Coxs River flows through the Greater Blue Mountains World Heritage Area (GBMWH) and then into Lake Burrangora reservoir impounded by Warragamba Dam.

The GBMWha Strategic Plan 2009<sup>(3)</sup> aims to protect water quality by including a desired outcome of:

*“any adverse impacts on water quality and quantity within the GBMWha arising from park management activities, upstream land uses or visitor use are eliminated or, at least mitigated.”*

Without improved water quality for discharged water the project will not meet the desired outcomes of the GBMWha Strategic Plan 2009.

Increased salinity in Warragamba Dam is of also of concern because it is the major source of Sydney’s drinking water. The State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 includes the aim of;

*“to provide that a consent authority must not grant consent to a proposed development unless it is satisfied that the proposed development will have a neutral or beneficial effect on water quality”<sup>(4)</sup>*

The intent of the Sydney Drinking Water Catchment policy is to ensure developments in the catchment are only approved if there is a neutral or beneficial effect on water quality.

Therefore by increasing the level of salinity above levels occurring in the relatively undisturbed headwaters of the Cocks River the project does not meet the criterion of a neutral or beneficial effect on water quality.

In addition to the elevated salinity in the discharge water the use of Wangcol Creek as a discharge point will result in additional pollution in the Cocks River because Wangcol Creek has a historical load of salt and other contaminants from past use. Another discharge point needs to be located so that discharges from that point do not mobilise pre-existing salts and contaminants from prior industrial uses.

## **2.2 Lack of detail about other contaminants**

The proposal focuses on salinity levels as the indicator of water quality. However, treated mine water contains a range of contaminants, including heavy metals and plant nutrients. The levels for the full range of potential contaminants should be documented and measured. The levels of these contaminants in discharged treated water should be equal to or less than those levels found in the relatively undisturbed headwaters of the Cocks River.

## **2.3 Full range of water quality indicators are needed**

It is well established scientifically that water quality indicators must include measurements of temperature, turbidity, pH and dissolved oxygen<sup>(2)</sup>. The proponent’s EIS does not address these indicators of water quality in any detail. However, the discharged mine water should have values for these water quality indicators that are in the same range as water quality indicators for the relatively undisturbed headwaters of the Cocks River. These water quality indicators should be monitored and regular reports on these indicators should be available to the public.

## **2. WATER QUANTITY**

The re-use of water from the Springvale mine should allow additional water to be released into the Cocks River from current storages which rely on surface water collections. However, the EIS does not provide sufficient detail on how much additional water could be released into the Cocks River. Furthermore, if a higher standard of water quality could be achieved then there could additional flows from the treated mine water discharge point.

Also it is not clear why Springvale mine water could not be used when the MPPS was operating at less than 50% capacity. The proponent should model the potential beneficial effects and explain why more of the Springvale mine water could not be re-used when the MPPS is operating at less than 50% capacity.

### **3. PIPELINE EASEMENT & UTILISATION**

The project proposes to build a pipeline to transfer water from the extraction point at the Springvale mine to the MPPS. The alignment of the new pipeline does not utilise the easement (southern alignment) of the current pipeline. The EIS does not adequately explain why a new easement is needed. The argument in the EIS is that a new easement would result in approximately the same amount of land clearing as using the existing easement. However, the environmental impacts of the land clearing in the two options are not adequately compared. A new easement will destroy native vegetation and disturb animal and plant communities. A new easement (northern alignment) shows an alignment which traverses more relatively undisturbed land than the existing easement and would appear to create unnecessary environmental impacts which could be avoided if the existing easement were utilised.

It is also not clear why water discharges need to continue from Licensed Discharge Point 06 (LDP 06) when LPD 06 is shown to be adjacent to the proposed pipeline.

Consideration should also be given to ensuring that the pipeline design specifications include the capacity to take additional mine water from other mines in the area, such as Angus Place if they are re-commissioned.

### **4. CONCLUSION**

Unless it is modified, the current proposal will have adverse environmental impacts on the Coxs River catchment. These impacts could be avoided or mitigated by including the following consent conditions in the approval.

- Treat the mine water discharge to achieve a higher standard of water quality so that it has a neutral or beneficial effect when compared with the water quality in the relatively undisturbed headwaters of the Coxs River.
- Locate a discharge point for treated water that will not mobilise contaminants from historical industrial use.
- Use the full range of scientifically established indicators to measure the quality of discharge water, including; salinity, heavy metals, plant nutrients, pH, temperature, turbidity and dissolved oxygen.
- Monitor and report regularly and publicly on the quality of the discharge water.
- Provide estimates of the likely increased flows of high quality water into the Coxs River.
- Utilise the existing easement for the construction of the new pipeline, unless the environmental impacts are conclusively shown to be less destructive than using the existing easement.
- Transfer mine water discharges from LPD 06 to the pipeline for treatment.
- Ensure that the pipeline has the capacity to take additional water from other mines in the area

## REFERENCES

1. Birch G, Siaka M, and Owens C. The source of anthropogenic heavy metals in fluvial sediments of a rural catchment: Cocks River. *Water, Air and Soil Pollution*. 2001, 126:13-35.
2. ANZECC & ARMCANZ. National Water Quality Management Strategy Paper No. 4. Australian and New Zealand Guidelines for Fresh and Marine Water Quality Volume 1 The Guidelines (Chapters 1–7). Australian and New Zealand Environment and Conservation Council Agriculture and Resource Management Council of Australia and New Zealand. October 2000.
3. NPWS. Greater Blue Mountains World Heritage Area Strategic Plan 2009. Office of Environment & Heritage (NSW).  
<http://www.environment.nsw.gov.au/parkmanagement/GBMWHAStrategicPlanFinal2009.htm> Accessed 7 Nov. 2016
4. State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011.  
<http://www.legislation.nsw.gov.au/#/view/EPI/2011/28/part1/cl3> Accessed 7 Nov 2016.

Submission from 4Nature  
President: Andrew Cox  
Secretary: Warwick Pearse  
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