Donald Ward Limited

Best Available Techniques Assessment

Boulder Bridge Lane, Carlton, S71 3HJ

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V1 R2

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TETRA TECH

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1.0 Introduction

1.1.1 This BAT assessment is provided as part of the application to the Environment Agency (EA) for a permit application to allow operation of the Donald Ward (Ward) waste storage and metal recycling facility at Boulder Bridge Lane, Barnsley, S71 3HJ (the site).

1.1.2 This report will compare the installation activities against the BAT conclusions set out in the revised Waste Treatment BREF[1] and associated implementing decision[2]. The report will also compare the activities against the following Environment Agency appropriate measures guidance applicable to the facility:

- Treating metal waste in shredders: appropriate measures for permitted facilities
- Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities.
- End of life vehicles (ELVs): appropriate measures for permitted facilities.

1.1.3 Section 2.0 will review site processes against each relevant BAT conclusion

1.1.4 Section 3.0.0 outlines the outcomes of the BAT conclusions assessment.

2.0 BAT Conclusions

2.1.1 Data has been provided by Ward and reviewed by Tetra Tech in order to complete this BAT assessment.

2.1.2 Table 2-1 below provides the assessment against the Waste Treatment BAT conclusions.

The response for assessing the appropriate measures for treating metal waste in shredders is detailed within

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02018D1147-20180817

[2]

2.1.3 Table 2-2.

2.1.4 The response for assessing the appropriate measures for Waste electrical and electronic equipment (WEEE) is detailed within Table 2-3.

2.1.5 The response for assessing the appropriate measures for End of life vehicles (ELVs) within Table 2-4.

2.1.6 The following information sources have been utilised to inform the BAT assessment:

- Operational techniques;
- Environmental management system, including operating procedures, management plans and facility description;
- Other supplementary information and data together with discussions with the operator.

2.1.7 The responses to the relevant BAT conclusions for the installation activities undertaken on the Ward site are set out in the table below.

Table 2-1: Bat Conclusions

<table>
<tr><th>Bat no.</th><th>Requirement and response</th></tr>
<tr><td colspan="2">General BAT conclusions:</td></tr>
<tr><td>BAT 1</td><td>In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates a list of features (as identified in the BAT Conclusions document).</td></tr>
<tr><td>Ward justification / evidence</td><td>Ward will operate under an environmental management system (EMS). The EMS is established so that it is maintained and continually improved as necessary.
The EMS includes standard operating procedures and safe working practices that minimise the environmental risks and impacts of the normal operations and include contingency plans to minimise the effect of breakdown, accidents etc. These include procedures relating to waste acceptance and environmental monitoring.
The EMS contains the following sections/procedures:
• EMS Summary
• Environment and Sustainability Policy
• Operating Techniques
• Noise Management Plan
• Dust Management Plan
• Complaints Log and Investigation Procedure
• Environment Audit Procedure
• Emergency Action Plan
• Safe Working Procedure
• Maintenance and Training Records
• Site Closure Plan
<table>
<tr><th>List of BAT 1 features</th><th>See for compliance</th></tr>
<tr><td>I. commitment of the management, including senior management.</td><td>EMS Summary, Operating Techniques</td></tr>
<tr><td>II. definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation.</td><td>Environment and Sustainability Policy</td></tr>
<tr><td>III. planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment.</td><td>EMS Summary, Operating Techniques</td></tr>
<tr><td>IV. implementation of procedures paying particular attention to:
(a) structure and responsibility;
(b) recruitment, training, awareness and competence;
(c) communication;
(d) employee involvement;
(e) documentation;
(f) effective process control;
(g) maintenance programmes;</td><td>a) covered by EMS Summary
b) key personnel have relevant technical competencies, all staff receive environmental training, staff operating manual or mechanical equipment receive relevant training and Safe Working Procedures, and training records are kept by site management
c) Operating Techniques, training and maintenance records</td></tr>
</table>
</td></tr>
</table>

Bat no.	Requirement and response	
	(h) emergency preparedness and response; (i) safeguarding compliance with environmental legislation.	d) key personnel have relevant technical competencies, all staff receive environmental training, staff operating manual or mechanical equipment receive relevant training and Safe Working Procedures e) EMS Summary, Training and Maintenance Records, Environmental Audit Procedure f) Operating records g) Maintenance records h) Emergency Action Plan, Fire Prevention Plan (FPP, submitted as part of this application) i) Environment Audit Procedure
	V. checking performance and taking corrective action, paying particular attention to: (a) monitoring and measurement (see also the JRC Reference Report on Monitoring of emissions to air and water from IED installations – ROM); (b) corrective and preventive action; (c) maintenance of records; (d) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained.	a) Operating Techniques, CARs, returns. b) Operating Techniques and CARs c) Maintenance Records d) Environment Audit Procedure, EA CAR
	VI. review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness.	EMS Summary, Operating Techniques
	VII. following the development of cleaner technologies.	Engineering and Asset Team review and monitor technology advances and applicability to regulatory and operational requirements
	VIII. consideration for the environmental impacts from the eventual decommissioning of the plant at the stage of designing a new plant, and throughout its operating life.	Site closure plan
	IX. application of sectoral benchmarking on a regular basis.	Sectoral benchmarking takes place via being a member of (British Metals Recycling Association)(BMRA) , Bureau of International Recycling (BIR) and Industry Council for Electronic Waste Recycling (ICER).
	X. waste stream management.	See BAT 2 of this document.
	XI. an inventory of waste water and waste gas streams.	See BAT 3 of this document.
	XII. residues management plan	Ward does not have a separate residues management plan in place. However, the aspects of a residue management plan are encompassed within the following EMS documents: minimisation of residues arising from the treatment of waste is addressed in the Operating Technique, optimising the re-use, regeneration, recycling and/or recovery of energy of the residues is considered within the Operating Techniques; and ensuring proper

Bat no.	Requirement and response	
		disposal of residues is addressed within the Operating Techniques. Therefore, the requirements of a residues management plan are considered fulfilled by the EMS in place and it is concluded that Ward complies with this point.
	XIII. accident management plan	Emergency Action Plan
	XIV. odour management plan	See BAT 10 and 12 of this document
	XV. noise and vibration management plan	See BAT 17 of this document and Noise Management Plan
Compliant / Not Compliant	Complaint	
Action	Update EMS to include sectoral benchmarking and following the development of cleaner technologies.	
BAT 2	**In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below:** **a) Set up and implement waste characterisation and pre-acceptance procedures** **b) Set up and implement waste acceptance procedures** **c) Set up and implement a waste tracking system and inventory** **d) Set up and implement an output quality management system** **e) Ensure waste segregation** **f) Ensure waste compatibility prior to mixing or blending of waste** **g) Sort incoming solid waste**	
Ward justification / evidence	Ward has established waste characterisation, waste pre-acceptance and waste acceptance procedures as part of the company's operating techniques. These procedures identify site specific checks, procedures and responsibilities at the pre-acceptance of waste stage (BAT 2 a) and site acceptance and inspection of waste (BAT 2 b). Record keeping procedures include details for waste tracking for incoming waste and export of waste such as via waste transfer notes (BAT 2 c). The Waste Acceptance Procedures are detailed within the Ward EMS which describes the in-process controls for pre-acceptance procedures and waste acceptance procedures The site's management system is in the form of the inspection, record-keeping and non-conformance procedures outlined in the operating techniques document and These documents describe the processes and procedures that have been designed and implemented to ensure that all waste products accepted and produced by Ward meet the necessary relevant criteria and all other legal requirements to which they subscribe (BAT 2 technique d). Separate waste storage areas (BAT 2 e) are shown on the Site Layout Plan. BAT 2 f is not applicable to this site as mixing or blending of waste does not take place. Incoming solid waste is sorted according to the procedures set out in the Operating Techniques Document which details the Process Description (BAT 2 g). Waste is appropriately sorted, assessed for compatibility and segregated using the waste treatment process (Operating Techniques, BAT 2 e, BAT 2 g) and the materials movement and storage processes.	

Bat no.	Requirement and response
	Relevant documents: • Operating Techniques • Waste Acceptance Procedure • Site Layout Plan • Environment Audit Procedure
Compliant / Not Compliant	Compliant with all relevant parts of BAT 2.
Action	No action required.
BAT 3	**In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates a list of features (as identified in the BAT Conclusions document).**
Ward justification / evidence	The operating techniques in section 3.1 details all point source and ambient emissions.
Compliant / Not Compliant	Compliant with BAT 3.
Action	No action required.
BAT 4	**In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below.** **a) Optimised storage location** **b) Adequate storage capacity** **c) Safe storage operation** **d) Separate area for storage and handling of packaged hazardous waste**
Ward justification / evidence	All wastes are stored in line with the requirements of the relevant Regulations and Directives and as per the site's Environment Management Systems. All wastes received and all outputs from the site processes will be stored in designated areas as per the Site Layout Plan, as well as per the arrangements set out in the Operating Techniques document, and the site FPP. To ensure that waste storage arrangements are being adhered to, monthly checks of the stockpiles are conducted. The documents below cover BAT 4 techniques a (optimised storage location), b (adequate storage capacity) and c (safe storage operation). Hazardous wastes are stored on impermeable surface linked to a sealed drainage system with additional containment where appropriate. Hazardous wastes are stored separately from non-hazardous wastes. **Relevant IMS documents:** • Operating Techniques • Site Layout Plan
Compliant / Not Compliant	Compliant with all relevant parts of BAT 4.
Action	No action required.

Bat no.	Requirement and response
BAT 5	**In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures.**
Ward justification / evidence	Ward has established handling and transfer procedures within the Operating Techniques document. Records of all incoming and outgoing waste are kept as part of EMS procedures. The Operating Techniques document details the in-process controls for the handling and transfer of waste. Section 5 of the Operating Techniques document states that a record system is to be maintained in accordance with the environmental permit. Recording of waste throughput and rejection is achieved via the use of a weighbridge system and duty of care information (waste transfer notes) recorded for every load that arrives and leaves. All appropriate information to satisfy the requirement of duty of care and the permit is obtained and recorded. All records are maintained for inspection by the EA. The records contain the following information: • Site inspections by the operator or other body and any subsequent issues and corrective actions taken (as recorded in Compliance Assessment Reports); • Emergencies; • Complaints and actions taken; • Plant/equipment failure; • A record of any rejection of waste; • Any queries with Waste Carriers; • Technically competent manager (TCM) – times on site; • Any incidents/accidents on site and actions taken; • Security failures; and • Severe weather conditions. The operation will benefit from an experienced and well-trained work force who will understand requirements for appropriate waste storage and measures taken to prevent, detect and mitigate spills. Staff are trained appropriately in the handling and transfer of waste, in the use of spill kits. All staff are trained in appropriately detecting and identifying spillages and the spill response procedure is used when a spillage is detected. Spill drills are undertaken to test response procedures. All site personnel are tasked with monitoring for evidence of spillages and leakage during their day to day routine. Any evidence of leaks or spillages are reported to the Site Manager or their nominated deputy for remedial action. The Safe Working Procedure for re-fuelling activities is used to prevent and mitigate spills. Operation and design precautions taken when mixing or blending wastes (e.g. vacuuming dusty/powdery wastes) is not applicable to the Ward Site. **Relevant documents:** • Operating Techniques • Emergency Action Plan • Compliance Assessment Reports (CARs) • Complaints Log and Investigation Procedure
Compliant / Not Compliant	Compliant with BAT 5.
Action	No action required.

