



DOC18/690344-07

Mr Kane Winwood
Industry Assessment
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Mr Winwood

Section 75W Modification – DA 367-11-2002-I MOD3
Redox Pty Ltd, 2 Sweetenham Road, Minto – Environment Protection Licence 12041

I refer to the Section 75W modification request submitted by Redox Pty Ltd (Redox) to modify the development consent for operations at 2 Sweetenham Road, Minto.

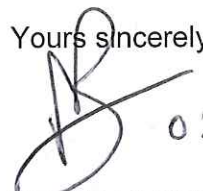
The modification proposes to:

- allow for the use of intermediate bulk containers (IBC) for storage of Class 3 flammable liquid and Class 6 toxic substances
- increase the total quantity of non-dangerous goods stored on site from 11,195 to 15,795 tonnes
- increase the storage quantity of Class 8(3) and Class 8(F1) corrosive substances stored within the Stage IV area from 250 to 540 tonnes. Noting the total quantity of dangerous goods stored on site remains unchanged at 4,650 tonnes
- allow for the decanting and dilution of food grade chemicals
- clarify site activities listed on the development consent.

The Environment Protection Authority (EPA) has reviewed the associated documents for the proposal and has identified a number of areas that require clarification. These are detailed at Attachment A. The EPA may have further comments on receipt and review of any requested information.

If you have questions regarding the above, please phone this office on (02) 4224 4100.

Yours sincerely



02/10/18

PETER BLOEM
Manager Regional Operations Illawarra
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Attachment

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ATTACHMENT A

GENERAL

The proponent must ensure all activities are undertaken in compliance with the *Protection of the Environment Operations (POEO) Act 1997* and any associated Regulations.

The Redox premises at Minto is currently regulated by the EPA under Environment Protection Licence (EPL) 12041. This EPL must be complied with at all times.

NOISE

The proponent has outlined that the site continues to be regulated with noise conditions in the EPL. The EPA Industrial Noise Policy has been used to derive noise conditions for the site. The EPA may make changes to the licence to reflect more contemporary meteorological conditions.

AIR

Analysis of issues/sensitivities

The EPA reviewed:

- The Environmental Assessment (BE, 2018)¹ (the EA)
- the Air Quality Impact Assessment (BE, 2016)² (the Assessment).

The Assessment is based on general assumptions rather than any design information for the proposed mitigation measures associated with the decanting and mixing areas (wet scrubbers) and proposed discharge points. Additionally, the assessment does not adequately assess all potential pollutants or include adequate justification for not assessing potential emissions from other chemicals proposed to be used within the decanting/mixing area. Furthermore, it is not clear if there are existing approved sources which have not been included within the Assessment.

Whilst the proposal includes mitigation measures, EPA advises that an assessment based on general assumptions without adequate justification and supporting information presents uncertainty with the assessment outcomes.

Issue 1 – No detailed information for the proposed mitigation measures has been provided

The EPA notes that the EA advises that there are three separate decanting and diluting areas proposed within Building F. They are associated with alkali filling, acid filling and food grade products handling. These areas are considered the focal point for air emission management and control associated with the proposed modification.

The EA advises that the Stage 4 development as modified would use three scrubbers and that exact details of the scrubbers would be provided before construction. The EPA understands that the proposed scrubbers are associated with each of the three filling/decanting areas (Alkali, Acid and Food grade).

Additionally, the EA advises that dry chemicals will be debagged and used within the alkali and food grade areas. The hopper that receives the contents of the bags is proposed to have a dust hood that

¹ BE, 2018 – *Section 75W Environmental Assessment for Upgrading and Completion of Stage IV of the Development Consent for Redox Pty Ltd, 2 Swettenham Road, Minto*, prepared by Benbow Environmental dated 11 September 2018.

² BE, 2016 – *Air Quality Impact Assessment Report for 2 Swettenham Road, Minto NSW*, prepared by Benbow Environmental dated 30 August 2016.

would be connected to either a small reverse pulse dust collector or to the respective scrubbers for the type of chemical being debagged.

The EA advises that the chemicals tabled below present the majority of the chemicals to be used in each mixing area, however flexibility is needed to allow other chemicals with similar characteristics to be processed.

