

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.

Results received following speciated VOC testing plus Acetaldehyde, on 18th September. This will be updated on to the H1 assessment by Friday 29th September and submitted to the EA for review. Along with clarification on the concentration data being reflective.

2. **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 been provided at the permit application stage.

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

or

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

Results received following speciated VOC testing plus Acetaldehyde, on 18th September. This will be updated on to the H1 assessment by Friday 29th September and submitted to the EA for review. Along with clarification on the concentration data being reflective.

3. 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 \(www.gov.uk\)](http://www.gov.uk) 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.

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

or

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

Results received following speciated VOC testing plus Acetaldehyde, on 18th September. This will be updated on to the H1 assessment by Friday 29th September and submitted to the EA for review. Along with clarification on the concentration data being reflective.

4. Air Emissions concentration data

Some emission data has been provided but not inserted into the H1 Risk Assessment Tool. The process report undertaken 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.**

Results received following speciated VOC testing plus Acetaldehyde, on 18th September. This will be updated on to the H1 assessment by Friday 29th September and submitted to the EA for review. Along with clarification on the concentration data being reflective.

5. Scheduled activities and proposed activities.

The application includes the proposal to have two shredding stages and a separation stage. The existing smaller shredding (assumed to become the secondary shredder) is currently permitted as a non-hazardous waste activity. However, as this smaller shredding activity will now process material from the large shredder it will be processing hazardous components. The large shredder however will be shredding whole batteries so could replace the small shredder as the non-hazardous waste processing activity.

Please confirm under the new proposals which pieces of shredding and sorting equipment will be associated with:

- A. **The scheduled hazardous waste installation activities**
- B. **The non-scheduled non-hazardous waste operation activities**

Note: including this in the process flow diagram would be preferable.

Results received following speciated VOC testing plus Acetaldehyde, on 18th September. This will be updated on to the H1 assessment by Friday 29th September and submitted to the EA for review. Along with clarification on the concentration data being reflective.

6. Standard rule consolidation

You have requested the standard rules set SR2008No1 reference DB3704GK is consolidated into permit DB3704FG. As the standard rules has activities which are similar to, overlapping and/or associated with the activities undertaken on the installation, the standard rules cannot remain as a standalone set of rules.

Confirm you accept the standard rules set SR2008No1 conditions will cease to exist as a separate set of conditions and be incorporated into the bespoke waste operation activities under permit DB3704FG.

Note – the standard rules annual tonnage will be incorporated into the permit waste operations but restricted to the waste codes tables and bespoke waste operations introduced as a result of this consolidation.

Ecobat confirm acceptance that the standard rules set SR2008No1 will cease to exist once DB3704FG/V008 is approved to include this area, where a separate set of condition will be incorporated.

7. Processing tonnages

Throughout the application there are a range of tonnages quoted.

- Form C3 table 1a states activity AR4 for hazardous was processing is 72 tonnes per day.
- The non-technical summary states the large shredder as 6 tonnes per hour (at 72 tonnes per day this is 12 hours)
- Therefore, is the secondary shredder also processing 72 tonnes per day? If this is a smaller shredder, is it processing less than 6 tonnes per hour (currently 2tph)?
- Table 1a states that hazardous waste increasing 50,000 and non-hazardous 50,000 a total of 100,000. The current site tonnage is 75,000 tonnes. Is this increase solely for the increase in shredding capacity or will other activities such as AR1 and AR2?

- A. **For each activity and each piece of processing plant (both hazardous and non-hazardous), confirm the changes to the daily processing and annual tonnages as a result of this variation.**

The new shredder capacity is 6 tonnes per hour, 12 hour working shift totalling, 72 tonnes per day. The initial and secondary shredder form part of the same plant, initial shredder shreds to a large size particle, the material then flows on to the secondary shredder to reduce the particle size.

The overall throughput tonnage capacity of the site's operations will increase to include the other activities such as sorting, dismantling, shredding and storage on the increased material entering site, linked to the shredding process. Before EV battery can be shredded, we will complete inspection, diagnostics checks, disassembly check and potentially temporary storage either before or during this process.

- B. **Update relevant site management plans (e.g. Fire prevention plan) or risk assessment to confirm the relevant site tonnages.**

V8 Fire Prevention Plan submitted within application has included storage capacity increase, also please refer to Risk Assessment R-26 included in this response for a recent review of site storage arrangements in line with proposed increased storage capacity.