Bat no.	Requirement and response
BAT 6	**For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).**
Ward justification / evidence	There is a single emission to surface water (W1) This is rainfall dependent site run off potentially containing oil, metals, solids will pass through an oil water separator and will be a point source emission to surface water. Point source emissions to surface water W1 will be monitored in accordance with a 'Point Source Emissions to Surface water Protocol', included as Appendix 5 of the operating techniques.
Compliant / Not Compliant	Compliant with BAT 6
Action	No action
BAT 7	**BAT is to monitor emissions to water with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. (See BAT Conclusions document for standards)**
Ward justification / evidence	Point source emissions to surface water W1 will be monitored in accordance with a 'Point Source Emissions to Surface water Protocol', included as Appendix 5 of the operating techniques.
Compliant / Not Compliant	Compliant with BAT 7
Action	No action
BAT 8	**BAT is to monitor channelled emissions to air with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. (See BAT Conclusions document for standards)**
Ward justification / evidence	Section 3 of the Operating techniques lists the monitoring proposed as part of the operation. An Air Monitoring Proposal is included in Appendix 6 of the Operating Techniques.
Compliant / Not Compliant	Compliant with BAT 8
Action	No action -Ward will implement a monitoring programme for emission to air as stated.
BAT 9	**BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques in the BAT conclusions document.**
Ward justification / evidence	Not applicable to site operations as these activities are not carried out.

Bat no.	Requirement and response
Compliant / Not Compliant	N/A
Action	No action required.
BAT 10	**BAT is to periodically monitor odour emissions.**
Ward justification / evidence	Ward designs, operates and maintains storage and treatment plant in a way that prevents, or where that is not possible, minimises fugitive emissions to air, including odour. Most of the wastes accepted at the site presents a low risk of odour risk. A few potentially more odorous waste codes are included on the EWC code list, these will be accepted in small quantities and also managed as per the operating techniques document. This will include fast turn arounds and management of volumes to ensure any odour risk is minimised. Nevertheless, during daily inspections the presence of any offensive odour is noted and recorded in the EHS Management Software. The source of any problem is investigated and dealt with as necessary to remove the problem. Any complaints received are recorded in the EHS Management Software and actioned where appropriate. Additionally, an Environment, Fugitive Emissions & Accidents Risk Assessment and Management Plan has been carried out and includes the assessment of odour – Appendix 7 of the Operating Techniques. This Risk Assessment and Management Plan form an integral part of the site's Environment Management System.
Compliant / Not Compliant	Compliant
Action	No action required.
BAT 11	**BAT is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year.**
Ward justification / evidence	Waste returns are submitted to the EA for all wastes received and dispatched. Monitoring of raw water and energy use on site is carried out via supplier invoices and records of these are maintained. Use of hydraulic and lubricating oils is monitored via purchase invoices. A full description of the process techniques can be found in the operating techniques document, which accompanied the permit application. **Relevant documents:** • Operating Techniques
Compliant / Not Compliant	Compliant with BAT 11.
Action	No action required.
BAT 12	**BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the elements specified in the BAT Conclusions document.**
Ward justification / evidence	The nature of the waste accepted at the site presents a low risk of odour nuisance as discussed in BAT 10.. See BAT 10 for details of the odour management measures in place at the Ward plant, as set out in the Environment, Fugitive Emissions & Accidents Risk Assessment and Management Plan.

Bat no.	Requirement and response
	The Environment, Fugitive Emissions & Accidents Risk Assessment and Management Plan is reviewed as part of the EMS, and the odour mitigation measures specifically would also be reviewed following receipt of an odour complaint, albeit this is considered unlikely and to date there have been no odour complaints received for this facility.
Compliant / Not Compliant	Compliant with BAT 12.
Action	No action required.
BAT 13	**In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques specified in the BAT conclusions document.**
Ward justification / evidence	As per response to BAT 12
Compliant / Not Compliant	Compliant with BAT 13
Action	No action required.
BAT 14	**In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given in the BAT Conclusions document.**
Ward justification / evidence	The Operating Techniques document out the measures in place to reduce diffuse emissions to air, including those of VOCs, dust and odour. Ward have a series of VOC emission mitigation measures that are implemented on site to ensure VOC emissions are controlled as far as is practicable. These include: • Insignificant source of fugitive emissions of VOC. Treatment of petroleum products and petroleum combustion processes on are not carried out on the site. Petroleum is not stored onsite. Vehicles/plant used on site are diesel (BAT 14a). • The integrity of diesel tanks and function of gauges are checked regularly. • Spillages of petroleum products is therefore will be unlikely. However, spill kits will be available, and any spills of diesel will be attended to immediately. Spill kits will be located at key locations on site and will be mobile so that they may be taken to the site of an incident (BAT 14d, 14h). • Emergency Contingency Plan will be in place, which will include documented procedures for handling spillages to minimise impacts. • Employees have training on emergency contingency plan and environmental awareness. Ward have a series of dust mitigation measures implemented on site to ensure dust emissions are controlled as far as is practically possible. The measures are detailed within the Dust Emissions Management Plan (DEMP) submitted with this permit application. The waste accepted at the site presents a low risk of odour nuisance. However, Ward have a series of odour mitigation measures implemented on site to ensure odour emissions are controlled as far as is practicable. These include: • The waste types handled will be unlikely to give rise to malodours and compliance with waste acceptance procedures will prevent receipt of odour-generating wastes (BAT 14a). • Control and monitoring of waste acceptance procedures will ensure wastes likely to cause malodours are minimised. Any malodorous material identified will be handled accordingly and removed from site as a priority (BAT 14a). • The processes undertaken on site will not give rise to malodours (BAT 14a).

Bat no.	Requirement and response
	• Site employees will undertake regular inspections and undertake remedial action if odour is identified as a problem (BAT 14f, 14g). • Where there is the potential for malodours, quantities of wastes stockpiled will be kept to a minimum (BAT 14a). • Good housekeeping will be implemented across the site to minimise the risk of odours occurring (BAT 14f, g). • Drainage systems will be inspected and maintained to minimise the odours associated with stagnating water (BAT 14f). These measures demonstrate the use of minimising the number of potential diffuse emission sources (BAT 14 technique a), containment, collection and treatment of diffuse emissions (BAT 14 technique d), maintenance (BAT 14 technique f) and cleaning of waste treatment and storage areas (BAT 14 technique g). **Relevant documents:** • Operating Techniques • DEMP
Compliant / Not Compliant	Compliant with BAT 14.
Action	No action required.
BAT 15	**BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns) by using both of the techniques given below.** **a) Correct plant design** **b) Plant management**
Ward justification / evidence	Not applicable to site operations as no use of flares.
Compliant / Not Compliant	N/A
Action	No further action
BAT 16	**In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given below.** **a) Correct design of flaring devices** **b) Monitoring and recording as part of flare management**
Ward justification / evidence	Not applicable to site operations as no use of flares.
Compliant / Not Compliant	N/A
Action	No further action

Bat no.	Requirement and response
BAT 17	**In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:** **a) a protocol containing appropriate actions and timelines;** **b) a protocol for conducting noise and vibration monitoring;** **c) a protocol for response to identified noise and vibration events, e.g. complaints;** **d) a noise and vibration reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures.**
Ward justification / evidence	The Noise Impact Assessment (NIA) and the Noise Management Plan (NMP) will contain appropriate actions and timelines as required by the results of the NIA. Appropriate noise and vibrating monitoring will be included in the NMP as well as a complaint protocol. Furthermore, as required a noise and vibration programme will be provided in the form of proposed mitigation in the NMP.
Compliant / Not Compliant	Compliant with BAT 17.
Action	No action required.
BAT 18	**In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques given in the BAT conclusions document**
Ward justification / evidence	As per BAT 17.
Compliant / Not Compliant	Compliant with BAT 18.
Action	No action required.
BAT 19	**In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques given in the BAT conclusions document**
Ward justification / evidence	There is no water use associated with the installation permitted activities on site although water is occasionally used as required for dust suppression. Waste water is not generated by any installation activities on site. The only discharge from the site is a rainfall dependent discharge to surface water post-interceptor. As this is rainfall dependent, it is not possible to reduce the volume of discharge. A full description of the process techniques can be found in the operating techniques document, which accompanied the permit application. All operational areas within the site are covered with impermeable concrete or tarmac hardstanding (BAT 19c). Daily site checks are carried out which would identify any leaks or spillages and procedures are in place to minimise any impacts from leaks or spills. Impermeable surfaces are subject to regular inspections and maintenance to minimise the risk of any fugitive emissions (BAT 19h).

Bat no.	Requirement and response
	Relevant documents: • Operating Techniques
Compliant / Not Compliant	Compliant with BAT 19.
Action	No action required.
BAT 20	**In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques given in the BAT conclusions document.**
Ward justification / evidence	There is no waste water generated from site installation activities. The site has a rainfall dependent discharge to surface water, which passes through an interceptor prior to discharge (BAT 20c). A full description of the process techniques can be found in the operating techniques document, which accompanied the permit application. See further comments in the response to BAT 3. **Relevant documents:** • Operating Techniques
Compliant / Not Compliant	Compliant with BAT 20.
Action	No action required.
BAT 21	**In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques given below, as part of the accident management plan (see BAT 1).**
Ward justification / evidence	Ward has an Emergency Action Plan which includes site information and contacts list as part of the EMS. Site Operational/Accident Procedures in place are driven by risk assessment as part of the Company's own generic EMS. The plan contains the following procedures: • Site evacuation including drill requirements • Fire • Explosions • Non-conforming waste including drill requirements • Security breach including drill requirements • Flooding • Escape from containment • Emergency procedures for liquid spillages or leaks including drill requirements The plan covers potential impacts, risks, control, protection and mitigation measures. This includes detail of accessibility and operability of relevant control equipment in emergency situations as well as protection against vandalism (BAT 21a). The site Emergency Action Plan will contain procedures for accident and incident management such as spill response and flood management (BAT 21a, 21b). The operation will benefit from an experienced and well-trained work force. Staff will be trained appropriately in the handling and transfer of waste, in the use of spill kits and the requirements of the EC&AMP and spill clean-up procedures (BAT 21b). All staff are trained in appropriately detecting and

