

Your reference: DM115/2/23 (Dated 13/03/2023)
Our reference: Response to RFI 2 for DM ZP3439RM

FAO: Ms Judith Ford
Permitting Officer – Installations
National Permitting Service Part of Operations

Sent by E-mail only to: judith.ford@environment-agency.gov.uk
Also copied to: susan.crossland@environment-agency.gov.uk

27th March 2023

Dear Ms Ford,

Thank-you for your letter, reference: DM115/2/23 dated 13th March 2023, which requested further information regarding the Environmental Permit variation application for the Knowsley Waste Facility, EPR/ZP3439RM/V004.

We have summarised and responded to your queries below.

1) Air Emission Assessment

You have explained that, despite the site diesel generator not being a specified generator (SG), you still require us to explain / justify why using it rather than mains power is BAT or BAT equivalent for the installation, and to demonstrate that emissions from the diesel generator will not impact human health or conservation sites, as usually considered by an air emission risk assessment.

In response, we reiterate our statement from the application documentation that the generator is required to provide an additional and stable electricity supply to both the Multec and the new shredder system and hence will be operational when either of the two systems are in use.

The existing site generator is a 275 kVa diesel fired unit which was detailed in the response to the Regulation 61 Notice (Chemical Waste Permit Review – February 2022) and was stated as being operational for up to 3,000 hours per annum. Although in reality, the generator will only need to operate for a maximum of 8-hours per working day (260 days per year), equating to 24 % of the annual period, the unit is required to be available for use at any time (8,760 hours per year) in order not to limit potential processing activities. All other plant will be powered from the mains electricity supply to the site.

Mulberry Waste Limited has been advised by Electricity North West that, due to the significant demands on the system serving the wider industrial estate they would need to upgrade the local sub-station in order to guarantee the additional, steady supply that the plant requires, and Mulberry Waste Limited would have to support this upgrade. During discussions, Mulberry Waste Limited was advised that any additional sub-stations require considerable costs, estimated in the region of £375,000 - £460,000 with a bond to be provided (by Mulberry Waste) of £500,000 due to the level of civils works and installation of a new line, resurfacing etc. This is clearly a substantial additional cost onto the usual supply of electricity to the site and cannot be justified against the cost of localised electricity generation.

The discharge point from the existing generator extends approximately 0.145 m from the top of the generator housing and has an internal diameter of 0.12 m. It is not possible to undertake sampling from such a vent and hence, the generator has never been monitored. However, details have now been obtained from Caterpillar and Perkins Engines for the generator model installed at the Knowsley Waste Facility and these inputs have been included into the H1 assessment originally supplied with the Permit Variation.

The updated H1 assessment is provided as part of this submission.

Although the predicted short-term process contributions of NO₂ and long and short-term process contributions of unburnt hydrocarbons (considered against the Benzene EAL) cannot be screened as insignificant, the following caveats are noted:

- Short-term contributions of NO₂ would equate to 35 - 50 % of the NO_x PC and therefore, although still not insignificant, would be lower than reported here;
- Process contributions of unburnt hydrocarbons are assessed against the EAL for Benzene whereas Benzene will only equate to a small percentage of the total unburnt hydrocarbon release. Therefore, the assessment presented is overly conservative; and finally,
- The conservative nature of the H1 assessment which, amongst other things, does not account for the temperature of the release and therefore the buoyancy of the plume cannot accurately reflect the dispersion from the generator set.

As such, and despite the unit not constituting a specified generator, a dispersion modelling assessment will now be produced and submitted for consideration with the Permit application. The full modelling assessment will be provided by 21st April 2023 at the latest.

2) Process Flow Diagram

We agree with the majority of the bullet points raised in your letter regarding the Process Flow Diagram. However, Mulberry Waste Limited has considered the following points and wish to clarify that:

They want to retain the flexibility to pass non-hazardous waste from the WEEE and ELV etc. shredder through the float : sink tank. Therefore, this activity should be treated as either a step in the Multec process (A2), or a step in the waste activity process, additional to the eMax sorter for non-hazardous waste. However, the process will only ever be used to treat hazardous or non-hazardous materials as discrete batches.

This will enable Mulberry Waste Limited to retain the flexibility to pass defined batches of non-hazardous waste materials through the float : sink tank in order to optimise operational efficiencies and the yield of recoverable fractions from their site processes, although the principle use of the tank, at least initially, will be in handling the outputs from the Multec. Operational procedures will be prepared which confirm that the float : sink tank can only be used for hazardous or non-hazardous materials with the tank being cleared of one waste type before the other being fed into the tank.

I include a summary of the updated Activity references below, and these relate directly to those now included in the latest Process Flow Diagram.