8. **Increase processing tonnages**

The application states the increased processing tonnages but does not justify why the site has the processing, handling, storage and emissions control capacity to effectively manage the risk of this increased tonnage.

Provide a justification to support the increased tonnage requests in your application and demonstrate they are adequately covered by your risk assessment e.g. why the site infrastructure, plant and management techniques are sufficient to manage the risk associated with the proposed increased site storage and processing capacity.

Ecobat's facility based within Darlaston has the capacity to handle the proposed tonnages due to the consolidation of two permits "sites" in to one, the sites permitted boundary footprint will be increase by 51%. There are 3 additional storage buildings in place that are 875m², with 752 additional pallet storage spaces within buildings (protected from the elements), with plans to build at least one additional storage building within Q1 2024 (additional 352 pallet spaces).

The increase in site processing capacity has allowed the investment into site for a large scall shredder and separator to be purchased and installed (during Q4 2023). Ecobat have a strategic business overview model for the increase of storage and capacity., to include risk and opportunities, increased headcount, minimum training requirements.

The headcount increase will occur within QHSE / compliance and operations with recruitment underway. Use of competent and qualified employees will continue on site.

The systems installed are included within our ISO accreditation, including ISO 14001.

9. **Site layout plan and emission point plan**

The site plans provided show the site boundary but are not detailed enough and do not show the exact locations and layout of the proposed new shredding plant alongside the separation and secondary shredding stages, the abatement systems and associated emission points (vents or stack).

Provide a detailed site plan which shows the layout of the site showing the location of processing plant, abatement system and their emission release points positions.

Please refer to 9. *Updated Site Layout....* For the updated plans identifying the above points. Also please refer to, 9. *EC03-ONE.....* for the specific outline on the abatement system layout on site.

10. **Discharges to water/sewer**

The non-technical summary describes the site water management techniques, however it is not clear whether there are any actual changes to the site discharges as a result of the changes proposed under this application.

- A. **Confirm whether or not there is a change to the site discharges as a result of this variation.**
- B. **If there is a change detail this change and justify why it does or does not need to be risk assessed or the emissions screened.**

No change. System will use a water loop, when needing replacing it will be drained into tanks to be tinkered from site and not discharged.

11. **Site condition report (SCR) – baseline data**

Our H5 guidance states that the application part of the SCR describes the condition of the land and groundwater at the point at which you apply for an environmental permit. (Section 3 page 5)

Microsoft Word - H5 SCR guide for applicants v2 0 4 August 2008.doc
(publishing.service.gov.uk)

Your site condition report states in response to all section 2 questions to refer to a site condition report from 1995. It is not clear how the age of this report is reflective of the site condition at the point you have applied for the permit. Some of the other boxes are then filled in with vague information but it is not clear exactly what activities have taken place and where on the proposed extended areas of land.

Review our site condition report guidance H5 (link below) and provide an up to date assessment of the site condition in the additional areas you have applied for.

In the event you cannot sufficiently demonstrate a baseline for the site we will consider any baseline to be zero at the point of permit surrender as outlined with our guidance in section 3 (link below).

Environmental permitting: H5 Site condition report - GOV.UK (www.gov.uk)

Contractors appointed to complete boreholes and analysis work. Works scheduled for 27th September. Once results received, this will be shared with the EA and any hazardous substance (if identified) assessed and highlighted.

12. **Site condition report - relevant hazardous substances**

The IED requires that the operator of any IED (Industrial Emission Directive) installation using, producing or releasing “relevant hazardous substances” (RHS) shall, having regarded the possibility that they might cause pollution of soil and groundwater, submit a “baseline report” with its permit application.

As your site handles and produces hazardous wastes you need to demonstrate in line with our H5 guidance that an appropriate baseline has been provided (Section 3 page 5 and 6) this can be completed using the *Stage 1 – 3 assessment set out within EC Commission Guidance on baseline reporting.*

Review our site condition report guidance H5 (link below) and demonstrate:

- A. **Whether the site has “relevant hazardous substances”**
- B. **If relevant hazardous substances are present, that an appropriate baseline is established in line with the requirements of the IED as outline in our H5 guidance.**

Microsoft Word - H5 SCR guide for applicants v2 0 4 August 2008.doc
(publishing.service.gov.uk)

Contractors appointed to complete boreholes and analysis work. Works scheduled for 27th September. Once results received, this will be shared with the EA and any hazardous substance (if identified) assessed and highlighted.