Bat no.	Requirement and response
	identifying spillages and the spill response is used when a spillage is detected. Spill drills are undertaken. All site personnel are tasked with monitoring for evidence of spillages and leakage during their day to day routine. Any evidence of leaks or spillages are reported to the Site Manager or their nominated deputy for remedial action (BAT 21c). All plant and equipment is inspected and maintained in accordance with legal requirements and the manufacturer's recommendations, and maintenance records are kept by site management. Records of any incidents, accidents, changes to procedures and findings of inspections are also kept by site management (BAT 21c). The infrastructure and associated drainage systems are inspected regularly to ensure appropriate performance and to prevent any accidental escape of spills from the containment infrastructure to surface water (BAT 21b). A fire prevention plan (FPP) will be submitted in response to a compliance assessment report (CAR) (BAT 21a, b and c). **Relevant documents:** • Emergency Action Plan • Environment, Fugitive Emissions & Accidents Risk Assessment and Management Plan • Fire Prevention Plan
Compliant / Not Compliant	Compliant with BAT 21.
Action	No action required.
BAT 22	**In order to use materials efficiently, BAT is to substitute materials with waste.**
Ward justification / evidence	Raw material use is limited, the main input to the site are wastes which are subject to treatment and transfer operations to recover materials and transfer off-site for further management. The raw materials used on site are as follows: • Lubricating oil/grease, for parts lubrication • Hydraulic oil, used as a power transmitting medium and to protect machine components At present, it is not considered possible to substitute the raw materials used by the process with waste. No water is used on site in relation to the permitted installation activities. This is an ongoing process and Ward will continue to look into identifying alternative resources and enhance efficiency of material use, where possible.
Compliant / Not Compliant	Compliant with BAT 22.
Action	No action required.
BAT 23	**In order to use energy efficiently, BAT is to use both of the techniques given in the BAT conclusions document.**
Ward justification / evidence	Site operations are not highly energy intensive. The Operating Techniques document includes a short summary of energy usage, stating that Ward has an Energy Policy to ensure that energy is used efficiently at the site. Energy metrics are monitored and records are kept. An energy balance is not considered to be applicable to the installation and instead the specific energy consumption (SEC) will be monitored to enable the tracking of energy efficiency. The SEC will be discussed at management reviews and energy efficiency improvement actions taken where opportunities are identified. These will be recorded in the EMS. **Relevant documents:** • Operating Techniques

Bat no.	Requirement and response
Compliant / Not Compliant	Compliant
Action	Produce an energy efficiency plan.
BAT 24	**In order to reduce the quantity of waste sent for disposal, BAT is to maximise the reuse of packaging, as part of the residues management plan (see BAT 1).**
Ward justification / evidence	A very low proportion of the waste accepted at the site is packaged in bags. Where possible, this packaging is re-used for waste leaving the site. Ward is also able through their waste recycling operations, to recycle all packaging received and used on site.
Compliant / Not Compliant	Compliant with BAT 24.
Action	No action required.
BAT conclusions for the mechanical treatment of waste:	
BAT 25	**In order to reduce emissions to air of dust, and of particulate-bound metals, PCDD/F and dioxin-like PCBs, BAT is to apply BAT 14d and to use one or a combination of the techniques given in the BAT conclusions document.**
Ward justification / evidence	For the purposes of this evaluation, it has been assumed that effective waste acceptance and control procedures will be implemented through the *Site Operating Techniques* document (June 2026). These controls will ensure that the input material stream is appropriately managed. In particular: • Waste Electrical and Electronic Equipment (WEEE), or other materials containing **chlorofluorocarbons (CFCs), total volatile organic compounds (TVOCs), polychlorinated biphenyls (PCBs), or mercury**, are segregated and excluded from mechanical treatment. • As such, these materials are not considered to present a **chronic potential contaminant of concern (CoC) for emissions to air** within the H1 assessment. The granulation plant is fully enclosed within a building and equipped with an air extraction system incorporating: • a **cyclone separator (BAT 25a)**; and • a **filtration system (BAT 25b)** to capture and remove dust. Collected dust is stored in sealed bags or covered containers and transported off-site for appropriate disposal. Shredding activities do not generate dust emissions, as they involve the treatment of **clean, non-ferrous metal fractions**. Consequently, no dedicated air extraction system is required for this process. In addition, as detailed in the response to **BAT 14**, the site implements **BAT 14d (containment, collection, and treatment of diffuse emissions)** to further control fugitive releases, which has also been considered within the H1 assessment.
Compliant / Not Compliant	Compliant with BAT 25.
Action	Monitoring of dust emissions from the granulation plant air extraction system is required to establish the emissions performance against BAT AELs.

Bat no.	Requirement and response
BAT conclusions for the mechanical treatment in shredders of metal waste:	
BAT 26	**In order to improve the overall environmental performance, and to prevent emissions due to accidents and incidents, BAT is to use BAT 14g and all of the techniques given in the BAT conclusions document.**
Ward justification / evidence	BAT 14g is used at the Ward site in the following ways: • Plant and machinery are inspected/maintained and cleaned on a regular basis. • Good housekeeping is employed daily to reduce quantities of particulates and dust accumulating on the site, to minimise the risk of odour emissions and alleviate any waste leaving the site. • Manual sweeping is employed on plant and equipment to minimise build-up of dust and debris. Visual monitoring by the site manager or appointed representative in their absence is undertaken throughout the day to determine the frequency of such sweeping. The site will use as required mobile equipment with brush attachments and a road sweeper. • Site employees will undertake regular inspections and undertake remedial action if odour is identified as a problem. Ward has established waste characterisation, waste pre-acceptance and waste acceptance procedures as part of the company's operating techniques . These procedures identify site specific checks, procedures and responsibilities at the pre-acceptance of waste stage and site acceptance and inspection of waste (BAT 26a). The operating techniques details the in-process controls for pre-acceptance procedures to assess wastes, waste acceptance procedures and the installation treatment processes. Staff are trained appropriately in the handling and transfer of waste, and the requirements of Emergency Action Plan, Operating Procedures, and Safe Working Procedures. The operating techniques document sets out the process for dealing with non-conforming wastes such as those containing dangerous items (BAT 26b). As far as possible all loads are visually assessed from the weighbridge and may be rejected if the waste is found to be mis-described or non-permitted. If there are other irregularities with the paperwork, the weighbridge operator may also radio a designated site operative and request specific inspection of the load when deposited at the reception / storage area. Further inspection follows before and during the unloading stage. If the site operative is unsatisfied with any particular item(s) or indeed the whole load, its removal off-site by the driver is required or, if the Company considers it to be the best environmental option, the material is quarantined pending further investigation and possible referral to the Environment Agency. Non-conforming wastes will be placed immediately in a designated quarantine area until suitable disposal arrangements can be made. There will be no mixing of non-conforming (quarantined) wastes with authorised wastes. Non-conforming wastes will be stored separately where possible and when legislation requires. Any non-conforming wastes that are defined as hazardous under the Hazardous Waste Directive will be handled and moved off site in line with the requirements of the Directive. Following acceptance and inspection there is further inspection, sorting prior to the installation activity treatment processes, giving the opportunity to remove any unsuitable / dangerous items to prevent emissions due to accidents and incidents. Granulation process: Pre-sort of cable is undertaken prior to the super-chopper process, to remove unsuitable material, dangerous items and non-copper based cables. Mobile Shredding process: Feedstock may be subject to mechanical treatment by cutting / shearing prior to shredding and waste will be inspected prior to this treatment process. The input material to the shredding process will be predominantly non ferrous metals, for size reduction (BAT 26b). BAT 26c is not applicable to the site as containers are not accepted on site for treatment. **Relevant documents:** • Operating Techniques • Emergency Action Plan
Compliant / Not Compliant	Compliant with BAT 26.

Bat no.	Requirement and response
Action	No action required.
BAT 27	**In order to prevent deflagrations and to reduce emissions when deflagrations occur, BAT is to use technique a. and one or both of the techniques b. and c. given in the BAT conclusions document.**
Ward justification / evidence	The installation treatment processes (cable granulation and mobile shredding) do not treat wastes that could cause deflagrations. Wastes that could cause deflagrations are not accepted at the site. The operating techniques document sets out the process for dealing with non-conforming wastes such as these. As far as possible all loads are visually assessed from the weighbridge and may be rejected if the waste is found to be mis-described or non-permitted. If there are other irregularities with the paperwork, the weighbridge operator may also radio a designated site operative and request specific inspection of the load when deposited at the reception / storage area. Further inspection follows before and during the unloading stage. If the site operative is unsatisfied with any particular item(s) or indeed the whole load, its removal off-site by the driver is required or, if the Company considers it to be the best environmental option, the material is quarantined pending further investigation and possible referral to the Environment Agency. Non-conforming wastes will be placed immediately in a designated quarantine area until suitable disposal arrangements can be made. There will be no mixing of non-conforming (quarantined) wastes with authorised wastes. Non-conforming wastes will be stored separately where possible and when legislation requires. Any non-conforming wastes that are defined as hazardous under the Hazardous Waste Directive will be handled and moved off site in line with the requirements of the Directive. **Relevant documents:** • Operating Techniques
Compliant / Not Compliant	Compliant
Action	No action required.
BAT 28	**In order to use energy efficiently, BAT is to keep the shredder feed stable.**
Ward justification / evidence	The shredder is fed slowly and as evenly as practicable. The installation activities undertaken on site also include cable granulation which are different to those carried out by a conventional shredder and are less variable in energy demand due to the stable / consistent nature of the process infeed. However, any larger materials for the cable granulation plant are size reduced in the super chopper and then sent through the Multi-purpose Rasper prior to being fed into the granulation plant. This ensures the materials are consistently sized by the time they get to the granulation plant. Similarly, materials destined for the shredder may first be pre-treated through the shear before they are fed into the shredder if required to ensure a stable feedstock.
Compliant / Not Compliant	Compliant with BAT 28.
Action	No action required.

Bat no.	Requirement and response
BAT conclusions for the treatment of WEEE containing VFCs and/or VHCs:	
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 techniques specified in the BAT conclusions document.**
Ward justification / evidence	Not applicable to site operations as there is no treatment of WEEE containing VFCs and/or VHCs.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 30	**In order to prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs, BAT is to use either of the techniques given below.** **a) Inert atmosphere** **b) Forced ventilation**
Ward justification / evidence	Not applicable to site operations as there is no treatment of WEEE containing VFCs and/or VHCs.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the mechanical treatment of waste with calorific value:	
BAT 31	**In order to reduce emissions to air of organic compounds, BAT is to apply BAT 14d and to use one or a combination of the following techniques: Adsorption, biofilter, thermal oxidation and wet scrubbing.**
Ward justification / evidence	Not applicable to site operations as there is no mechanical treatment of waste with calorific value.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the mechanical treatment of WEEE containing mercury:	
BAT 32	**In order to reduce mercury emissions to air, BAT is to collect mercury emissions at source, to send them to abatement and to carry out adequate monitoring.**
Ward justification / evidence	Not applicable to site operations as the site does not treat WEEE containing mercury. The site does accept mercury batteries however; these are not treated and are not considered to be WEEE.

