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Ms Emma Barnet
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Dear Ms Barnet

Weston Aluminium Plant Pty Ltd – Response to Submissions Report - Thermal Waste Processing Project, Kurri Kurri

I refer to your e-mail dated 15 March 2017 seeking advice from the Office of Environment and Heritage (OEH) on the Response to Submissions Report prepared for the Weston Aluminium Thermal Waste Processing Project.

OEH reviewed the exhibited Environmental Impact Statement for this project (AECOM, 2016) and provided advice in a letter dated 24 October 2016 (Ref: DOC16/445913-1). This advice identified that the assessment of Aboriginal cultural heritage, flood risk / floodplain management and threatened biodiversity were incomplete. Following a review of the additional information provided in the Response to Submissions Report, OEH is of the view that the flood risk can be reduced by appropriate conditions and that Aboriginal cultural heritage matters have now been appropriately considered. Please note that there is no requirement for a biodiversity offset. Further detailed advice is provided in **Attachment A**.

If you require any further information regarding this matter please contact Robert Gibson, Regional Biodiversity Conservation Officer, on 4927 3154.

Yours sincerely

Sharon Molloy 31/3/2017

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Enclosure: Attachment A

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ATTACHMENT A: OEH REVIEW OF THE RESPONSE TO SUBMISSIONS REPORT FOR THE THERMAL WASTE PROCESSING PROJECT AT KURRI KURRI

OEH's review of the Environmental Impact Statement (EIS) prepared for the proposed Medical and Other Waste Thermal Processing Facility at Kurri Kurri (AECOM, 2016) identified issues with the Aboriginal cultural heritage, flood risk / floodplain management and threatened biodiversity assessments. This prevented OEH from issuing any recommended conditions of consent for the project. Additional information to address these matters have been provided in the Response to Submissions Report dated 14 March 2017 (AECOM, 2017a). OEH's review of this document focused on threatened biodiversity (AECOM, 2017b), Aboriginal cultural heritage (AECOM, 2017c), and flood risk (Advisian, 2017, AECOM, 2017d and AECOM, 2017e). OEH's detailed comments are provided below:

ABORIGINAL CULTURAL HERITAGE ASSESSMENT

OEH received additional information in January 2017 in relation to Aboriginal cultural heritage matters identified in the EIS. The additional information has addressed OEH's questions. Therefore OEH has no further concerns regarding the Aboriginal cultural heritage assessment for this project.

In addition, OEH acknowledges that the project area has: (1), been historically utilised for heavy industrial use; (2), is disturbed in ways that remain clear and observable; and (3), does not contain areas of potential archaeological deposits. For these reasons, OEH does not recommend specific consent conditions for the management of Aboriginal cultural heritage within the project area.

FLOODING AND FLOODPLAIN MANAGEMENT

OEH has reviewed the *Site Flood Risk Assessment* (Advisian, 2017), and the *Preliminary Hazard Analysis* (AECOM, 2017d) and its subsequent addendum to this analysis (AECOM, 2017e), to determine if it addressed the information requested by OEH in September 2016 with respect to floodplain management for the proposed thermal waste processing facility.

The facility comes under the provisions State Environmental Planning Policy No 33 – Hazardous and Offensive Industries (SEPP 33). Ideally such facilities should be located outside of the floodplain; that is above the probable maximum flood (PMF) level. It is understood from the Advisian report that it is not considered cost-effective or feasible to require flood immunity for this development to PMF level.

The Advisian report carried out additional flood analysis with respect to flood risk at the site. The flood analysis is considered reasonable and is consistent with flood analysis undertaken for the adjacent development and the results of the *Swamp/Fisheries Creek Floodplain Risk Management Study* (Worley Parsons, 2013). It is understood that this may not fully account for likely flood depths in a PMF event which may have been affected by the construction of the Hunter Expressway.