13. **Best Available Techniques – BAT conclusions**

As your proposals involve introducing shredding equipment as a part of the IED installation you must demonstrate you meet the requirement of the relevant BAT conclusions for the industrial sector.

Review the Waste Treatment Industry BAT conclusions and demonstrate that you meet all the BAT points relevant to your operations.

BAT Analysis completed on the following conclusions and assessment results recorded within BAT analysis September 2023 with action points.

- [Treating metal waste in shredders: appropriate measures for permitted facilities](#)
Treating metal waste in shredders: appropriate measures for permitted facilities. Waste batteries contain metal and are usually treated for the primary purpose of recovering this metal.
- [Appropriate measures for the transfer and treatment of WEEE](#)
Appropriate measures for the transfer and treatment of WEEE. Although waste batteries are not a type of WEEE, they are common electrical components of WEEE.
- [Chemical waste: appropriate measures for permitted facilities](#)
Chemical waste: appropriate measures for permitted facilities. Where the waste chemical components, materials, or residues from waste batteries (for example, black mass, electrolyte) are stored or treated.

14. **Best Available Techniques – demonstration of BAT**

As your proposals are considered installation activities you must demonstrate in line with the best available techniques and BAT conclusions for the sector that the processing and abatement plant you have selected are considered to be the best for the particular application. This should either identify where in the BAT guidance for the sector that these measures are identified as BAT techniques or where there are different BAT techniques listed why these particular techniques are the most appropriate for your site. Alternatively you can provide justification for the implementation of these methods in comparisons to other available techniques. This includes demonstration that any abatement techniques are suitable for the treatment of relevant polluting process emissions. This requirement is outlined in our guidance on BAT [Best available techniques: environmental permits - GOV.UK \(www.gov.uk\)](#).

Submit an assessment of your installation processing, shredding and emission abatement measures and demonstrate why they can be considered to represent BAT for the sector in relation to treatment of waste and abatement of emissions.

Please refer to *14 Abatement System assessment, 14. Abatement assessment, Li-ion flows, 14. Abatement Assessment – Messer BOE*.

15. Demonstration of BAT techniques

You have provided a BAT analysis, however it does not sufficiently cover the following aspects for the proposals under this variation. Your application states that they are “to be incorporated” or “reviewed” or are generally vague on these aspects.

- **Energy usage of the new shredder and abatement systems**
- **Monitoring frequency for emissions 4a (Form C3) not frequency not stated.**
- **Raw material use, water usage and efficiency**

Update your BAT analysis to demonstrate the aspects above are in the line with BAT for the sector.

Energy usage of the new shredder and abatement systems

As the plant is currently being manufactured and final layouts being agreed the current specific energy consumption of the activity being applied for is unknown. An estimated plan can be implemented however this will be inaccurate.

When final plans are agreed and prior to commissioning of the plant, this will be implemented in line with our sustainability policy and used within our sustainability report, identifying KPI's and reduction targets and be in line with BAT requirements.

This has been updated on the BAT analysis.

Monitoring frequency for emissions 4a (Form C3) not frequency not stated.

Frequency and specific substances, for the emissions will be determined following initial testing for all substances listed on 4a (Form C3) during the commissioning stage.

A set programme can be planned for currently however this is not reflective or accurate until initial testing has been completed.

Following the initial testing, it will be shared and approved by the EA prior to plant operation.

Raw material use, water usage and efficiency

Raw materials used for this process are electricity and polymer. Initial trial completed in Germany for polymer WT-Floc 814 CL that did not complete the task as necessary, and solids remained within the water. Therefore, other substances are currently being reviewed to be used, within this review will include assessment of less hazardous or polluting chemicals used. The other substances are currently being reviewed to be used, within this review will include assessment of less hazardous or polluting chemicals used. Prior to the plant becoming operational this BAT assessment will be updated in line with BAT techniques and approved by the EA prior to production occurring.

16. Waste codes – waste operations form C4.

Table 1b application form part C4 lists waste codes to be added to the permit. The table states that these wastes are for the listed activities, however the only activity listed in Table 1a in form C4 is AR11. This activity is already permitted for two of the proposed waste codes (16 01 17, 16 01 18) so it is not clear whether these new waste codes are all proposed for activity AR11.

Confirm which activities the waste codes listed in application form C4 table 1b are to be subject to.

Please refer to document 16, 17, 18 EWC Code & Listed Activity.