Bat no.	Requirement and response
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the biological treatment of waste:	
BAT 33	**In order to reduce odour emissions and to improve the overall environmental performance, BAT is to select the waste input.**
Ward justification / evidence	Not applicable as no biological treatment of the waste is carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 34	**In order to reduce channelled emissions to air of dust, organic compounds and odorous compounds, including H_2S and NH_3, BAT is to use one or a combination of the techniques given in the BAT conclusions document.** **See Table 6.7 for BAT-associated emission levels (BAT-AELs) for channelled NH3, odour, dust and TVOC emissions to air from the biological treatment of waste.**
Ward justification / evidence	Not applicable as no biological treatment of the waste is carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 35	**In order to reduce the generation of waste water and to reduce water usage, BAT is to use all of the techniques given in the BAT conclusions document.**
Ward justification / evidence	Not applicable as no biological treatment of the waste is carried out.
Compliant / Not Compliant	N/A
Action	No action required.

Bat no.	Requirement and response
BAT conclusions for the aerobic treatment of waste:	
BAT 36	**In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.**
Ward justification / evidence	Not applicable as no aerobic treatment of the waste is carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 37	**In order to reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps, BAT is to use one or both of the techniques specified in the BAT conclusion document.**
Ward justification / evidence	Not applicable as no aerobic treatment of the waste is carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the anaerobic treatment of waste:	
BAT 38	**In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.**
Ward justification / evidence	Not applicable as no anaerobic treatment of the waste is carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the mechanical biological treatment (MBT) of waste:	
BAT 39	**In order to reduce emissions to air, BAT is to use both of the techniques given below.**
Ward justification / evidence	Not applicable as no mechanical biological treatment of the waste is carried out.
Compliant / Not Compliant	N/A

Bat no.	Requirement and response
Action	No action required.
BAT conclusions for the physico-chemical treatment of solid and/or pasty waste:	
BAT 40	**In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).** **Monitoring the waste input, e.g. in terms of:** • **content of organics, oxidising agents, metals (e.g. mercury), salts, odorous compounds;** • **H_2 formation potential upon mixing of flue-gas treatment residues, e.g. fly ashes, with water.**
Ward justification / evidence	Not applicable as no physico-chemical treatment of solid and/or pasty waste is carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 41	**In order to reduce emissions of dust, organic compounds and NH_3 to air, BAT is to apply BAT 14d and to use one or a combination of the of the following techniques: Adsorption, biofilter, thermal oxidation and wet scrubbing.**
Ward justification / evidence	Not applicable as no physico-chemical treatment of solid and/or pasty waste is carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the re-refining of waste oil:	
BAT 42	**In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).**
Ward justification / evidence	Not applicable to site operations as no re-refining of waste oil carried out.
Compliant / Not Compliant	N/A
Action	No action required.

Bat no.	Requirement and response
BAT 43	**In order to reduce the quantity of waste sent for disposal, BAT is to use one or both of the following techniques: Material recovery and/or energy recovery.**
Ward justification / evidence	Not applicable to site operations as no re-refining of waste oil carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 44	**In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the following techniques: Adsorption; thermal oxidation; and wet scrubbing.**
Ward justification / evidence	Not applicable to site operations as no re-refining of waste oil carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the physico-chemical treatment of waste with calorific value:	
BAT 45	**In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the techniques specified in the BAT conclusion document.**
Ward justification / evidence	Not applicable to site operations as no physico-chemical treatment of waste with calorific value.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the regeneration of spent solvents:	
BAT 46	**In order to improve the overall environmental performance of the regeneration of spent solvents, BAT is to use one or both of the following techniques: Material recovery and/or energy recovery.**
Ward justification / evidence	Not applicable to site operations as no processing of spent solvents.
Compliant / Not Compliant	N/A
Action	No action required.

Bat no.	Requirement and response
BAT 47	**In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use a combination of the techniques specified within the BAT conclusion document.**
Ward justification / evidence	Not applicable to site operations as no processing of spent solvents.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil:	
BAT 48	**In order to improve the overall environmental performance of the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil, BAT is to use all of the techniques specified within the BAT conclusion document.**
Ward justification / evidence	Not applicable to site operations as no thermal treatment of spent activated carbon, waste catalysts and/or excavated contaminated soil.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 49	**In order to reduce emissions of HCl, HF, dust and organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the techniques specified within the BAT conclusion document.**
Ward justification / evidence	Not applicable to site operations as no thermal treatment of spent activated carbon, waste catalysts and/or excavated contaminated soil.
Compliant / Not Compliant	N/A
Action	No action required.
BAT conclusions for the water washing of excavated contaminated soil:	
BAT 50	**In order to reduce emissions of dust and organic compounds to air from the storage, handling, and washing steps, BAT is to apply BAT 14d and to use one or a combination of the following techniques: Adsorption; fabric filter; and wet scrubbing.**
Ward justification / evidence	Not applicable as no water washing of excavated contaminated soil.
Compliant / Not Compliant	N/A
Action	No action required.

Bat no.	Requirement and response
BAT conclusions for the decontamination of equipment containing PCBs:	
BAT 51	**In order to improve the overall environmental performance and to reduce channelled emissions of PCBs and organic compounds to air, BAT is to use all of the techniques specified in the BAT conclusion document.**
Ward justification / evidence	Not applicable to site operations as no decontamination of equipment containing PCBs.
Compliant / Not Compliant	N/A
Action	No action required.
BAT Conclusions for the treatment of water-based liquid waste:	
BAT 52	**In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).**
Ward justification / evidence	Not applicable to site operations as no treatment of water-based liquid waste.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 53	**In order to reduce emissions of HCl, NH_3 and organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the of the following techniques: Adsorption, biofilter, thermal oxidation and wet scrubbing.**
Ward justification / evidence	Not applicable to site operations as no treatment of water-based liquid waste.
Compliant / Not Compliant	N/A
Action	No action required.

Table 2-2 Treating metal waste in shredders: appropriate measures for permitted facilities

2. General management appropriate measures
2.1 Management System 1. You must have and follow an up-to-date, written management system. It must incorporate the following features. • management commitment, including from senior managers • an environmental policy that is approved by senior managers and includes the continuous improvement of the facility's environmental performance You plan and establish the resources, procedures, objectives and targets needed for environmental performance alongside your financial planning and investment. You implement environmental performance procedures, paying particular attention to: • staff structure and relevant responsibilities • staff recruitment, training, awareness and competence • communication (for example, of performance measures and targets) • employee involvement • documentation • effective process control • maintenance programmes • the management of change (including legislative changes and waste classification changes) • emergency preparedness and response • making sure you comply with environmental legislation You check environmental performance and take corrective action paying particular attention to: • monitoring and measurement • learning from incidents, near misses and mistakes, including those of other organisations

- records maintenance
- independent (where practicable) internal or external auditing of the management system to confirm it has been properly implemented and maintained

Senior managers review the management system to check it is still suitable, adequate and effective.

You review the development of cleaner technologies and their applicability to site operations.

When designing new plant, you make sure you assess the environmental impacts from the plant's operating life and eventual decommissioning.

You consider the risks a changing climate poses to your operations. You have appropriate plans in place to assess and manage future risks.

You compare your site's performance against relevant sector guidance and standards on a regular basis, known as sectoral benchmarking.

You have and maintain the following documentation:

- inventory of emissions to air and water
- residues management plan
- accident management plan
- site infrastructure plan
- site condition report
- fire prevention plan

If required, you have and maintain the following documentation:

- deflagration management plan (see section 6.2)
- odour management plan
- noise and vibration management plan
- dust management plan
- pest management plan

Response/evidence	See response to BAT 1 in Table 2-1.

Compliant?	Compliant

2.2 Staff Competence

1. Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence.
2. The design, installation and maintenance of infrastructure, plant and equipment must be carried out by competent people.
3. You must have appropriately qualified managers for your waste activity who are either:
    - qualified under a technical competence scheme
    - operating under a government approved technical competence scheme
4. Non-supervisory staff must be reliable and technically skilled. Their skills may be based on experience and relevant training.

Response/evidence	The EMS will include details on the organisational structure and staffing. Staff training and competency requirements have been detailed in the Operating Techniques document and in the submitted details of the TCMs who will be responsible for the facility.
Compliant?	Compliant

2.3 Accident management plan

1. As part of your management system you must have a plan for dealing with any incidents or accidents that could result in pollution.
2. The accident management plan must identify and assess the risks the facility poses to human health and the environment.

Areas to consider may include:

- waste types and the risks that they pose
- robust waste acceptance procedures (see section 3) to avoid receiving unwanted items, such as gas cylinders, undepolluted end-of-life vehicles (ELVs) and radioactive items
- failure of abatement system
- failure of plant and equipment (for example over-pressure of vessels and pipework, blocked drains)
- failure of containment (for example, bund failure, or drainage sumps overfilling)
- damaged Li-ion batteries

- failure to contain firefighting water
- making the wrong connections in drains or other systems
- checking the composition of an effluent before emission
- vandalism and arson
- extreme weather conditions for example flooding or very high winds

Assessing the risks

3. You must assess the risk of accidents and their possible consequences. Risk is the combination of the likelihood that a hazard will occur and the severity of the impact resulting from that hazard. Having identified the hazards, you can assess the risks by addressing 6 questions:

- how likely is it that the accident will happen?
- what may be emitted and how much?
- where will the emission go – what are the pathways and receptors?
- what are the consequences?
- what is the overall significance of the risk?
- what can you do to prevent or reduce the risk?

4. In particular, you must identify any fire risks that may be caused, for example by:

- arson or vandalism
- self-combustion, for example within the finer fractions of the shredder residue or within swarf piles
- plant or equipment failure and electrical faults
- naked lights and discarded smoking materials
- hot works (for example welding or cutting), industrial heaters and hot exhausts
- reactions between incompatible materials
- neighbouring site activities

- sparks from loading buckets
- hot loads deposited at the site
- damaged Li-ion batteries in waste electronic and electrical equipment (WEEE) and light iron, heavy melting steel piles and waste from household waste recycling centres
- batteries left connected in ELVs which can short circuit
- batteries (storage, processing and handling)
- ELV depollution activities (if carried out on your site)
- deflagrations within the shredder and pre-shredders

This list is not exhaustive and you must have a fire prevention plan that identifies the risks at your site and meets the requirements of our fire prevention plan guidance.

The depth and type of accident risk assessment you do will depend on the characteristics of the plant and its location. The main factors to take into account are the:

- scale and nature of the accident hazard presented by the plant and its activities
- risks to areas of population and the environment (the receptors)
- nature of the plant and complexity of the activities and how difficult it is to decide and justify adequate risk control techniques

5. Through your accident management plan, you must also identify the roles and responsibilities of the staff involved in managing accidents. You must provide them with clear guidance on how to manage each accident scenario.

6. You must appoint one facility employee as an emergency co-ordinator who will take lead responsibility for implementing the plan. You must train your employees so they can perform their duties effectively and safely and know how to respond to an emergency.

