

DOC16/446829, File No. EF13/8250

Department of Planning  
PO Box 39  
SYDNEY NSW 2001

Attention: Jessie Evans

Dear Sir or Madam,

**Wallarah 2 Coal Project – Amended Development Application (SSD 4974) Notice of Exhibition**

I refer to your email to the Environment Protection Authority (EPA) dated 20 July 2016 regarding the Wallarah 2 Coal Project – Amended Development Application (SSD 4974).

The EPA understands that the amends proposed involve

- removal of the previously proposed rail loop
- relocation of the previously proposed rail spur to the eastern side of the Main Northern Rail Line
- relocation of the rail load-out facility to the eastern side of the Main Northern Rail Line
- addition of a conveyor system to deliver product coal from the stockpile to the new rail load-out facility, and
- realignment of the sewer connection.

The EPA has previously submitted terms of approval for the original proposal, however upon review of the proposed amendments is unable to provide recommended conditions of consent without further information being provided by the proponent, specifically regarding noise. There also appears to be errors in the air quality impact assessment for the amended development application (Refer attachment A).

The EPA has also provided discussion on water related issues for the overall project with Water Quality Discharge Concentration Limits for the proposed Water Treatment Plant or any other proposed discharge (refer attachment B).

If you require any further information regarding this matter please contact David Bell on (02) 4908 6817.

Yours sincerely

 5/9/2016

**REBECCA SCRIVENER**  
**A/Head Regional Operations Unit - Hunter**  
**Environment Protection Authority**

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## **Attachment A – EPA - Further Information Required**

### **Noise**

The Environment Protection Authority (EPA) has reviewed the Noise and Vibration Impact Assessment Addendum (NVIAA) prepared by Atkins Acoustics (Ref 46.6729.R2:GA/DT/2016 dated July 2016).

The EPA considers that further information is required from the proponent before recommended conditions can be provided.

EPA notes that the operational noise impacts at assessment locations P1 to P10 are reduced by between 0.1 and 1.1 dB in comparison to the previously proposed rail loop (Table 14). The NVIAA needs, however, to include predicted noise emission levels from the revised proposal at these locations, to inform the recommendation of general terms of approval.

The relocation of the rail spur and load-out facility will result in exceedances of the project-specific noise level at assessment locations P14, P15, P16 and P17 by up to 4 dB under some prevailing meteorological conditions (Tables 15 and 16), which in some cases will trigger a requirement for mitigation under the NSW Government Voluntary Land Acquisition and Mitigation Policy (VLAMP).

The NVIAA sets amenity noise criteria for assessment locations P13, P14 and P15 based on a 'urban' amenity category under the NSW Industrial Noise Policy (INP). The EPA does not accept this to be an appropriate amenity category for these receivers based on the information in the Wyong Council Local Environmental Plan 2013. The EPA considers that appropriate amenity categories for the above assessment locations under the INP would be P13 – 'Suburban', P14 – 'Rural' and P15 – 'Rural'. The NVIAA should revise the assessment to account for these changed categories and provide justification to support other amenity categories being considered more appropriate for these locations.

Table 10 of the NVIAA assigns meteorological conditions of 20 degrees C and 60% relative humidity for night-time noise modelling, these values are identical to those for the daytime scenarios and their use should be justified or more appropriate night-time values used.

The NVIAA predicts significant construction noise impacts at surrounding receivers, particularly during out of hours activities. Any works outside the standard hours in the Interim Construction Noise Guideline (ICNG) should be supported by clear justification as per Section 2.3 of the ICNG. The EPA also considers that the NVIAA should include more detailed information regarding how the predicted construction noise impacts will be mitigated and managed, together with their expected effectiveness in reducing overall construction noise emissions from the proposal. The EPA considers that the impacts of traffic associated with construction noise will not be significant, based on the vehicle numbers provided in Section 7.2 of the NVIAA.

The notes that rock hammering is proposed where required, however a rock hammer is not listed as an item in Table 2.4 of the NVIAA. It is also not clear whether a 5 dB penalty has been added to some construction activities with increased potential for annoyance as per Section 4.5 of the ICNG, such as rail saws, grinders, rail tamping and regulating, vibratory rollers, etc. The proponent should also check the exceedance entries for work stages 2, 3 and 10 in Table 27 of the NVIAA for accuracy.

### **Air**

The EPA has reviewed *Wallarrah 2 Coal Project Air Quality and Greenhouse Gas Assessment – Addendum* (PEL, July 2016) included as Attachment D to the *Wallarrah 2 Coal Project Amendment to Development Application SSD-4974* (Hansen Bailey, July 2016).

The air assessment concludes that:

- The results of the dispersion modelling indicate that the predicted incremental ground level concentrations for PM<sub>10</sub>, PM<sub>2.5</sub>, TSP and dust deposition at the closest residential receptors are all below the impact assessment criteria.
- A cumulative assessment, incorporating existing background levels, indicates that the Project is unlikely to result in any additional exceedances of relevant impact assessment criteria at the neighbouring receivers.

Table 7.1 of the assessment presents a summary of modelling results for PM<sub>2.5</sub>, PM<sub>10</sub> and TSP. In some instances, maximum PM<sub>2.5</sub> predictions are marginally higher than the maximum PM<sub>10</sub> predictions. As PM<sub>2.5</sub> is a sub-fraction of PM<sub>10</sub>, these results appear to be in error. The proponent should check and confirm the modelling results presented in the air assessment are correct.

## **Attachment B – EPA - Additional Comments**

### **Water**

The amended Wallarah Two Coal Project does not involve changes to surface water management.

The EPA provides the following advice that remain under consideration as part of the previous consent condition including suitable water quality discharge limits. In general the previous consent conditions are appropriate and consideration should be given to the issues set out below to update the conditions for the amended development.