17. Waste codes – installations form C3

Table 1b on application form C3 lists waste to be added to the permit for listed activities however Table 1a in for C3 only states activity AR4 and AR3 so it is not clear whether these additional wastes are just for storage and separating or other treatments as well.

Confirm which activities the waste codes listed in application form C3 table 1b are to be subject to.

Please refer to document 16, 17, 18 EWC Code & Listed Activity.

18. Waste codes – justification for addition of codes

For both the scheduled waste installation activities (form C3) and the non-scheduled waste operations (form C4) there needs to be a summary as to why these wastes are suitable for the proposed activities and how they will be handled.

- a. **Provide a justification for addition of new waste types including:**
 - **why they are suitable for handling and storage under the proposed activities and current infrastructure.**
 - **why the type of waste with not change the risk the site poses, the site's management plans or any site procedures such as waste acceptance procedures.**
- b. **If the addition of these waste codes has the potential to affect the site's risk assessment, the site's management plans or any site procedures such as waste acceptance procedures **submit revised documents to demonstrate all risk of these waste codes are adequately addressed****

Please refer to document 16, 17, 18 EWC Code & Listed Activity.

19. Waste codes - activities and fees

Form C3 Table 1b

If the waste codes listed in C3 Table 1b are to be added to scheduled activities that are not currently affected by the addition of increased tonnage and new shredding equipment proposed under this variation (such as activity AR1 and AR2) then this could result in additional fees.

Minor technical variation fees apply if you add wastes codes that are suitable for treatment and are not significantly different to those waste codes already accepted. If the wastes carry different risks to those wastes currently accepted and/or change the operation/infrastructure onsite this could be a normal variation. See our charging guidance (link below) for further information.

[Environmental permits and abstraction licences: tables of charges - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/environmental-permits-and-abstraction-licences-tables-of-charges)

[Environmental permits: when and how you are charged - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/environmental-permits-when-and-how-you-are-charged)

- A. **Confirm which activities (AR activities in Table S1.1.) are varied to add additional waste codes.**
- B. **Confirm whether further variation fees are required if activities (AR activities) are to include new waste codes which are not currently proposed to be varied in the application (e.g. AR1 and AR2).**

Please refer to pre-application advice email from Richard Hadley in relation to activities being varied / altered, also document 16,17,18 EWC Code list & Listed activity.

Ecobat are committed to remaining compliant and will support the regulator in this. The opportunity of this variation ensures we are aligned, and the permit is reflective of our operations where previously this may have been missed throughout variation applications. For example, an update needed during this application is the location of the shredding activity (AR10 must be updated to reflect).

Another challenge is receiving EWC deemed as hazardous by the OEM (for example 16 02 15* / 16 02 13*, lithium batteries), where it would fall under shredding activity or treatment of lithium batteries that are shown as non-hazardous on our listed activities therefore a hazardous EWC cannot be assigned to the relevant table/activity. Please clarify.

20. **Fees - Part F of the application form – non-scheduled waste operation fee**

One of the fees paid includes a normal variation under reference 1.16.6 (Household, commercial and industrial waste) of the charging scheme. However there does not appear to be a household, commercial and industrial waste operation on the current permit so it is not clear what this fee is meant to cover.

There are however amendments to tonnages and processes that potentially affect the existing battery/metal activity non-scheduled waste operations. If the non-scheduled waste operations are affected there may be an additional/alternative fee for a variation to these activities depending on the non-scheduled waste operations affected (e.g. this could be 1.16.12 Physical treatment of non - hazardous waste. or 1.16.16 Metal recycling site - mixed metals if activities A11 – A14 are amended.

Confirm which non-scheduled waste operations activities you intend to vary under this application (stating the AR references) and confirm with justification the charging scheme fee references (link below) associated with the proposed variation.

[Environmental permits and abstraction licences: tables of charges - GOV.UK \(www.gov.uk\)](#)

[Environmental permits: when and how you are charged - GOV.UK \(www.gov.uk\)](#)

Please refer to pre-application advice email from Richard Hadley in relation to fees etc. Please clarify if this advice is inaccurate and additional fees / refunds are required.

21. **Fees**

If it is identified under question 19 and 20 that fees are incorrect, outline the correct fees and **Submit any additional fees required (see part F of the application form)**

A. **Confirm any refund required for us to consider.**

Please refer to pre-application advice email from Richard Hadley in relation to fees etc. Please clarify if this advice is inaccurate and additional fees / refunds are required.