7. You must also:

- establish how you will communicate with relevant authorities, emergency services and neighbours (as appropriate) both before, during and after an accident
- have appropriate emergency procedures, including for safe plant shutdown and site evacuation

- have post-accident procedures that include assessing the harm that may have been caused by an accident and the remediation actions you will take

test the plan by carrying out emergency drills and exercises

Response/ evidence	See response to BAT 1 in Table 2 -1. Ward has an Emergency Action Plan and Fire Prevention Plan (FPP). These documents will be maintained under the EMS which is subject to regular internal auditing and management review.
Compliant?	Compliant

2.4 Accident Prevention Measures

You must take the following measures, where appropriate, to prevent events that may lead to an accident.

Waste acceptance and pre acceptance procedures

1. You must have clear and detailed procedures for pre-acceptance and acceptance of waste and for rejected and quarantined wastes.
2. These should be produced and maintained as set out in the waste pre-acceptance, acceptance and tracking appropriate measures section.

Segregating waste

3. You must keep apart incompatible wastes. Examples could include but are not limited to:

- storing lead acid batteries separately to nickel metal hydride batteries
- segregating flammable gas cylinders in cages away from oxygen cylinders

Preventing accidental emissions

4. You must make sure you contain the following (where appropriate) or route to the effluent system (where necessary):

- process waters
- site drainage waters
- emergency firefighting water
- oil or chemical contaminated waters
- spillages of oils and chemicals

5. You must be able to contain surges and storm water flows. You must provide enough buffer storage capacity to make sure you can achieve this. You can define this capacity using a risk-based approach, for example, by taking into account the:

- nature of the pollutants
- effects of downstream waste water treatment

- sensitivity of the receiving environment

6. You can only discharge waste water from this buffer storage after you have taken appropriate measures, to control, treat or reuse the water.

7. You must have spill contingency procedures to minimise the risk of an accidental emission of raw materials, products and waste materials, and to prevent their entry into water.

8. Your emergency firefighting water collection system must take account of additional firefighting water flows or firefighting foams. You may need emergency storage lagoons to prevent contaminated firefighting water reaching a receiving water body. This should be considered as part of your fire prevention plan.

9. You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from:
   - overflows
   - vents
   - safety relief valves
   - bursting discs

   If this is not advisable on safety grounds, you must focus on reducing the probability of the emission.

Security measures

10. You must have security measures in place to prevent:
    - entry by vandals and intruders
    - damage to equipment
    - theft
    - fly-tipping
    - arson

11. Facilities must use an appropriate combination of the following measures:
    - security guards
    - total enclosure (usually with fences)
    - controlled entry points
    - adequate lighting
    - warning signs

- 24-hour surveillance, such as CCTV

Fire prevention

12. There are 3 fire prevention objectives. You must:
    - minimise the likelihood of a fire happening
    - aim for a fire to be extinguished within 4 hours
    - minimise the spread of fire within the site and to neighbouring sites

13. You must have a fire prevention plan that meets the requirements of our guidance.

Other accident prevention measures

14. You must maintain plant control in an emergency using one or a combination of the following measures:
    - alarms
    - process trips and interlocks
    - manual interventions

15. You must:
    - make sure all the measurement and control devices you would need in an emergency are easy to access and operate in an emergency situation
    - maintain the plant so it is in a good state of repair through a preventive maintenance programme and a control and testing programme
    - use techniques such as suitable barriers to prevent moving vehicles damaging equipment
    - have procedures in place to avoid incidents due to poor communication between operating staff during shift changes, or following maintenance or other engineering work
    - where relevant, use equipment and protective systems designed for use in potentially explosive atmospheres

Record keeping and procedures

16. You must:
    - keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections
    - carry out investigations into accidents, incidents, near misses and abnormal events and record the steps taken to prevent their reoccurrence

- maintain an inventory of substances, which are present (or likely to be) and which could have environmental consequences if they escape – many apparently innocuous substances (for example, AdBlu) can damage the environment if they escape
- have procedures for checking raw materials and wastes to make sure they are compatible with other substances they may accidentally come into contact with
- make sure that any documents that may be needed in the event of an incident are accessible

Response/ evidence	See response to BAT 1 in Table 2 -1. Ward has an Emergency Action Plan and Fire Prevention Plan (FPP). These documents will be maintained under the EMS which is subject to regular internal auditing and management review.
Compliant?	Compliant

2.5 Contingency plan and procedures

1. You must have and implement a contingency plan and management procedures to make certain you comply with all your permit conditions and operating procedures during maintenance or shutdown at your site.
2. Your contingency plan must also contain provisions and procedures to make sure that you:
   - do not exceed storage limits in your permit and you continue to apply appropriate measures for storing and handling waste
   - stop accepting waste unless you have a clearly defined method of recovery or disposal and enough permitted storage capacity
   - as far as possible, know in advance about any planned shutdowns at waste management facilities where you send waste
3. Your contingency plan must include plans and procedures for circumstances where you cannot send your wastes to other sites due to their planned or unplanned shutdown.
4. If you produce an end-of-waste material at your facility, your contingency planning must consider issues with storage capacity for end-of-waste products. Iron, steel, aluminium and copper produced in accordance with the end-of-waste regulations remain waste and subject to waste controls until they are passed to the next holder.

You must make your customers aware of your contingency plan, and of the circumstances in which you would stop accepting waste from them.

5. You must consider whether the sites or companies you rely on in your contingency plan:
   - can take the waste at short notice
   - are authorised to do so in the quantities and types likely to be needed – in addition to carrying out their existing activities

6. Where circumstances mean you could exceed your permitted storage limits or compromise your storage procedures, you must look for alternative disposal or recovery options. You must not discount alternative disposal or recovery options on the basis of extra cost or geographical distance.
7. You must not include unauthorised capacity in your contingency plan. If your contingency plan includes using temporary storage for additional waste on your site, then you must:
   - make sure your site is authorised for this storage
   - have the appropriate infrastructure in place
8. Your management procedures and contingency plan must also:
   - identify known or predictable malfunctions associated with your technology and the procedures, spare parts, tools and expertise needed to deal with them
   - include a record of spare parts held, especially critical spares – or state where you can get them from and how long it would take to receive them
   - have a defined procedure to identify, review and prioritise items of plant which need preventative maintenance
   - include all equipment or plant whose failure could directly or indirectly affect the environment or human health
   - identify 'non-productive' or redundant items such as tanks, pipework, retaining walls, bunds, reusable waste containers, ducts, filters and security systems
   - make sure you have the spare parts, tools, and competent staff needed before you start maintenance
9. Your management system must include procedures for auditing your performance against all these contingency measures and for reporting the audit results to the site manager.

Response/ evidence	The Environmental Management System (EMS) will incorporate standard operating procedures and safe working practices designed to minimise environmental risks and impacts during normal operations. It also includes contingency measures to reduce the effects of breakdowns, accidents, and other unplanned events. These procedures cover areas such as waste acceptance and environmental monitoring. Documentation will be developed in line with relevant guidance to ensure compliance with contingency management plan requirements set out in the applicable appropriate measures.
Compliant?	Compliant

2.6 Plant decommissioning

1. You must consider the decommissioning of the plant at the design stage and make suitable plans to minimise risks during later decommissioning.

For existing plant, identify potential decommissioning risks and take steps to address these. You should make changes and design improvements as and when plant is upgraded, or when construction and development works are carried out at your site.

Examples of design improvements could include avoiding using underground tanks and pipework. If it is not economically possible to replace them, you must protect them by secondary containment or a suitable monitoring programme.

2. You must have, and maintain, a decommissioning plan to demonstrate that:
- plant will be decommissioned without causing pollution
- the site will be returned to a satisfactory condition

3. Your decommissioning plan should include details on:
- whether you will remove or flush out pipelines and vessels (where appropriate) and how you will empty them of any potentially harmful contents
- site plans showing the location of all underground pipes and vessels
- how asbestos or other potentially harmful materials will be removed, unless we have agreed it is reasonable to leave such liabilities to future owners
- methods for dismantling buildings and other structures, and for protecting surface water and groundwater during construction or demolition at your site
- any soil testing needed to check for any pollution caused by the site activities, and information on any remediation needed to return the site to a satisfactory state when you cease activities, as defined by the initial site condition report
- the measures proposed, once activities have definitively stopped, to avoid any pollution risk and to return the site of operation to a satisfactory state (including, where appropriate, measures relating to the design and construction of the plant)
- clearing deposited residues, waste and any contamination resulting from the waste treatment activities

4. You should make sure that equipment taken out of use is decontaminated and removed from the site.

Response/ evidence	Site closure requirements will be set out within the EMS and will address the requirements of appropriate measures. These requirements will be maintained during the operational life of the facility via periodic review of the EMS. A Site closure plan is submitted as part of the permit application.
Compliant?	Compliant

3. Waste pre-acceptance, acceptance and tracking appropriate measures

3.1 Waste pre-acceptance

1. You must implement waste pre-acceptance procedures so that you know enough about a waste (including its composition) before it arrives at your facility. You need to do this to assess and confirm the waste is technically and legally suitable for your facility and processes.

2. Your procedures must follow a risk-based approach, considering:
   - the source and nature of the waste
   - its hazardous properties
   - potential risks to process safety, occupational safety and the environment (for example, from deflagrations and other emissions such as noise or particulates)

3. You must get the following information in writing when you receive a customer query:
   - details of the waste producer including organisation name, address and contact details
   - the specific source of the waste – for example, ELV depollution site, general scrap metal transfer station, car manufacture, or metal from other types of manufacturing processes
   - a description of the waste including its composition and quantity
   - the List of Waste code (European Waste Classification, EWC, code)
   - if the waste has an EWC code showing it is a non-hazardous mirror entry - you should request evidence of the assessment from the producer
   - any hazardous properties or whether it contains any regulated chemicals, for example, POPs
   - confirmation from the producer that ELVs have been depolluted to ELV directive requirements
   - confirmation from the producer that drums will be accompanied by a certificate of cleanliness

4. You must also get confirmation that the waste does not contain a radioactive source. If there is a risk of radioactive contamination you must get confirmation that the waste is not radioactive, unless your facility is permitted to accept such waste.
5. You must consider whether specific wastes, from among those you are permitted to receive, have properties that can pose unacceptable risks to the site or process, for example, due to:
   - a risk of deflagration (for example, gas or aerosol canisters, baled ELVs or undepolluted ELVs)
   - a risk of fire (for example, small mixed WEEE containing Li-ion batteries, or Li-ion batteries within metal loads from other sources)

6. You should establish a list of these wastes and procedures for managing the risks from them.

You can verify the pre-acceptance information by contacting or visiting the producer. Dealing with staff directly involved in waste production can help to fully characterise a waste.

7. You must keep pre-acceptance records for at least 3 years in a computerised waste tracking system following receipt of the waste. If an enquiry from a waste producer does not lead to the receipt of waste, you do not need to keep records.

