DOC17/376745-07; EF13/3847

Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Emma Barnet

By email: emma.barnet@planning.nsw.gov.au

Modification to Weston Aluminium Dross Recycling Facility
DA 86-04-01 Mod 12 and LEC 10397 of 1995 Mod 10

I refer to your email to the Environment Protection Authority (EPA) dated 17 July 2017, seeking comments in relation to the Weston Aluminium Dross Recycling Facility modification application. This modification is applied for under two separate consents, being DA 86-04-01 (Modification 12) and Land and Environment Court consent 10397 of 1995 (Modification 10).

Both modifications have been assessed under the report titled '*Environmental Assessment: Modification - Pharmaceutical & Illicit Drug Waste Processing*' (EA), dated 10 July 2017 and prepared by AECOM Australia Pty Ltd. The EPA has reviewed the EA and provides this response addressing both modification applications.

Further information is required before the EPA can appropriately assess the proposal and any potential environmental impacts. These matters are summarised below and further detailed comments are provided in Attachments A and B.

Air Quality

The EPA's review of the Air Quality Impact Assessment (AQIA), Appendix D of the EA, has identified that while the AQIA was generally prepared in accordance with the '*Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*' there are still several matters that must be addressed. Detailed comments are provided at **Attachment A**, and are summarised below:

1. Stack emissions testing report collected during the trial;
2. Clarification of stack exit velocities;
3. Stack emissions testing reports collected before the trial, including emissions from Stack 5 when the reverberatory furnace was in operation;
4. Revised assessment with revised modelling to include:
    a. Updated stack exit velocities (if necessary);
    b. More realistic assumptions; and/or
    c. Additional controls

PO Box 488G Newcastle NSW 2300
117 Bull Street, Newcastle West NSW 2302
Tel: (02) 4908 6800 Fax: (02) 4908 6810
ABN 43 692 285 758
www.epa.nsw.gov.au

Hazardous substances and waste matters

A key issue of concern for the EPA is that the EA does not appear to provide data or results from the current trial assessment being conducted at the premises.

The modification application follows approval given on 15 September 2015 for the proponent to undertake a 24-month trial processing illicit drugs and pharmaceutical waste in existing furnaces. The EA is largely based on the trial program being a success and providing supporting data and results. Despite the general references in the EA of the trial being successful, the EA does not appear to contain any detailed information or data from the trial.

The EPA's issues and comments in relation to hazardous substances and wastes are:

1. The EA does not adequately demonstrate that the trial, on which the project is based, was effective and successful;
2. It is unclear how potential cumulative hazards and risk have been assessed;
3. Changes to separate proposed operations in the immediate vicinity of the proposal may affect the assessment of potential cumulative impacts associated with the proposal;
4. The EA provides limited information on potential waste related impacts and the management of wastes generated by the proposal; and
5. The EA does not appear to consider contingency measures or non-routine conditions.

Waste Resource Recovery Exemption matters

The ash produced through the process must be classified, and the EA should demonstrate that the product meets the applicable resource recovery exemption if proposed.

Under the relevant waste legislation, it appears that the ash produced through the process as described in the EA is defined as a 'waste', and resource recovery orders and exemptions may apply. The EA should demonstrate that the product meets any applicable resource recovery orders and exemptions if proposed.

If you require any further information please contact Michael Howat on 4908 6819 for any matters related to this planning response, or Jenny Lange on 4908 6891 for any licencing or other matters. Any emails should be directed to hunter.region@epa.nsw.gov.au.

Yours sincerely

25/8/17

MICHAEL HOWAT
A/Head Strategic Programs Unit - Hunter
Environment Protection Authority

Encl: **Attachment A** – EPA's Review of the Air Quality Impact Assessment
Attachment B – EPA's Review of hazardous substance and waste matters

ATTACHMENT A

EPA's Review of the Air Quality Impact Assessment

The AQIA (Appendix D of the EA) was generally prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (Approved Methods). However, the EPA has identified some issues with the AQIA which are detailed below, including the EPA's recommendations for addressing these matters.

1. Stack emissions data not provided

The AQIA uses stack emissions data collected during trial monitoring events between December 2015 and September 2016, and stack testing data collected during normal operations between 2013 and 2015. However, this data has not been provided.

Recommendation 1: In accordance with Section 9.3 of the Approved Methods, all supporting reports of source emissions tests should be provided.

2. Stack discharge parameters are not consistent with the AQIA for the thermal processing facility

Table 6 of the AQIA specifies the velocity at discharge for each of the stacks at the facility. This does not appear to be consistent with the stack discharge velocities listed in Table 9 of the report '*Weston Aluminium Thermal Waste Processing Project, Air Quality Assessment*' (AECOM, 26 August 2016).