Acids	Alkali	Food Grade
Phosphoric acid Sulfuric acid Ferric chloride Formic acid Fluoro silicic acid	Sodium hydroxide Potassium hydroxide Hypochlorite solution	Acetic acid Citric acid Urea ammonium nitrate Phosphoric acid

The EPA considers that additional information must be provided on the proposed mitigation measures, including information that the wet scrubbers will be adequate in mitigating potential air emissions from the range of chemicals proposed to be utilised within these areas.

The proponent must provide additional information and justification for the proposed emission controls. Specifically:

- Confirm all the chemicals proposed to be used within the mixing/decanting areas
- Confirm that all storage and mixing tanks will be vented to proposed emission controls
- Additional information from the supplier/manufacturer of the wet scrubbers to confirm the emission controls would adequately mitigate potential emissions from all the chemicals proposed to be used within the mixing/decanting areas
- Additional information from the supplier/manufacturer of the wet scrubbers detailing expected emission performance. Emission performance should be provided in the form of discharge concentrations that the wet scrubbers will achieve.

Issue 2 – Air Quality Assessment based on assumptions rather than design information

The Assessment is based on general assumptions that have not been robustly justified with adequate supporting information. Assumptions are made for discharge parameters and wet scrubber control performance.

Additionally, the Assessment does not include an emission inventory that outlines all the discharge parameters for the point source discharges, including but not limited to stack height, stack diameter, flowrate and pollutant emission rates.

The EPA advises there is uncertainty with the assumptions made, including emission estimation, and hence the assessment outcomes. Uncertainty with the assessment could be resolved through provision of a revised assessment based on actual design information.

The assessment be revised using actual proposed design information and expected emission performance. This includes:

- Expected discharge concentrations the mitigation measures will achieve based on manufacture/supplier information
- Actual (not assumed) discharge parameters that are adequately described within the revised assessment.

Issue 3 - Assessment does not consider potential emissions from all potential pollutants

The Assessment predicts ground level concentrations for acetic acid and formic acid. Predicted ground level concentrations for acetic acid are compared with the impact assessment criteria contained in the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (the Approved Methods). Predicted ground level concentrations for formic acid are compared against referenced odour detection thresholds.

The Assessment does not assess other potential pollutants, such as Sulfuric acid, which is proposed for the decanting and mixing areas. The Approved Methods includes impact assessment criteria for Sulfuric acid, which is an individual toxic air pollutant. The impact assessment criteria for Sulfuric acid applies at and beyond the site boundary. The assessment advises that Acetic acid would have the highest potential for offsite impacts based on its volatility. Additionally, the assessment advises that Sulfuric acid from storage would be negligible due to the low partial vapour pressure.

To ensure robust assessment of all potential pollutants, the assessment must be revised to:

- Assess potential impacts of Sulfuric acid based on expected discharge concentrations of the wet scrubbers
- Include further justification for those chemicals that have not been assessed. This should include a review of health and safety exposure standards associated with those chemicals where quantitative assessment has not been undertaken.

Issue 4 – Demonstration of compliance with the Protection of the Environment Operations (Clean Air) Regulation 2010

The assessment references Schedule 6 of the *Protection of the Environment Operations (Clean Air) Regulation 2010* (the Regulation), which applies to non-scheduled premises. The Redox premises is scheduled and holds EPL 12041.

The EPA advises that Schedule 4 would apply to the proposal. The emission discharge points from the scrubbers will need to comply with relevant prescribed emissions concentration in Schedule 4 of the Regulation as a minimum. Schedule 4 includes prescribed concentrations for Sulfuric acid mist.

The proponent must demonstrate the discharge points will comply with relevant prescribed concentrations contained in the Clean Air Regulation through the provision of additional information from the manufacturer/supplier detailing expected emission performance (that is, discharge concentration) of the proposed wet scrubbers.

Issue 5 - Accounting for building wake effects and good stack design

The Air Quality Impact Assessment does not adequately describe if building wake effects have been accounted for in the prediction of ground level concentrations. The assessment assumes that stack height is three metres above roof level and the discharge velocity is 10 metres per second.

The EPA advises that where stack heights are not located significantly above roof level there is potential for building wake effects that can affect predicted ground level concentrations and hence assessment outcomes.

The assessment must be revised to be based on actual stack height design and discharge information including accounting for building wake effects.