8. You must reassess the information required at pre-acceptance if the:
   - waste changes
   - process giving rise to the waste changes
   - waste received does not conform to the pre-acceptance information

9. In all cases you must reassess the information required at pre-acceptance annually. The information required and the assessment made at the pre-acceptance stage is to make sure you:
   - only accept wastes that are suitable for the site
   - avoid accumulating waste
   - have enough storage and treatment capacity

Response/ evidence	As per response to BAT 2 in Table 2-1.
Compliant	Compliant

3.2 Waste acceptance and tracking appropriate measures

1. You must implement waste acceptance procedures to check that the characteristics of the waste received matches the information you obtained during waste pre-acceptance. This is to confirm that the waste is as expected and that you can accept it.
2. If the waste is not as expected, you must confirm that you can accept it as a non-conforming waste, or you must reject it. If you are rejecting hazardous waste you must follow the **guidance on the procedure for rejecting hazardous waste**.
3. Procedures should be documented and auditable and must follow a risk-based approach, considering:
   - the source, nature and age of the waste
   - the waste's hazardous properties
   - the waste's potential to contain POPs
   - potential risks to process safety, occupational safety and the environment (for example, from odour and other emissions)
   - knowledge about the previous waste holders

Some facilities receive waste on an ad hoc basis, which may occur with loads of metal waste. In those instances you can still do pre-acceptance checks before you accept the waste. For example, by exchanging information at the weighbridge before accepting the waste on site.

4. You must assess the load to make sure it is technically (and legally) suitable for the plant. Your checks and assessment must be risk-based considering, for example, the:
   - hazardous properties of the waste
   - risks posed by the waste in terms of process safety, occupational safety and environmental impact

Storage areas

5. All relevant storage areas (quarantine, reception and general) and treatment processes in your facility must have the physical capacity needed for the waste you receive. You must not receive wastes if this capacity is not available. The amount of waste you receive must also comply with storage limits in your permit.
6. The waste offloading, reception and quarantine areas must have impermeable surfaces with a sealed drainage system. This system must collect all surface water run off and channel it to a blind sump, unless you can lawfully discharge it in another way.
7. You must clearly designate a materials reception area (or areas). Staff controlling the inspection, reception and validation of materials at the installation, must be trained in their respective roles.

Waste acceptance

8. You must weigh each load of waste on arrival to confirm the quantities against the accompanying paperwork, unless alternative reliable systems are available (for example, based upon volume). You must record the weight in the computerised waste tracking system.
9. You must check and validate all transfer documentation and resolve discrepancies before you accept the waste. If you believe the incoming waste classification and description is incorrect or incomplete, then you must address this with the customer during waste acceptance. You must record any non-conformances. If you have assessed the waste as acceptable for on-site storage or treatment, you must document this.
10. You must use clear criteria for rejecting non-conforming wastes. You must also have a written procedure for recording, reporting and tracking non-conforming wastes, including notifying the relevant customer or waste producer to prevent reoccurrence.

Monitoring for radioactive substances

11. You must have fixed radiation detectors on weighbridges to monitor waste delivered to the site for any radioactive substances or materials. These detectors must have both a visual and audible alarm. You must also have a hand held detector to investigate alarms generated by the fixed radiation detectors.
12. The radiation detection equipment must include solid state scintillation detectors and have a sensitivity to gamma radiation that is consistent with the minimum performance recommended by the International Atomic Energy Agency. These are specified in Annex IV of ‘Recommendations on Monitoring and Response Procedures for Radioactive Scrap Metal’, UNECE, 2006.

13. You must maintain, calibrate and test the radiation monitoring equipment in accordance with the manufacturer's specification.
14. You must have clear procedures for responding to radiation detector alarms.

There is a standard rules permit available for radioactive material or radioactive waste that you receive unintentionally: **SR2017 No1: Unintentional receipt of radioactive materials and radioactive waste by the operator of any facility which uses a radiation detection system**.

Acceptance of drums and tanks

15. You must make sure you only receive and accept drums or tanks:
    - that have a certificate of cleanliness
    - with prior notice
    - with hazard warning symbols obliterated

Acceptance of baled metal waste

16. You must produce and follow a detailed procedure for accepting and inspecting baled material before accepting bales for processing. For example, batch acceptance, inspection and upstream auditing.
17. You must carry out risk-based assessments for baled and other infeed materials. You must base your inspection and pre-processing procedures on these assessments before fragmentising. This may include, but not be limited to, different inspection frequencies for different customers, depending on risk.

Quarantine storage

18. You must establish quarantine areas for materials that are prohibited, awaiting full inspection, or awaiting testing or removal.
19. Quarantine storage must be for a maximum of 14 working days. For some limited and specific cases (for example gas cylinders and beer barrels) you can extend the quarantine storage time if the Environment Agency agrees.
20. You must have written procedures for dealing with wastes held in quarantine, and a maximum storage volume.
21. Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.
22. You must identify and isolate gas cylinders and other prohibited items to remove them from the waste stream. You must store gas cylinders in locked cages. Where possible, you must send prohibited items back to the appropriate owner.

Response/ evidence	As per response to BAT 2 in Table 2-1. Procedures for the detection of radioactive substances are detailed in the Operating Techniques document. The operating techniques also details the quarantine storage at the site. Storage areas will be defined as per the sites Fire Prevention Plan.

Compliant?	Compliant

Waste Tracking

1. You must use a computerised tracking system to hold up-to-date information about the available capacity of the waste quarantine, reception, general and bulk storage areas of your facility. This must also include treatment residues and end-of-waste product materials.
2. Your waste tracking system must hold all the information generated during:
    - pre-acceptance
    - acceptance
    - non-conformance or rejection
    - storage
    - repackaging
    - treatment
    - removal off site

You must make this information readily available

3. You must create records and update them to show deliveries, on-site treatment and despatches. Your tracking system will also operate as a waste inventory and stock control system. It must include this information as a minimum:
    - the date the waste arrived on-site
    - the original producer's details (or unique identifier)
    - a unique reference number
    - waste pre-acceptance and acceptance information
    - the intended treatment or disposal route
    - accurate records of the nature and quantity of wastes held on site, including all hazards (identifying the primary hazards)
    - where the waste is physically located on site

4. The tracking system must be able to report:
    - the total quantity of waste present on site at any one time
    - a breakdown by type of the waste quantities you are storing pending treatment or transfer
    - the quantity of waste on site compared with the limits authorised by your permit
    - the length of time the waste has been on site
    - the quantity of end-of-waste product materials on site at any one time, and where applicable, details of any non-conformances and rejections
5. You must store back-up copies of computer records off site. Records must be readily accessible in an emergency.
6. You must hold acceptance records for a minimum of 2 years after you have treated the waste or removed it off site. You may have to keep some records for longer if they are required for other purposes, for example, hazardous waste consignment notes.

Response/ evidence	Waste tracking procedures detailed in response to BAT 2 in Table 2-1.
Compliant?	Compliant

4. Waste storage, segregation and handling appropriate measures

4.1 Storage location

1. You must store waste in locations that minimise the handling of waste. Waste handling must be carried out by competent staff using appropriate equipment.
2. You should design and operate your facility in a way that minimises waste handling.
3. You must store shredder non-metallic fractions under cover.
4. Where possible, you should locate storage areas away from watercourses and sensitive boundaries (for example, those close to public rights of way, housing or schools).
5. You must store all waste within the security protected area of your facility to prevent unauthorised access and vandalism.

Response/ evidence	As per response to BAT 4 in Table 2-1. Waste will be stored in line with the site Fire Prevention Plan and Site Layout Plan.

Compliant	Compliant

4.2 Storage duration and capacity

1. You must clearly establish the maximum storage capacity of the site and the designated storage areas. You must not exceed these maximum capacities.
2. You must define capacity in pile sizes as well as tonnage. You must regularly monitor the quantity of stored waste on the site and within the designated areas to check against the allowed maximum capacity. You must also monitor the quantities and pile sizes against those set out in your fire prevention plan.
3. You must not accumulate waste. You must treat wastes, or remove them from the site, as soon as possible. Generally, all wastes must be removed within a maximum of 6 months of receipt. If you have a shorter time period as a permit condition, you must comply with that condition for that waste.
4. You must store all waste in a way that allows easy inspection. You must maintain safe access between piles of wastes. There must be pedestrian and vehicular access (for example shovel loader, crane, grab loader) at all times to the whole of the storage area.
5. You must store and handle waste in a way that prevents pests and vermin, see our guidance on pest management plans. You must have specific measures and procedures in place to identify and manage any wastes that attract pests or vermin at your site.
6. You must inspect storage areas, containers and infrastructure daily. You must deal with any issues immediately. You must keep written records of the inspections. You must rectify and log any waste spillages.
7. You must not carry out activities that represent a clear fire risk within any storage area unless they are clear of waste. Examples include:
    - grinding and cutting repairs within the storage area welding or brazing of metalwork within the storage area
    - smoking
    - parking of normal road vehicles except while unloading or loading
    - recharging forklift truck or power tool batteries

Response/ evidence	The Site Fire Prevention Plan and Site layout plan will detail waste storage duration and capacity requirements.
Compliant	Compliant

4.3 Dangerous Substances and Explosive Atmosphere Regulation 2002 (DSEAR)

1. You should assess areas of the site where explosive atmospheres could occur (for example, ELV depollution bays). Where appropriate, you must classify these into hazardous zones, following the Dangerous Substances and Explosive Atmospheres Regulation 2002 (DSEAR).

Response/ evidence	Ward implement and maintain a procedure for ongoing hazard identification, risk assessment and the determination of necessary controls, for all health, safety, quality and security related risks and opportunities. This will cover any possibility of areas where explosive atmospheres could occur. This is unlikely as Ward manage dusts and substances which may be corrosive to metals so that explosive atmospheres do not occur. A Dangerous Substances and Explosive Atmospheric Regulation 2002 (DSEAR) assessment will only be implemented if the site undertakes ELV depollution. The ELV regulations will ensure that DSEAR concerns are covered off during the operation should Ward decide to progress with ELV depollution.
Compliant	Compliant

4.4 Battery Storage

1. You must check for damage and the chemistry type of any batteries:
    - produced through depollution activities on site
    - accepted as discrete loads

You must do this before allocating them to the storage area.