Stack	Diameter (m)	Temp (K)	Velocity (m/s) Table 6 of AQIA	Velocity (m/s) Table 9, Appendix E of AECOM, 26 August 2016
1	1.65	349.3	15.4	26.0
2	1.265	302.4	12.0	22.9
3	1.0	305.2	12.6	23.9
4	1.395	312.4	17.0	31.8
5	1.49	423.2	14.7	18.8
6	0.58	557.6	18.4	21.9
7	1.5	301.4	8.8	35.1

Recommendation 2: The proponent should clarify the stack discharge velocities at the facility, and, if necessary, undertake a revised assessment.

3. Stack 5 emissions during operation of the reverberatory furnace not provided

The AQIA modelled emissions from the proposed thermal processing plant. However, it is understood that the reverberatory furnace and the thermal processing plant will be used interchangeably. The EPA does not have enough information to determine whether operation of the thermal processing plant or the reverbaratory furnace will have the higher emissions and therefore provide the more conservative emissions scenario.

Recommendation 3: To demonstrate that the proposed thermal processing plant is the more conservative emissions scenario, the proponent should provide Stack 5 monitoring data collected when the reverbaratory furnace is in operation.

4. Predicted 1 hour average ambient NO_2 concentrations do not comply with the impact assessment criterion of 246 µg/m^3.

Dispersion modelling predicts a maximum 1 hour NO_2 concentration of 263.7 µg/m^3, which is in exceedance of the EPA's 1 hour average ambient impact assessment criterion. The AQIA considered

that the exceedance can be attributed to overly conservative model assumptions. Further, the AQIA proposes that, since stack testing data collected during the trial did not show an increase in NO_x emissions from that monitored prior to the trial, thermal processing of illicit drugs and pharmaceutical waste had a negligible impact on the NO_x load.This could also suggest that the facility may have been causing exceedances of the impact assessment criterion even before the processing of illicit drugs and pharmaceutical wastes.

In accordance with Section 7.7 of the Approved Methods, if the impact assessment criteria are exceeded, the dispersion modelling must be revised to include various pollution control strategies until compliance is achieved. Claiming that exceedances can be attributed to overly conservative modelling assumptions is not acceptable. The modelling should be revised with more refined modelling assumptions.

Recommendation 4: The proponent should either revise the modelling to include more realistic assumptions (that are justified), or additional controls to ensure that there are no predicted exceedances in the ambient impact assessment criteria.

ATTACHMENT B

EPA's Review of hazardous substance and waste matter

1. Details of the illicit drug and pharmaceutical waste trial need to be provided to demonstrate the assessment of the Project is accurate

The outcomes and data from the current trial of illicit drug and pharmaceutical processing have not been detailed and discussed in the EA. This information is required to allow the EPA to assess the EA claims that the trial has been successful and provides operational results and information.

Trial Summary

Weston Aluminium received development consent (10397 of 1995 Mod 7, and DA 86-04-01 Mod 9) on 15 September 2015 to conduct a pharmaceutical and illicit drug wastes trial program (the Trial). The Trial consisted of processing over a 24-month period, up to 200 tonnes of illicit drug waste and up to 1,000 tonnes of pharmaceutical wastes in existing furnaces, and using the sample equipment, plant and procedures currently used at the facility. The Trial period started on 14 October 2015 and is almost completed.

The Trial was designed by Weston Aluminium at a scale appropriate to evaluate the variability of waste streams, and to assess and verify the performance of the treatment sequence. The Trial was also designed to provide Weston Aluminium the opportunity to determine additional process requirements which may be required to achieve the manufacture of a consistent value-added product specification suitable for end-use market consumption.

The objectives of the Trial include:

- verification of technology and infrastructure compatibility and performance on a relatively large-scale (storage and containment, treatment, and environmental control systems);
- optimal furnace operating conditions, including identifying suitable batch composition, batch/residence time, burner protocol and required operating temperature for the processing of pharmaceutical and illicit drug wastes;
- verification of the performance of the existing pollution control systems;
- verification of the performance of various feedstock formulations;
- assessment and confirmation of process and procedural controls relating to occupational exposures and safety performance; and
- generation of treatment product quantities and, in conjunction with other inputs, formulation of the manufacture of a value-added product which serves as a direct substitute for conventional industrial raw material feedstock.

Trial information provided in EA

The EA refers to the Trial and its scheduled completion in October 2017. Section 1.1 of the EA notes that the proponent is seeking to modify the existing Development Consent in response to Trial successes and ongoing demand by the waste management sector.

The EA also notes that preliminary results from monitoring undertaken throughout the Trial indicate that regulatory requirements and environmental compliance obligations were met during the Trial period, with no exceedances of existing emission concentration limits (Section 1.3.3). The EA notes that these results indicate the infrastructure processes, and control measures are suitable for the processing of pharmaceutical and illicit drug waste (Section 1.3.3).