Section 4 of the Advisian report includes recommendations with respect to floor levels, dry flood proofing and structural stability. However, Section 4.1 of this report indicates that the degree of filling required to achieve the floor levels is unlikely to have significant impact of flood levels offsite, however, modelled impact analysis remains to be carried out. However, this could be carried out as part of the detailed design of the facility.

The Advisian report provides detail regarding the likelihood of floods of various depths together with recommendations regarding construction of the facility. This report has been used by AECOM (2017d) to inform a *Preliminary Hazard Analysis* (PHA). The PHA concludes that the floor levels and flood proofing recommended by Advisian will reduce risk to the environment from flooding to acceptable levels. Protection will be provided to the facility for floods up to the 0.05% annual exceedance probability (AEP) event with additional measures in place to reduce the mobilisation of materials in floods of rarer recurrence. Dry flood proofing will provide an additional one metre of protection above

the 0.05% AEP level for the waste storage and handling facility. A flood wall will be used to provide protection to the 0.05% AEP level with limited freeboard for the ash handling area.

It is noted that the dry flood proofing recommendations made by Advisian indicate that temporary flood barriers can be used to close off entries to buildings. The available flood warning is to be taken into account when assessing the feasibility of this measure as a risk management option and when selecting barriers for this purpose.

Following the review of information provided for this project OEH is satisfied that the combination of structural measures and emergency management measures proposed in the PHA will be adequate to provide acceptable levels of flood risk management for the facility. This is encapsulated in the following recommended conditions of consent.

1. The impact of any changes to the existing site topography including cut, fill and building construction must be assessed by flood modelling for events up to and including the PMF. The site currently contains areas of flood storage which, if filled, may have off-site impacts. The development must demonstrate that it will have no significant impact on flood levels outside of the site boundary;
2. Finished floor levels for the waste storage and waste handling facility must be at a minimum of 13.0m Australian Height Datum (AHD). Additional dry flood proofing, including suitable barriers for all door entries, must be provided to 14.0m AHD - in accordance with the recommendations in the Advisian report and the *Preliminary Hazard Assessment*;
3. A flood protection wall with suitable flood barriers across entry ways must be provided to a minimum of 13.0m AHD for the ash handling facility - in accordance with the recommendations in the Advisian report and the *Preliminary Hazard Assessment*;
4. Emergency procedures must be developed for deployment and periodic testing of flood barriers;
5. Equipment and storage containment areas must be bolted down to prevent floatation in floods larger than the design flood - in accordance with the Advisian recommendations;
6. The structural/geotechnical engineers' design of fill batters and scour protection must consider flood forces from a PMF flood;
7. Structural engineers' certification must be provided to ensure the ability of dry flood proofing, wall and flood barriers to resist flood depths and forces for floods up to and including the 0.05% AEP flood;
8. No goods or waste products are to be stored outside of the building;
9. Project infrastructure that is external to the Project building must be designed to withstand velocities and depths associated with a 0.05% Annual Exceedance Probability (AEP) flood event; and
10. Suitable containment must be provided to minimise mobilisation of hazardous stored goods in floods between the 0.05% AEP flood and the PMF.

THREATENED SPECIES

OEH was initially unable to undertake an assessment of the likely impacts to the threatened biodiversity by the proposal as the EIS (AECOM, 2016) did not have a Biodiversity Assessment Report (BAR), as required under the *Framework for Biodiversity Assessment* (FBA) (OEH, 2014a). The proponent has now prepared a BAR which is included in the RTS report (AECOM, 2017b). OEH has completed a review of the BAR and can advise that the project does not require a biodiversity offset.

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The BAR applies the *BioBanking Assessment Methodology 2014* (OEH, 2014b) and calculates the site value score for the site. This assessment found that the small (0.01 ha) of native vegetation affected by the development site was a derived native grassland of which the best Plant Community Type (PCT) match was PCT 1633: 'Parramatta Red Gum – Narrow-leaved Apple – Prickly-leaved Paperbark shrubby woodland in the Cessnock – Kurri Kurri area' (also known as 'HU847'). The native vegetation

on the site was described as being in 'low condition' and the vegetation zone it formed had a site value score of 22. As the development footprint was considered to not match any threatened vegetation community, nor to contain records, or provide habitat for threatened species or populations it was concluded that no offset was required for the proposed development.