2. You must isolate damaged batteries from other batteries.
3. You must store batteries in either appropriate weatherproof containers, or in appropriate containers within a building.
4. You must store:
    - lead acid batteries upright with terminals taped off or capped in acid proof containers to prevent leaks and short circuits
    - nickel metal hydride (Ni-MH) batteries in a way that will prevent them being damaged
5. You must not mix batteries of incompatible chemistries, for example lead acid batteries with Ni-MH batteries.
6. You must store Li-ion batteries from electric vehicles separately from other batteries. You must store them in a way that prevents them from:
    - coming into contact with any liquids
    - being damaged
    - being exposed to high temperatures

Response/evidence	The Operating Techniques and Fire Prevention Plan provide procedures for managing battery storage.
Compliant?	Compliant

5. Waste treatment appropriate measures

General waste treatment

1. Waste treatment must have a clear and defined benefit. You must fully understand, monitor and optimise the waste treatment process to make sure you treat waste effectively and efficiently. You must not treat waste to deliberately dilute it.
2. The treated output material must meet your expectations and be suitable for its intended disposal or recovery route.
3. You must identify and characterise emissions from the process and take appropriate measures to control them at source.
4. You must have up-to-date written details of your treatment activities, and the abatement and control equipment you are using. This should include information about the characteristics of the waste you will treat and the waste treatment processes, including:
    - simplified process flow sheets that show the origin of any emissions
    - details of emission control and abatement techniques for emissions to air and water, including details of their performance
    - diagrams of the main plant items where they have environmental relevance – for example, storage, tanks, treatment and abatement plant design
    - details of physical treatment processes, for example shredding, separation, compaction or washing
    - details of any chemical treatment processes
    - details of any biological treatment processes
    - details of any effluent treatment, including a description of any flocculants or coagulants used
    - an equipment inventory, detailing plant type and design parameters – for example, time, temperature, pressure
    - waste types undergoing the process
    - the control system and how it incorporates environmental monitoring information
    - process flow diagrams (schematics)
    - venting and emergency relief provisions
    - a summary of operating and maintenance procedures
    - process instrumentation diagrams
5. You must have up-to-date written details of the measures you will take during abnormal operating conditions to make sure you continue to comply with permit conditions. Abnormal operating conditions include:
    - unexpected releases

- start-up
- momentary stoppages
- shut-down
- deflagrations

6. You should use material flow analysis for relevant contaminants in the waste to help identify their flow and fate. You should use the analysis to determine the appropriate treatment for the waste either directly at the site or at any subsequent treatment site.

Material flow analysis considers the contaminant quantity in the:

- waste input
- different waste treatment outputs
- waste treatment emissions

You should use the analysis and your knowledge of the fate of the contaminants to make sure you correctly treat and either destroy or remove them. See also the section on POPs (5.3).

The use of material flow analysis is risk-based and should consider:

- the hazardous properties of the waste
- the risks posed by the waste in terms of process safety
- occupational safety and environmental impact
- knowledge of the previous waste holders

A treatment process may destroy certain substances in the waste. It could also put substances into the air, water or the ground, or have residues which are sent for disposal. You should minimise the weight of these outputs. The treatment may produce residues for recovery or reuse and you should maximise the weight of these substances.

7. You must not proceed with the treatment if your risk assessment or material flow analysis show that losses from a process will cause:
    - the breach of an environmental quality standard
    - the breach of a benchmark
    - a significant environmental impact

Response/ Evidence	Waste treatment processes are detailed in the site operating techniques. Waste is not diluted at the site. BAT 3 in Table 2-1 details emissions control. Material flow analysis is used for relevant contaminants in the waste to help identify their flow and fate. The analysis is used to determine the appropriate treatment for the waste either directly at the site or at any subsequent treatment site. The analysis and knowledge of the fate of the contaminants ensures the correct treatment or, in the case of POPs, destruction route. Abnormal operating conditions are managed in the Emergency Action Plan and Fire Prevention Plan (FPP).
Compliant	Compliant

5.2 Metal shredding plant and downstream process

1. The metal shredding plant and downstream plant and processes must be specifically designed, commissioned and operated to be fit for purpose.
2. The designs need to consider physical hazards and include an assessment of the environmental risks and emissions from the plant and processes. They also need to consider prevention and protective measures and process management, such as:
    - working instructions
    - staff training
    - appropriate process control measures
    - monitoring systems, alarms and interlocks
    - plant maintenance
    - checks
    - audits
    - emergency procedures

If you treat small mixed WEEE or large domestic appliances you must comply with the requirements of Waste Electrical and Electronic Equipment (WEEE) guidance. We are producing further guidance on appropriate measures for permitted WEEE facilities.

3. You must process shredder non-metallic fractions under cover. You may use a range of separation technologies to further segregate and purify shredded fractions. Examples include:
    - air classification
    - all-metal separator
    - electromagnetic separation of non-ferrous metals
    - manual separation
    - magnetic separation
    - density separation

- vibration tables either at the shredding facility or elsewhere

4. You must sample and analyse the fractions produced by these treatment processes to accurately classify and code the waste. You should do this in accordance with the waste classification guidance.
5. You must not use a waste code for a single material fraction, such as plastic, unless the process is specifically aimed to produce that single fraction. Contamination by other materials must be negligible.
6. You must also fully characterise and classify process solutions and washings from density separation processes before determining suitable disposal options.

Response/ Evidence	The facility is designed for the specialist recovery of cable, non-ferrous and ferrous metals; these may be light or heavy off-cut from manufacturing, obsolete machinery or other equipment from industry, bulky metal-based discards from commercial sector or scrap vehicles and white goods etc. from scrap suppliers or members of the public. The site Operating Techniques and Emergency Action Plan considers physical hazards and includes an assessment of the environmental risks and emissions from the plant and processes. The operating techniques details the site treatment process and its downstream process.
Compliant	Compliant

5.3 POPs

Some plastic components found in metal waste may contain flame retardants that are POPs.

1. You must assess fractions containing plastic (including process solutions and washings from density separation processes) for POPs.

2. You must treat any POPs waste as required by article 7 of Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on POPs.

This means the treatment must make sure the POP content is destroyed, or irreversibly transformed. An example would be by incineration or similar thermal treatment. You must not recycle this plastic.

3. You must therefore assess plastic containing fractions at each stage in the treatment process to establish whether the threshold is exceeded. See further information on identifying and disposing of POPs contaminated waste.

Separating POPs waste from non-POPs waste

4. You can treat any plastic that is POPs waste to separate the POPs containing fraction from the non-POPs containing plastic.

For example, you can use density separation to separate plastic containing all brominated flame retardants (BFR) from that which does not. You may then recycle the non-BFR plastic (provided it does not contain any other POP) but you must destroy or irreversibly transform the BFR plastic.

5. You must fully characterise and classify the following (including for POPs) before deciding on suitable disposal options:

- process solutions and washings from density separation processes
- solid fractions produced by any process

Response/ Evidence	The management of POPs is detailed within the site operating techniques. Residues that contain SMW plastics may contain POPs and are consigned (EWC 190204*) to suitably authorised facilities for further treatment and subsequent destruction of the POPs, as detailed below. Article 7 of the Regulation (EU) 2019/1021 of the European Parliament and of the Council on persistent organic pollutants (the POPs Regulation) requires that any POPs in waste plastic is destroyed or irreversibly transformed. Destruction of POPs in the waste plastic fraction is managed by off-site third-party facilities that accept this residue and destruction of POPs is achieved by incineration, consumed/ destroyed in the metal smelting process, or pyrolysis.
Compliant	Compliant

5.4 Antimony trioxide

1. Antimony trioxide has been widely used as a synergist with a range of BFRs. It is present in some plastics at concentrations which exceed the hazardous waste threshold. You must therefore consider antimony trioxide when you are classifying any plastic containing fraction.

Response/ Evidence	Antimony trioxide can be present in some plastics at concentrations exceeding the hazardous waste threshold. To meet appropriate measures, Ward consider and consign all plastics from cable and WEEE to contain antimony trioxide when classifying any plastic containing fraction of waste.
Compliant	Compliant

5.5 Minimising diffuse emissions from the process

1. You must minimise the release of diffuse emissions to air from activities which may create them, for example shredding or granulating. You must do this by:
   - carrying out the activity using enclosed equipment or in a closed building
   - maintaining the enclosed equipment or building under an appropriate pressure
   - collecting and directing the emission to an appropriate abatement system
   - using a shredder system with water or foam injection into the mill
2. To track and control changes to processes, you must have a written procedure for proposing, considering and approving changes to both:

- technical developments
- procedural or quality changes to the plant and processes

3. Where you expect an emission, you must enclose all treatment plants and only vent to air using an appropriate scrubbing and abatement system (subject to deflagration relief).

Response/ Evidence	BAT 14 in Table 2-1 details techniques to manage diffuse emissions at the site.
Compliant	Compliant

5.6 Record keeping for all treatment residues

1. You must record in the computerised waste tracking system:

- that a waste has been treated
- what the treatment residues are and their weight
- what end-of-waste products have been made and their weight

Response/ Evidence	As per response to BAT 2 in Table 2-1.
Compliant	Compliant

6. Emissions control appropriate measures

6.1 Point source emission to air

1. You must contain the waste treatment plant (including shredders) to make sure you collect, extract and direct all process emissions to an appropriate abatement system for treatment before release.
2. You must identify the main chemical constituents of the site's point source emissions as part of the site's inventory of emissions to air. You must include the speciation of volatile organic compounds (VOCs) if you have identified them in the emissions inventory and it is practicable to do so.
3. You must assess the fate and impact of the substances emitted to air, following the Environment Agency's air emissions risk assessment methodology.
4. To reduce point source emissions to air (for example, dust, VOCs and odour) from waste treatment, you must use an appropriate combination of abatement techniques, including one or more of the following systems:
   - cyclonic filtration

- fabric filters
- wet scrubbing
- high efficiency particulate (HEPA) filter

5. You must assess and design vent and stack locations and heights to make sure dispersion capability is adequate.
6. Where monitoring is required, you must install suitable monitoring points. Monitoring points will be required to meet MCERTS standards. You can find further guidance in the Environment Agency's M1 – Guidance on sampling requirements for monitoring stack emissions.
7. Your procedures must make sure you correctly install, operate, monitor and maintain abatement equipment. For example, this includes monitoring and maintaining:
   - appropriate flow and chemical concentration of scrubber liquor
   - the handling and disposal or regeneration of spent scrubber or filter medium

Response/evidence	There are 2 point source emission to air from the operation. A1 - Air from Fine Granulators and Air Tables from cleaning system of shredding of metal containing waste containing particulates [Eldan Plant]. A2 - Air Tables from cleaning system of shredding of metal containing waste containing particulates (Trennso plant] This is described in the Operating Techniques. Point source emissions to air are monitored in accordance with a "Point Source Emissions to Air Monitoring Protocol. Abatement technology used at the site is Water injection on shredder mill / Cyclone / Baghouse filter.
Compliant?	Compliant

6.2 Fugitive emissions to (including odour)

1. You must use appropriate measures to prevent emissions of dust, mud and litter and odour. See our guidance on suggested appropriate measures to control dust, mud and litter and to control odour.
2. You must design, operate and maintain storage and treatment plant in a way that prevents fugitive emissions to air, including dust, organic compounds and odour. Where that is not possible, you must minimise these emissions.

