

The operator was reminded of section 6.2.3.1 emissions to air BAT 29 (Waste Treatment BREF. To prevent or, where that is not practicable, to reduce emissions of organic compounds to air, Best Available Techniques (BAT) must be followed at all times.

2.3 BAT conclusions for the treatment of WEEE containing VFCs and/or VHCs 2.3.1 Emissions to air Part C3 Q3 Dated: 26/02/2021 Page 22 of 28 BAT 29 In order to prevent or, where that is not practicable, to reduce emissions of organic compounds to air, BAT is to apply BAT 14d, BAT 14h and to use technique a. and one or both of the techniques b. and c. given below;

- (a) Optimised removal and capture of refrigerants and oils
- (b) Cryogenic condensation
- (c) Adsorption

6.2.3.1 Emissions to air

BAT 29. In order to prevent or, where that is not practicable, to reduce emissions of organic compounds to air, BAT is to apply BAT 14d, BAT 14h and to use technique a. and one or both of the techniques b. and c. given below.

Technique		Description
a.	Optimised removal and capture of refrigerants and oils	All refrigerants and oils are removed from the WEEE containing VFCs and/or VHCs and captured by a vacuum suction system (e.g. achieving refrigerant removal of at least 90 %). Refrigerants are separated from oils and the oils are degassed. The amount of oil remaining in the compressor is reduced to a minimum (so that the compressor does not drip).
b.	Cryogenic condensation	Waste gas containing organic compounds such as VFCs/VHCs is sent to a cryogenic condensation unit where they are liquefied (see description in Section 6.6.1). The liquefied gas is stored in pressurised vessels for further treatment.
c.	Adsorption	Waste gas containing organic compounds such as VFCs/VHCs is led into adsorption systems (see description in Section 6.6.1). The spent activated carbon is regenerated by means of heated air pumped into the filter to desorb the organic compounds. Subsequently, the regeneration waste gas is compressed and cooled in order to liquefy the organic compounds (in some cases by cryogenic condensation). The liquefied gas is then stored in pressurised vessels. The remaining waste gas from the compression stage is usually led back into the adsorption system in order to minimise VFC/VHC emissions.

We use techniques (a) and (c) above to recover our VOC's and this will remain constant (No Change)

BAT 14d

d.	Containment, collection and treatment of diffuse emissions	<p>This includes techniques such as:</p> <ul style="list-style-type: none"> • storing, treating and handling waste and material that may generate diffuse emissions in enclosed buildings and/or enclosed equipment (e.g. conveyor belts); • maintaining the enclosed equipment or buildings under an adequate pressure; • collecting and directing the emissions to an appropriate abatement system (see Section 6.6.1) via an air extraction system and/or air suction systems close to the emission sources. 	<p>The use of enclosed equipment or buildings may be restricted by safety considerations such as the risk of explosion or oxygen depletion.</p> <p>The use of enclosed equipment or buildings may also be constrained by the volume of waste.</p>
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There are no diffuse emissions from the existing or new storage. The transfer system has been DSEAR and HAZOP assessed.

BAT 14h

h.	Leak detection and repair (LDAR) programme	<p>See Section 6.6.2. When emissions of organic compounds are expected, a LDAR programme is set up and implemented using a risk-based approach, considering in particular the design of the plant and the amount and nature of the organic compounds concerned.</p>	Generally applicable.
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During the container exchanges the piping and connections will be monitored with a handheld VOC detector to ensure no fugitive emissions as is current practice along with regular checks during the day. When the Emission test are carried out we also have an independent check carried out for fugitive emissions and this will be extended to cover the bulk tank.

The operator advised of several business development proposals that are in scope for the future, and is therefore reminded of permit condition 4.3.7:

4.3.7 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit: (a) the Environment Agency shall be notified at least 14 days before making the change; and (b) the notification shall contain a description of the proposed change in operation.

Notice is part of these discussions, however there is no change to the nature, function or extension to the activities. However an additional briefing document was provided for clarity.

The operator was reminded that whilst the activities may be authorised in schedule 1 table S1.1 of the environmental permit, any change in operational techniques must be considered by the Environment Agency before commencement in line with the permit conditions above. This may include and is not limited to:

1. Written commissioning plan demonstrating how any proposed changes to the operation will meet the requirements of the relevant BAT standards

See above (2.3) No changes in BAT deliverable (Not applicable)

2. Timetable for completion

TBC aiming for Jan 2023

3. Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels.

The system contains controls to prevent the possibility of overfilling. Overflows are impossible as sealed pressure vessel capable of withstanding 37 bar, which as a result of the controls can't be filled to more than 17 bar, giving 20 bar headroom..

4. Design and maintenance provisions to allow detection and repair of leaks

Regular testing of piping will be monitored with a handheld VOC detector to ensure no fugitive emissions as is current practice along with regular checks during the day. When the Emission test are carried out we also have an independent check carried out for fugitive emissions and this will be extended to cover the bulk tank.

The design of the system was carried out by IMB Net Zero and 4 Square Engineering Consultancy Limited

5. Revised fire prevention plan

Submitted with permit variation on 8th April 2022

6. Consideration of health and safety legislation

See DSEAR Risk assessment

7. Areas of the site where explosive atmospheres could occur should be assessed and, where appropriate, classified into hazardous zones, in accordance with the Dangerous Substances and Explosive Atmospheres Regulations 2002

See DSEAR Risk assessment