### **Stormwater management**

The sizing and management of stormwater systems appear to be appropriate which aims to avoid managed overflows from the site.

Any flocculants or coagulants discharged that may cause actual or potential pollution (non-trivial risk of harm) and affect downstream water uses or the environment should be appropriately regulated by licence limits and other standard section 45 considerations apply such as the practical measures that can be taken to prevent, control, abate or mitigate the pollution and protect the environment from harm, e.g. low toxicity flocculent options.

### **Discharges from the Water treatment plant**

Discharge limits should be derived with reference to the ANZECC (2000) guidelines and the full range of considerations under section 45 of the *Protection of the Environment Operation Act*.

The background water quality in Wallarah Creek has not been demonstrated to provide suitable reference conditions for developing site specific trigger values consistent with ANZECC (2000) requirements as the current water quality at the monitoring location may be adversely affected by mining or other catchment activities. ANZECC (2000) states that: "the reference condition should represent a substantial achievement in environmental protection that is agreeable to the majority of stakeholders", and, "It is not acceptable to allow poor environmental performance or water pollution, simply because a waterway is degraded". In accordance with the ANZECC (2000) guidelines, for a slightly to moderately disturbed system (which is level of protection goal that should apply in this case), the reference site(s) should be only slightly modified. In the absence of appropriate reference conditions the default trigger values should be used.

For toxicants such as metals, the trigger values can be adjusted using the decision tree for toxicants in the ANZECC (2000) guidelines.

Where ANZECC (2000) Volume 1 does not provide an aquatic ecosystem trigger value for a particular analyte, then reference should be made to Volume 2 to determine if a interim trigger value is available as a basis for decision making, or international literature can be reviewed.

The use of 99% species protection levels applies to some analytes for slightly to moderately disturbed ecosystems to account for potential bioaccumulation effects, e.g. mercury, selenium.

The EPA in the absences of compelling reasoning proposes to set the discharge limits from the Water Treatment Plant in the table below;

## Proposed Discharge Environmental Protection Limits for WTP

Parameter	Unit	Detection Limit (mg/L)	Wallarah Creek (W6) 80 <sup>th</sup> Percentile Value <sup>1</sup>	ANZECC Guidelines Default Trigger Value <sup>2</sup>	EPA Revised Maximum Allowable Discharge Limit
Electrical Conductivity	µS/cm	1	516	300	300
pH	pH units	0.01	5.9 – 6.8	6.5 – 8.5	6.5-8.5
TSS	Mg/L	5	24	-	24
Dissolved Oxygen	% Sat	0.1	67.8	85	68
Calcium	mg/L	1	13.6	1,000	14
Sodium	mg/L	1	81.4	115	80
Magnesium	mg/L	1	9.8	2,000	10
Potassium	mg/L	1	3	-	3
Sulphate	mg/L	0.25	19.9	400	20
Chloride	mg/L	1	141.8	175	140
Arsenic	mg/L	0.001	0.0005	0.013	0.0005
Barium	mg/L	0.001	0.15	1	0.15
Cadmium	mg/L	0.0001	0.0001	0.00006	0.00006
Chromium	mg/L	0.001	0.001	0.001	0.001
Copper	mg/L	0.001	0.003	0.0014	0.0014
Lead	mg/L	0.001	0.0008	0.0034	0.0008
Manganese	mg/L	0.001	0.105	0.1	0.1
Nickel	mg/L	0.001	0.002	0.011	0.002
Zinc	mg/L	0.005	0.097	0.008	0.008
Iron	mg/L	0.05	1.764	0.2	0.3
Mercury	mg/L	0.0001	0.00005	0.00006	0.00005
Ammonia	mg/L	0.01	0.06	0.02	0.02
Nitrate and Nitrite as N	mg/L	0.01	0.052	0.15	0.05
Total Phosphorus	mg/L	0.01	0.1	0.025	0.05
Oil/grease	mg/L	5	2.5	300	2.5
Aluminium	mg/L	0.01	N/A	0.055	0.055
Selenium	mg/L	0.01	N/A	0.005	0.005
Carbonate	mg/L	1	N/A		W/Creek W6 80 <sup>th</sup> %ile
Bicarbonate	mg/L	1	N/A		W/Creek W6 80 <sup>th</sup> %ile

### Brine disposal

The previous consent condition for a Brine Treatment Management Plan stated that the Plan must include a detailed description of processes for managing brine treatment on site and disposal of brine and salt in underground mine workings, including:

- the volumes of brine and salt produced;
- the capacity of on-site and underground storages for brine and salt; and
- measures to monitor and mitigate any impacts of underground brine and salt storage on groundwater and surface water resources.

Additionally there needs to be the inclusion of appropriate construction and monitoring of surface brine storages to ensure surface water and groundwater is protected.

The EPA has not reviewed the groundwater section, however, support the condition for the Plan to cover mitigation and monitoring of underground brine storage. Brine disposal into mine workings may have future surface water implications including the following issues that should be considered in the Brine Management Plan:

- The general impacts and potential for cumulative increases in risk to groundwater from brine discharges requires a robust and detailed assessment to consider any potential environmental impacts.
- After mining is completed there may be potential to create highly concentrated groundwater (salinity and other pollutants) in the void areas that eventually build up and overflow back to surface waters and or shallow aquifers. Post-mining groundwater levels may drive mixing and upward movement of brine contaminated groundwater.

The EPA does not have the expertise to provide advice on the potential impacts of brine disposal on surface waters including groundwater dependant ecosystems. NSW Office of Water (NOW) could be consulted when reviewing the Brine Management Plan, in particular in relation to the aquifer interference assessments.