1. **Air emissions screening – H1 risk assessment concentrations**

The H1 Screening Tool submitted with the application only includes concentrations for short term and therefore the tool does not display all the screening results.

**Complete the long-term concentrations in the air emissions inventory section of the H1 Screening Tool.**

**This has been updated based on emissions data contained within ECL Report P5350:R002 - Jan/Feb testing 2023 (data averaged where relevant), and ECL Report P5558:R001 Aug 2023 testing for acetaldehyde and carbonic acid, ethyl-, methyl ester (again averaged where relevant)**

1. **Air Emissions screening – H1 risk assessment – concentration data**

The H1 screening tool is designed to screen out emissions from the proposals applied for under the application. However, it is stated in your H1 tool that the concentrations are taken from the Small-Scale Shredder - lithium battery shredding with existing scrubber, therefore it is not clear why these results are considered reflective of the larger scale shredder and revised abatement systems that you have applied for.

You have confirmed in an email included with the application that actual data will be established in September from the proposed plant (email to EA officer regarding improvement condition IC2 Thursday, May 25, 2023). Therefore, the results currently stated in the application and the demonstration that they screen out are not reflective of the application proposals. This means there is a reliance on the Environment Agency to allow this to be worked out during determination and that the correct supporting information has not be provided at the permit application stage.

1. **Demonstrate that the concentration data provided is reflective of the scale of operation applied for**

**or**

1. **Provide data that is reflective of the proposed operations and proposed abatement systems.**

The data provided within the H1 tool is reflective of the proposed operations, as they plant is designed in a very similar manner, only on a large scale, and it uses nitrogen for fire suppression instead of carbon dioxide that the small plant using. Material being shred will be of the same chemistry.

On commissioning of the plant, additional monitoring will be completed. If differences are identified a new H1 will be completed and submitted to the Environment Agency with additional control measures implemented by Ecobat.

1. **Air Emissions screening – H1 risk assessment – Screening**

You have used Benzene as a proxy for screening total VOC’s in line with our guidance outlined [Air emissions risk assessment for your environmental permit - GOV.UK (www.gov.uk)](https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#risk-assessment-tool) which states “**Grouping air emissions -** If you release volatile organic compounds into the air and do not know what all the substances in them are, treat them all as 100% benzene in your risk assessment. If you want to treat them as something else, you’ll need to explain why.”

You have stated in response to the screening tool result that “VOCs recorded as Benzene as detailed on the assessment document as we currently are unclear the 100% of the VOCs, however it is deemed very unlikely Benzene is present as it is a C6 carbon. Further testing to be done to identify VOCs and if EAL <10% detailed modelling will then take place.”

As the H1 Tool indicates when using the proxy rule above, that total VOCs do not screen out using a worst case proxy (Benzene), either further air emission modelling is required or further justification of individual VOC speciation and their impacts are required.

1. **Provide either air emissions modelling of total VOC’s using Benzene as a proxy using our guidance (linked above)**

**or**

1. **Provide data of the VOC species within your discharge and demonstrate these VOCs screen out from potential impact using our guidance.**

ECL was commissioned by Ecobat Solutions to undertake an emissions monitoring survey looking at both total VOS and speciated VOC. ECL Report P5558/R001 is appended to this response. This report confirms that only a single species was identified during the GC-MS scan for both of the speciated VOC tests undertaken, namely carbonic acid, ethyl-, methyl ester (ethyl methyl carbonate (C4H8O3). This VOC has no environmental assessment levels that could be found, however, has been included in the H1 Assessment for completeness.

1. **Air Emissions concentration data**

Some emission data has been provided but not inserted into the H1 Risk Assessment Tool. The process report under taken by Hargrove 20/12/2022 ( Revision B) reference Ecobat Vent Gas Study Report job 2260.220842 listed VOC’s such as Acetaldehyde, however this is not included in your assessment.

If you do not intend to undertake air emissions modelling using a benzene proxy, **please confirm whether these vent gas report contains all the projected emissions from the process and whether species such as Acetaldehyde (which has an environmental standard) can/should be screened using the H1 Tool.**

Additional acetaldehyde testing was undertaken in August 2023, the results of which have been included in the updated H1 assessment. Also included are all speciated heavy metals from the January 2023 emissions testing.