Our reference: SF16/38066

Manager Industry Assessment
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Susan Fox

Dear Sir/Madam

EPA Air Technical Advisory Services Unit's comments on Proposed Lead Acid Battery Recycling Facility at 10 Lancaster Street, Ingleburn NSW

I refer to our previous correspondence on this proposal.

The EPA's Air Technical Advisory Services Unit (ATASU) has reviewed the Air Quality Impact Assessment (AQIA), Report Number 15225-A, Version A, dated June 2016, prepared by Wilkinson Murray Pty Limited, Level 4, 272 Pacific Highway, Crows Nest NSW 2065.

Based on ATASU's assessment of the report EPA has noted the following:

- Pollutant emissions from the process have been estimated using measured emission rates at an existing facility in the United States;
- Estimated emissions are calculated by scaling the data from the US facility to account for the lower production volumes, coupled with a factor of two (2) for potential differences between the two facilities;
- Emissions estimate includes a removal efficiency of "at least 90%" to account for the proposed wet scrubber; and
- The proposal includes fugitive emission capture and control mechanisms.

The AQIA predicts:

- No exceedances of the impact assessment criteria for PM_{10}, SO_2, or lead at discrete receptors;
- No exceedances of H_2SO_4 at assessed discrete receptors, however clarification is required to confirm no exceedances at or beyond the boundary; and
- Exceedances of the National Environment Protection Measure (NEPM), ambient air quality standards for $PM_{2.5}$ on a cumulative basis are predicted for 24 hour and annual averaging periods.

PO Box A290 Sydney South NSW 1232
59-61 Goulburn St Sydney NSW 2000
Tel: (02) 9995 5000 Fax: (02) 9995 5999
TTY (02) 9211 4723
ABN 30 841 387 271
www.environment.nsw.gov.au

The EPA advises that:

- There is likely to be some conservativeness within the modelling predictions for $PM_{2.5}$, as the assessment includes the assumption that all PM_{10} is emitted as $PM_{2.5}$, and no combustion processes are proposed;
- The assessment does not include sufficient supporting documentation to verify emission assumptions. On this basis, validity on the model results and conclusions of the assessment are not able to be confirmed.
- To ensure that the assessment is robust for decision making purposes, detailed comments provided as **Attachment A** should be addressed prior to project approval.

The EPA recommends that the issues identified in **Attachment A** should be addressed prior to the approval of the project.

Should you require further information regarding this matter, please contact Jeevan Jacob on (02) 9995 5902.

Yours sincerely

Mark Carey
Acting Head Hazardous Materials
Hazardous Materials, Chemicals & Radiation
Environment Protection Authority

4 November 2016

Attachment A

Background

Ledox Australia Pty Ltd (Ledox) is seeking approval for the construction of a Battery Recycling Facility (the Project) at Ingleburn. The Project involves the design, installation and operation of a process to breakdown, recover and recycle components of used lead acid batteries. The process includes:

- Battery storage;
- Conveyor feeding batteries to the shredder;
- Shredding of the batteries into plastic, lead and acid;
- Mixing of the solid components to allow for separation of the lead and plastic components;
- Washing and packaging those components for recycling; and
- Removing sulphur from the lead sludge (by converting lead sulphate into lead carbonate) prior to packaging for treatment offsite.

The proposed development is being considered by the Department of Planning and Environment (DPE) under Part 4 of the *Environmental Planning and Assessment Act 1979*, and is considered a State Significant Development.

Detailed Comments

Emission estimation

The proponent's Air Quality Impact Assessment (AQIA) report has been based on reported emissions at an existing facility in the United States, and makes reference to a report for that facility (Environ, 2008)[1]. The AQIA:

- tabulates the emission rates for the referenced facility;
- states that the referenced facility is very similar to the proposed development, however, no detailed comparison or discussion is included;
- tabulates the estimated emissions for the proposal, which have been scaled based on the differences in throughput between the referenced facility and the proposal; and
- does not include the test reports for the referenced facility.

The EPA notes that as per the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW,* the EPA's preferred methods for estimating emissions for proposed sources are manufacturer's specifications or emission guarantees.

The EPA recommends that the AQIA report should be supported by:

- The provision of the test data for the referenced facility; and
- Manufacturer's specifications or emission guarantees for the proposal.

Additionally, the AQIA does not include a demonstration that the proposal will comply with prescribed limits contained in the *Protection of the Environment Operations (Clean Air) Regulation 2010*. Assurance of Clean Air Regulation compliance should be provided in the revised assessment.

[1] Environ 2008 – *PSD Construction Permit Application for Battery Recycling Facility Expansion, Environ International Corporation, Atlanta GA, USA.*

Fugitive Emission Capture and Control

Section 7.3 of the AQIA outlines the provision of sealed vessels and fugitive emission capture mechanisms with control via a wet scrubber. The EPA notes that no fugitive emissions have been accounted for within the assessment.

The EPA requests a demonstration that there are no fugitive emissions associated with the proposal through the provision of further information which details:

- The unit operations that include the fugitive emission capture mechanisms;
- The unit operations that are proposed to be sealed;
- The mitigation measures for handling the outputs (specifically those containing lead) from the process, and the provision of fugitive emission capture and control mechanisms; and
- If the building is proposed to be designed and operated under negative pressure.

Tanker Loading

Section 7.3 of the AQIA states "*When transferring the electrolyte to a tanker truck, a vapour return line should be connected between the tanker truck and the on-site electrolyte storage vessel in order to capture any vapours from the tanker truck that are displaced during transfer*". The EPA notes that the assessment has not included any emissions during transfer of the sulfuric acid. The EPA requests clarification on the incorporation of the vapour return line in to the project design.

Predicted Ground Level Concentrations of Sulfuric Acid

The assessment includes comparison of the predicted ground level concentrations (GLC) of sulfuric acid against impact assessment criteria at assessed discrete receptors. EPA notes that the impact assessment criteria for sulfuric acid applies at and beyond the boundary of the facility.

The assessment should be revised to include the maximum predicted GLC for sulphuric acid across the modelling domain to confirm no predicted impacts at or beyond the site boundary.