Schedule 1 / Activity Reference	Description
Activity 1: S. 5.3 A(1) (a)(ii)	The disposal or recovery of hazardous waste > 10 T / day by physico-chemical treatment – Mercury retort
Activity 2: S. 5.3 A(1) (a)(ii) <i>Current A1</i>	The disposal or recovery of hazardous waste > 10 T / day by physico-chemical treatment – crushing or shredding
Activity 3: S. 5.3 A(1) (a)(iv) <i>Current A2</i>	The disposal or recovery of hazardous waste > 10 T / day involving repackaging – including sorting, separation and bulking
Activity 4: S. 5.6 A(1) (a) <i>Current A3</i>	The temporary storage of hazardous waste with a capacity exceeding 50 T
Activity 5: Manual and mechanical sorting, separation and repackaging of non-hazardous wastes <i>Current A6</i>	Manual and mechanical sorting and repackaging Now includes the ability to utilise the float : sink tank and / or eMax to improve sorting of recyclable materials
Activity 6: Shredding of metal waste including WEEE and ELVs and their components for recovery <i>Current A7</i>	Shredding Material outputs pass to Activity 5 for continued sorting, separation and repackaging
Activity 7: Non-hazardous waste storage <i>Current A8</i>	Storage
Directly Associated Activities	
Activity 8: Utilities and services (<i>Current A4</i>)	
Activity 9: Effluent discharge (<i>Current A5</i>)	

The Process Flow Diagram has been updated accordingly and is attached as Appendix A. This includes changes to the Activity A6 and A7 connections as queried in your letter, namely that the Multec process will not receive outputs from the shredder as originally suggested, and A6 relates to physical treatment including manual and mechanical sorting / separation and repacking of non-hazardous waste only.

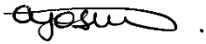
We agree with all other points listed in your item 2, relating to the Process Flow Diagram.

3) and 4) We agree with your comments at items 3 and 4.

Finally, we have considered the revised proposed variation fee that you included in your letter. This is copied over page with our comments which you and I have largely discussed during our telephone call on Tuesday 14th March. Changes made to your original text in columns 1 – 3 are highlighted in green. I believe that this now completes the assessment and, if you are in agreement, Mulberry Waste Limited will arrange the payment of the additional £11,583.00 as per your letter reference DM115/2/23, dated 13/03/2023. Please confirm. Thank-you.

Please do not hesitate to contact me should you have any queries or comments in relation to this letter. I look forward to hearing from you in due course.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Amanda Owen', followed by a period.

Dr Amanda Owen.
Environmental Consultant.
Environmental Visage Limited.

Cost Comparison Table

New / Existing Activity	Proposed Changes	Variation fee	Comments
New Activity Section 5.3 Part A (1)(a)(ii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment	Addition of new activity – Mercury retort	No change £16,001 new application fee 1.16.1.2	Agreed, assuming that no ‘abatement decision’ is relevant to the charges.
Existing activity Section 5.3 Part A(1)(a)(ii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment	New Multec process to replace tube crusher and will now include a tube crusher and separate flat panel display shredder (abatement and sorter for the waste fractions), new Float:Sink tank will separate hazardous from non-hazardous waste throughput remains at 8,755 tonnes per year the same as current permit. However table 1a of your response states shredder will increase to 120 tonnes/day, is this an error? The inclusion of some additional wastes 09 01 11*, 16 01 08*, 16 02 13* , 16 02 15* and 20 01 35*	Previously £14,401 sub. variation fee 1.16.1.2 Minor variation if no increase in capacity £4,800	Agreed, assuming that no ‘abatement decision’ is relevant to the charges. We discussed the reference to 120 tonnes per day as the physical processing capacity of the flat panel display shredder. However, Mulberry Waste Limited is committed to limiting the overall throughput of the Multec system to 8,755 tonnes per year total.
Existing activity Section 5.3 Part A(1)(a)(iv) disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving repackaging	Current permit limits activity to 12,730 tonnes per year (34 tonnes/day), No change to this capacity. Change from repackaging to sorting and repackaging. Extensive list of new hazardous waste proposed including mercury containing wastes and sludges, batteries and transformers – no change as the site currently accepts hazardous waste with similar risks.	Previously £14,401 sub variation 1.16.1.3 Minor variation now £4,800	Agreed, assuming that no ‘abatement decision’ is relevant to the charges.
Existing activity Section 5.6 Part A(1)(a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes ...	Storage capacity for waste oil and oily waste has decreased but other hazardous waste storage has increased. New wastes including mercury containing waste and sludges to reflect the new wastes accepted for sorting and repackaging.	£2,459 minor variation 1.16.4 Now £4,056 as previously costing was an error	Agreed, assuming that no ‘abatement decision’ is relevant to the charges.
Existing waste activity - including float : sink tank and eMax sorter Non-hazardous waste	No treatment capacity in current permit – just the addition of new process steps (float : sink tank (as required) and eMAX) both of which will improve sorting.	£3,965 normal variation 1.16.11 Now minor variation cost of £2,379	Agreed, assuming that no ‘abatement decision’ is relevant to the charges. The use of the float : sink tank for discrete batches of non-hazardous waste as required has been included as a step in the existing waste activity, enabling its use before the eMax

			sorter as required to further improve sorting. This is relevant to the A5 waste activity (existing manual and mechanical sorting, separation and repackaging of non-hazardous wastes)
Existing waste activity metal shredding including WEEE and ELVs - Outputs pass to A5 (existing manual and mechanical sorting, separation and repackaging of non-hazardous wastes)	No change to treatment capacity (not exceeding 75 tonnes per day)	1.16.12 Now no additional cost £0	Agreed, assuming that no 'abatement decision' is relevant to the charges.
Total		£32,036	Agreed, assuming that no 'abatement decision' is relevant to the charges.
Addition assessment charge: Fire Prevention Plan		£1,241	Agreed.
Total		£33,277	Agreed, assuming that no 'abatement decision' is relevant to the charges.

Appendix A Updated Process Flow Diagram

Mulberry Waste Limited, Knowsley Waste Facility, Application reference: EPR/ZP3439RM/V004

Facility Process Flow Diagram

Incoming Hazardous & Non Hazardous Wastes & Weee received as R13

