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FORMER HYDRO ALUMINIUM KURRI KURRI SMELTER REMEDIATION REVIEW OF AIR QUALITY IMPACT ASSESSMENT

The purpose of this letter is to review the findings of *Former Hydro Aluminium Kurri Kurri Smelter Demolition and Remediation Air Quality Impact Assessment* (Ramboll Environ, 2016) (the AQIA) against the proposed Project changes as detailed in **Section 8** of the *Response to Submissions Report: Former Hydro Aluminium Kurri Kurri Smelter Remediation* (Ramboll, 2018) (the RtS).

PROJECT CHANGES

Section 8 of the RtS provides details on the following proposed changes to the Project as described in the EIS to be considered in this review:

- Removal of Stage 2 Demolition from the Project subject of the State Significant Development (SSD) Application SSD 6666
- The treatment of the material removed from the Capped Waste Stockpile with gypsum prior to its placement within the Containment Cell
- Omission of the removal of potentially recyclable material from the Capped Waste Stockpile prior to its placement in the Containment Cell
- The transportation of leachate collected at the Capped Waste Stockpile and the Containment Cell for treatment at an off site licensed facility.

SUMMARY OF AQIA FINDINGS

The AQIA was prepared to address the Department of Planning and Environment's (NSW DPE) Secretary's Environmental Assessment Requirements (SEARs). The assessment was undertaken with consideration to the NSW EPA *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (DEC, 2005).

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Emissions of particulate matter, individual metals and air toxics and diesel-combustion related air pollutants were quantified for peak operations. Ground level concentrations were predicted at selected sensitive receptor locations surrounding the Smelter site using the AERMOD dispersion model.

The assessment concluded that the Project would comply with the applicable NSW EPA assessment criterion at all sensitive receptors.

POTENTIAL SOURCES OF AIR QUALITY IMPACTS FROM PROJECT CHANGES

Table 1 identifies the Project changes and the associated potential sources of air quality impacts.

Table 1: Proposed Project Changes and Potential Sources of Changes to Air Quality Impacts

Proposed Project Changes	Potential Sources of Changes to Air Quality Impacts
Removal of Stage 2 Demolition from the Project subject of the State Significant Development (SSD) Application SSD 6666	Stage 2 Demolition was subsequently the subject of a separate Development Application which was approved by Cessnock City Council on 8 May 2018. While it no longer forms part of the Project remaining as part of SSD 6666, it is likely to occur concurrently with the Project and therefore it remains part of the activities considered in this review of the AQIA
The treatment of the material removed from the Capped Waste Stockpile with gypsum prior to its placement within the Containment Cell	Due to its fine nature, transportation of gypsum has the potential to generate dust along the transport route between the supplier and the Project Site The unloading and storage of gypsum has the potential to generate dust The placement of the gypsum on the Capped Waste Stockpile material, and the transportation and placement of the treated material within the Containment Cell, could generate dust
Omission of the removal of potentially recyclable material from the Capped Waste Stockpile prior to its placement in the Containment Cell	Reduced handling of the Capped Waste Stockpile material would potentially reduce potential for dust generation from the Capped Waste Stockpile
The transportation of leachate collected at the Capped Waste Stockpile and the Containment Cell for treatment at an off site licensed facility	Off site treatment would remove the need for operation of an on site leachate treatment plant and the associated fuel combustion emissions (if operated by a diesel generator) The truck movements required to transport the leachate off site would increase fuel combustion emissions.

REVIEW OF POTENTIAL AIR QUALITY IMPACTS

Section 5 of the AQIA presents the findings of dispersion modelling for the Project, including Stage 2 Demolition.

Change 1 - Removal of Stage 2 Demolition from the Project subject of the State Significant Development (SSD) Application SSD 6666.

- Whilst Stage 2 Demolition has been removed from the SSD 6666, the demolition activities and associated particulate matter emissions generated may still coincide with Project operations. The AQIA quantified these emissions in the modelling undertaken, therefore this change would not alter

the results predicted within nor the conclusions of the AQIA. **No change in air quality impacts from the AQIA.**

Change 2 - The treatment of the material removed from the Capped Waste Stockpile with gypsum prior to its placement within the Containment Cell.

- The import of gypsum material to site by truck, estimated to be 36,000t over a five month period, would have the potential to generate particulate matter emissions from the movement of trucks along unpaved roads. Loads would be covered to avoid emissions from the surface of gypsum loads with trucks. Using the emission factors for unpaved haulage calculated for the AQIA and assuming a one-way haulage distance of 0.6km, the import of gypsum would represent an increase in Project emissions of 2% for TSP, 1% for PM_{10} and less than 1% for $PM_{2.5}$ relative to the AQIA emissions inventory. This increase is considered minor and the resultant change to predicted impacts would be negligible. **Negligible change in air quality impacts from the AQIA.**
- Imported gypsum material would be initially delivered to and stored within a former spent pot lining storage shed. Emissions from handling of gypsum by front-end loader would be captured within the building while the potential for wind erosion would be low due to the structure. Consequently, fugitive particulate matter emissions from this component of the Project would be negligible. **No change in air quality impacts from the AQIA.**
- In addition to the primary storage of gypsum within a former spent pot lining storage shed, a small storage stockpile of gypsum would be maintained to support daily Capped Waste Stockpile material gypsum application activities. Using material handling emission factors developed for the AQIA, the application of gypsum to the Capped Waste Stockpile material to the loaded truck, and its transportation to the Containment Cell, would represent an increase in Project emissions of less than 1% for TSP, PM_{10} and $PM_{2.5}$. This increase is considered minor and the resultant change to predicted impacts would be negligible. **Negligible change in air quality impacts from the AQIA.**

Change 3 - Omission of the removal of potentially recyclable material from the Capped Waste Stockpile prior to its placement in the Containment Cell.

- The removal of potentially recyclable material was not specifically quantified in the AQIA as the potential for emissions relative to the Capped Waste Stockpile material handling was considered to be minor. The omission of this step of the process would therefore have no bearing on the AQIA predicted results. **No change in air quality impacts from the AQIA.**

Change 4 - The transportation of leachate collected at the Capped Waste Stockpile and the Containment Cell for treatment at an off site licensed facility.

- The transportation of collected leachate to an offsite treatment facility was not quantified in the AQIA. It is understood that this process has the potential to generate an additional eight truck movements per week. Similar to the discussion provided in Change 2, using the emission factors for unpaved haulage calculated for the AQIA and assuming a one-way haulage distance of 1.2km, the transportation of collected leachate could represent an increase in Project emissions of 2% for TSP, 1% for PM_{10} and less than 1% for $PM_{2.5}$ relative to the AQIA emissions inventory. This increase is considered minor and the resultant change to predicted impacts would be negligible. **Negligible change in air quality impacts from the AQIA.**

ADDITIONAL AIR QUALITY MANAGEMENT MEASURES

Implementation of the air quality management measures described in the AQIA and presented in Section 11.4 of the EIS, as well as the measures and procedures described in **Section 8** and **Table 9-1** of the RtS for the Project changes, would mitigate the potential air quality impacts associated with the Project changes.

CONCLUSION

The AQIA concluded that based on the predicted concentrations, the applicable NSW EPA impact assessment criteria would not be exceeded at any of the surrounding sensitive receptor locations. None of the Project changes described in **Section 8** of the RtS would alter the conclusions of the AQIA.

Yours sincerely

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