The BAR does not fully comply with FBA requirements in relation to the argument made for no biodiversity offsets being required for this project, and why the native vegetation is in 'low condition'. Thus in this instance OEH conducted its own assessment of the information provided for this project.

Threshold for biodiversity offset

Chapter 9 of the FBA defines thresholds for when biodiversity offsets are required. These are based on three factors: (1), whether the site score of the vegetation zone is ≥17); (2), whether the vegetation on site has been identified as an Endangered Ecological Community (EEC) or a Critically Endangered Ecological Community (CEEC); and (3), whether the vegetation is associated with threatened species habitat. For this project the site value score of the PCT 1633 vegetation zone was calculated to be 22 (as per Section 3.6 of the BAR), which is above the threshold of 17. The vegetation at the site is not considered to meet the definition of any EEC or CEEC due to its ability to regenerate (Section 3.7 of the BAR).

In relation to threatened species habitat, Section 6.4 of the FBA requires consideration of information in the Threatened Species Profile Database (TSPD) for each of the 12 candidate species identified by the BioBanking assessment of this project. This does not appear to have occurred, however, in this case when taking in the small size and nature of the project site OEH accepts that it does not contain threatened species habitat. However, future assessments will require site surveys at the appropriate time of year or the provision of an expert report to deal with cryptic or seasonal species like ground orchids.

Vegetation in 'Low condition'

Derived native grasslands, even with some exotic plant cover, does not automatically mean that the vegetation is in 'low condition' as per the FBA. In the FBA guidelines (OEH, 2014a: p. 60) for vegetation to be considered to be in 'low condition' it must have less than 25% of the minimum canopy cover in the PCT benchmark, and either has exotic species dominating the groundcover or has almost all of the groundcover removed. To check the statement in the BAR that the vegetation matches to PCT 1633 was in low condition required comparing the site attribute scores from Plot 1 with the benchmark values found in the BioBanking credit calculator (see **Table 1**, below).

Table 1. Benchmark site values for PCT 1633 and measurements from Plot 1 on the development site.

	Native Plant Richness	Native over-storey cover	Native mid-storey cover	Native ground cover (grass)	Native ground cover (shrubs)	Native ground cover (other)	Exotic plant cover	No. of trees with hollows	Overstorey regeneration	Total length of fallen logs
Benchmark	≥26	13 to 40	10 to 50	4 to 15	5 to 30	5 to 25	See Manual	≥0	1	≥20
Plot 1	18	0	0	10	1	14	32	0	1	0

Plot 1 was found to have: (a) canopy cover that is less than 25% of the minimum benchmark canopy cover; (b) native groundcover species covering about 25% of the site; and (c) around 44% of the groundcover is composed of indigenous species (assuming that the 32% (i.e. 25 out of 57) of exotic cover recorded is predominantly in the groundcover layer). Thus by the results of (a) and (c) above, the vegetation in the matched to PCT 1633 is in low condition – as was stated in the BAR. OEH requires a comparison of site details against the definition in the FBA manual to justify the use of the term 'low condition' in future BARs.

References

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AECOM (2017c). *Appendix G: Aboriginal Heritage. Medical and Other Waste Thermal Processing: Response to Submissions Report. 14 March 2017.* AECOM Australia Pty Ltd, Warabrook.

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AECOM (2017e) *Flooding Hazard Risk and Consequence Analysis. 28 March 2017.* AECOM Australia Pty Ltd, Warabrook.

OEH (2014a) *Framework for Biodiversity Assessment. NSW Biodiversity Offsets Policy for Major Projects. September 2014.* NSW Office of Environment and Heritage, Sydney. www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf

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