The EA states that the results from the Trial are discussed in Section 6.1. However, the EA does not appear include any detailed information on the Trial in the summary of the AQIA (Section 6.1), in the AQIA itself, or elsewhere in the EA. Without this information, the EPA is unable to verify the success of the Trial which is claimed in the EA.

Additionally, the Secretary's Environmental Assessment Requirements (SEARs) for the modification request to both development consents for the Project include the requirement for a 'more detailed' assessment of air quality – including a review of the data accumulated during the Trial processing of illicit drug and pharmaceutical waste and allowance for the variation in feedstock'.

The EA, including the AQIA (EA, Appendix D) does not include a review of the data accumulated during the Trial and consequently the EA does not appear to fulfil the requirements of the SEARs for the Project.

Recommendation 5: the proponent includes details and discussion in the EA of the Trial program, data/results and outcomes, once the Trial is completed in accordance with the Project SEARs.

2. It is unclear how potential cumulative hazards and risk have been assessed

The EA states the preliminary hazard analysis (PHA) for the proposed Weston Aluminium Medical Waste Thermal Processing Facility (SSD_7396) (Medical Waste Facility) included a whole of site assessment for the Medical Waste Facility and the existing facility, including the pharmaceutical and illicit drug waste processing Trial. The EA states the risks and hazards associated with the proposal have been considered in the Medical Waste Facility PHA to the extent the wastes are already stored or treated at Weston Aluminium, and as they are proposed to be stored and treated as part of SSD_7396.

Despite the EA noting that risks and hazards associated with the proposal have been considered as a part of the assessment for the Medical Waste Facility, the evaluation of potential cumulative impacts associated with both project's operations, appears to lack detail and quantitative information with respect to potential impacts.

Recommendation 6: the proponent clarify and include additional information to demonstrate potential cumulative impacts associated with the proposed Medical Waste Facility have been appropriately assessed in the EA for the current modification proposal.

3. Changes to concurrent proposals may impact the assessment of potential cumulative impacts associated with the Project

Two separate development applications in close proximity to each other are running concurrently with the application for the proposal. Pymore Recycling Pty Ltd has applied for approval to build a battery recycling facility (SSD 16_7520) on adjacent land to the east of the Weston Aluminium facility, while Weston Aluminium has applied to build and operate a Medical Waste Facility at their Kurri Kurri site.

A number of issues have been raised by the EPA regarding the assessment of impacts for the Pymore project and the Medical Waste Facility. Pymore and Weston Aluminium are currently reviewing submissions on their projects and this may result in amendments to the assessments used to assess Project cumulative impacts.

Recommendation 7: Revise the EA to incorporate any changes, if applicable, to concurrent projects that are relevant to the assessment of cumulative impacts.

4. The EA provides limited information on potential waste related impacts and the management of wastes generated by the Project

Wastes generated include ash materials from the processing of pharmaceutical and illicit drug wastes, which would be co-processed with SPL and dross processing ash and modified for reuse. The EA considers additional wastes produced from associated operations at the facility which are stated to have a negligible impact on the amount of wastes generated from the site.

Due to the potentially hazardous nature of wastes received, stored and processed for the Project, the mitigation measures for waste management must be robust and comprehensive in order to prevent any adverse impacts onsite or offsite. In addition, as pharmaceutical waste is classified as a clinical

and related waste under the EPA *Waste Classification Guidelines*, the special requirements relating to clinical and related waste prescribed in clause 113 of the *Protection of the Environment Operations (Waste) Regulation 2014* (Waste Regulation) apply to the Project.

However, the summary of existing and proposed mitigation measures shown in Table 15 of the EA does not contain a comprehensive list of mitigation measures to ensure adverse impacts associated with waste management will be appropriately managed and prevented, or that operations will comply with the requirements prescribed by the Waste Regulation.

Recommendation 8:

a. review the mitigation measures summarised in Table 15 of the EA to ensure the measures are robust and comprehensive for all likely and potential scenarios; and

b. revise the EA to demonstrate the special conditions under clause 113 of the Waste Regulation will be complied with.

5. The assessment of the Project does not consider contingency measures or non-routine conditions

The EA does not include consideration or assessment of any non-routine, upset, startup and shutdown, emergency and other conditions/scenarios, apart from some limited assessment provided in the PHA. Consideration of these situations is required to ensure appropriate measures are available and can be implemented to prevent or minimise any impacts under these conditions/scenarios.

Recommendation 9: The EA considers and includes contingency measures to address non-routine, upset, startup and shutdown, emergency and other likely or potential conditions/scenarios.