Storage and treatment plant includes associated equipment and infrastructure such as:

- Shredders
- Conveyors
- skips or containers
- building fabric, including doors and windows
- pipework and ducting

3. You must minimise the number of potential diffuse dust and particulates emission sources, using a combination of the following:
    - limiting the drop height of material
    - using wind barriers
    - covering conveyor belts, including enclosure of transfer points
    - fitting spray nozzles or rubber flaps to the inlet and outlet of the shredder mill
    - using misting systems and wind barriers in areas with significant dust formation
    - venting pipe work and ducting to an appropriate abatement system to prevent fugitive emissions
4. To make sure fugitive emissions are collected and directed to appropriate abatement, your treatment plant must use high integrity components (for example, seals or gaskets).
5. You must use your waste pre-acceptance, waste acceptance and site inspection checks and procedures to identify and manage wastes that could cause, or are causing, fugitive emissions to air. Examples could include gas cylinders, items concealed in baled waste, or poorly depolluted ELVs. When you identify any of these wastes you must:
    - take appropriate, risk assessed measures to prevent and control emissions
    - prioritise their treatment or transfer
    - Storage of odorous or dusty wastes
6. Where necessary, to prevent fugitive emissions to air from storing and handling odorous or dusty wastes, you should use a combination of the following measures (7 to 13).
7. You should store and handle the waste within an enclosed building including:
    - light fractions of the shredder residue
    - dust derived from sweeping the waste treatment and storage areas
    - dust derived from the abatement equipment
8. You should use fully enclosed material transfer and storage systems and equipment, for example:
    - Conveyors
    - Hoppers
    - Containers
    - tanks and skips
9. You should keep enclosed buildings and equipment under adequate negative pressure with an appropriate abated air circulation and extraction system. Where possible, locate air extraction points close to potential emissions sources.
10. You should:
    - use fast-acting or ‘airlock’ doors that default closed

- dampen potential sources of diffuse dust emissions (such as the shredder inlet and outlet, traffic areas and open handling processes) with water or fog

11. You must fully enclose and contain pre- and post-treatment shredder plant to prevent emissions.
12. You must design and operate the shredder plant using appropriate process interlocks. The plant should not operate unless it is enclosed and contained, for example, only working when the loading door on the hopper is closed or sealed
13. You must contain and extract dust emissions from the shredder plant to an appropriate abatement system, for example HEPA air filtration.
14. Where ambient dust monitoring is required it must be carried out by MCERTS qualified staff.
15. You must use monitoring equipment that meets as a minimum the MCERTS Performance Standards for Indicative Ambient Particulate Monitors. You must calibrate the equipment following the manufacturer's recommendations and it must be capable of providing representative data that accurately reflect PM10 levels produced operations at the site.
16. Where a dust management plan is required, you must develop and implement it following our guidance.

Maintenance and cleaning

17. You must set up a leak detection and repair programme and use it to promptly identify and mitigate any fugitive emissions from treatment plant and associated infrastructure (for example, pipework, conveyors, tanks).
18. You must regularly inspect and clean all waste storage and treatment areas, equipment (including conveyor belts) and containers. You must contain any residues collected during cleaning.
19. Your maintenance and cleaning schedules must make sure that tanks and plant are regularly cleaned to avoid large-scale decontamination activities.
20. You must take measures to prevent the corrosion of plant and equipment (for example, conveyors or pipes). This includes:
    - selecting and using appropriate construction materials
    - lining or coating equipment with corrosion inhibitors
    - regularly inspecting and maintaining plant
21. You must have an appropriate regular maintenance programme covering all buildings, plant and equipment. This must also include protective equipment such as air ventilation and extraction systems, curtains and fast-action doors used to prevent and contain fugitive releases.
22. If you wash out drums or containers, you must design and operate the washing process and associated equipment in a way that prevents fugitive emissions to air. For example, you could carry out this activity in a contained or enclosed system.

Odorous wastes

23. You must have procedures to minimise the amount of time odorous wastes spend in your storage and handling systems (for example, pipes, conveyors, hoppers, tanks). In particular, you must have provisions to manage waste during periods of peak volume.

24. You must have measures to contain, collect and treat odorous emissions, including using contained buildings and plant or equipment with appropriate air extraction and abatement. We do not consider masking agents to be appropriate measures to treat odorous emissions.
25. You must monitor odour abatement systems to ensure optimum performance. For example, you should make sure that scrubber liquors are maintained at the correct pH and replenished or replaced at an appropriate frequency.

26. Contaminated waters have potential for odours. You must store them in covered or enclosed tanks that are vented to abatement systems, or store them in containers.
27. Where you expect odour pollution at sensitive receptors, or it has been substantiated, you must periodically monitor odour emissions using European (EN) standards, for example either:
    - dynamic olfactometry according to EN 13725 to determine the odour concentration
    - EN 16841-1 or -2 to determine the odour exposure

If you use methods that are not covered by EN standards (for example, estimating odour impact), you should use ISO, national or other international standards to make sure you use data of an equivalent scientific quality. You must set out the monitoring frequency in the odour management plan.

28. Where you expect odour pollution at sensitive receptors, or it has been substantiated, you must also set up, implement and regularly review an odour management plan. It must be part of your management system and include all the following elements:
    - actions and timelines to address any issues identified
    - a procedure for conducting odour monitoring
    - a procedure for responding to identified odour incidents, for example, complaints
    - an odour prevention and reduction programme designed to identify the sources, to characterise the contributions of the sources and to implement prevention and reduction measures
29. Where an odour management plan is required, you must develop and implement it following our odour management guidance.

Deflagration Management

30. To prevent deflagrations and to reduce emissions where deflagrations have occurred, we may require a deflagration management plan. This should include:
    - a deflagration reduction programme designed to identify the source, and to implement measures to prevent deflagrations, for example, inspecting waste input and removing dangerous items such as gas cylinders and undepolluted ELVs
    - a review of historical deflagration incidents and remedies and sharing deflagration knowledge
    - a protocol for responding to deflagration incidents
31. You must also have one or both of the following:
    - pressure relief dampers, to relieve pressure waves from deflagrations that may otherwise cause damage and subsequent emissions
    - pre-shredding – a low speed shredder installed upstream of the main shredder

32. Where there are a large number of deflagration incidents at a site, and other measures taken do not reduce the number, we may require you to install a pre-shredder.	
Response/ evidence	A Dust Emissions Management Plan (DEMP) will be in place and utilised at the site to management dust emissions. The site does not pose a risk of odour related impact due to the nature of the waste and activities carried out. Nevertheless, during daily inspections the presence of any offensive odours is noted and recorded in the EHS Management Software. It is uncommon for the operations to give rise to problems associated with the tracking of mud and debris out onto the public highway. Wastes usually arrive secure in metal-sided lorries, and the treated products and residues are dispatched in a similar manner or by rail. Nevertheless, any escape beyond the boundary of the site is cleared up as soon as it is practicable and safe to do so. Site surfaces and access roads are swept mechanically regularly using a commercial road sweeper. Additional sweeping takes place using mobile equipment with brush attachments. The entrances to the site and the adjacent highways are inspected on a daily schedule and, if any fouling from the site operations is apparent, this is rectified before the end of that working day. Records of any such incidents and of any resulting clean-up are maintained in the EHS Management Software. The nature of wastes dealt with minimises the risk of litter related problems. Nevertheless, the site entrance and adjacent highways are inspected daily and any escape of litter beyond the boundary of the site is cleared up as soon as it is Maintenance and housekeeping procedures are detailed in the Operating Procedures.
Compliant?	Compliant

6.3 Emissions of noise and vibration

1. You should design the layout of the facility to locate potential sources of noise (including building exits and entrances) away from sensitive receptors and boundaries. You should locate buildings, walls, and embankments so they act as noise screens.
2. You must use appropriate measures to control noise, including for example:
   - adequately maintaining plant or equipment parts which may become more noisy as they deteriorate – for example, bearings, air handling plant, building fabric, and specific noise attenuation kit associated with plant or machinery
   - closing doors and windows of enclosed areas and buildings
   - avoiding noisy activities at night or early in the morning
   - minimising drop heights and the movement of waste and containers
   - using broadband (white noise) reversing alarms and enforcing the on-site speed limit

- using low-noise equipment, for example, drive motors, fans, compressors and pumps
- adequately training and supervising staff
- where possible, providing additional noise and vibration control equipment for specific noise sources – for example, noise reducers or attenuators, insulation, or sound-proof enclosures
- including pressure relief control on shredder plant enclosures to take account of possible deflagration incidents

3. Where you expect noise or vibration pollution at sensitive receptors, or it has been substantiated, you must create, use and regularly review a noise and vibration management plan. This must be part of your environmental management system, and must include:
   - actions and timelines to address any issues identified
   - a procedure for conducting noise and vibration monitoring
   - a procedure for responding to identified noise and vibration events, for example, complaints
4. The noise and vibration management plan should also include a noise and vibration reduction programme designed to:
   - identify the source(s) of noise and vibration
   - measure or estimate noise and vibration exposure
   - characterise the contributions of the sources
   - implement prevention and reduction measures
5. Where a noise management plan is required, you must develop and implement it following our noise management plan guidance.

This guidance also has information about noise and vibration risk assessments.

Response/evidence	The site has been subject to a Noise Impact Assessment (NIA) and will be managed in line with a Noise Management Plan (NMP).
Compliant	Compliant

6.4 Point source emissions to water and sewer

1. You must identify the main chemical constituents of the site's point source emissions to water and sewer as part of the site's inventory of emissions.
2. You must assess the fate and impact of the substances emitted to water and sewer following the Environment Agency's risk assessment guidance.
3. Discharges to water or sewer must comply with the conditions of an environmental permit or trade effluent consent. Relevant sources of waste water include (but are not limited to):
   - water or condensate collected from treatment processes
   - vehicle washing
   - vehicle oil and fuel leaks
   - washing of containers

- spills and leaks in waste storage areas
- loading and unloading areas
- uncovered storage areas

4. To reduce emissions to water and sewer, if you need to treat waste water before discharge or disposal, you must use an appropriate combination of treatment techniques, including one or more of the following:
   - preliminary or primary treatment – for example, physical separation
   - physico-chemical treatment – for example, adsorption, precipitation, chemical oxidation or reduction
   - solids removal – for example, coagulation, sedimentation, filtration or flotation

Response/evidence	There are no process effluents generated from waste processing activities at the facility. Minimal water is used for dust suppression across the site. Details of the site drainage infrastructure has been set out in the Operating Techniques. The discharge consists of rainfall dependent run off from site surface (storage and treatment areas). The site has an impermeable surface with a sealed drainage system and a lawful discharge. The surface water drainage system flows via a class 1 full retention oil water separator aka interceptor located to the east of the yard (W1) which discharges to surface water drainage opposite the site entrance which ultimately discharges to controlled watercourse, Shaw Dike.
Compliant	Compliant

6.5 Fugitive emissions to land and water

1. You must use appropriate measures to control potential fugitive emissions and make sure that they do not cause pollution. See the guidance on **emissions to water** and **leaks from containers**.
2. You must have the following in all operational areas of the facility:
   - an impermeable surface
   - spill containment kerbs
   - sealed construction joints
   - a sealed drainage system
3. The sealed drainage system must contain all surface water run off and channel it to a blind sump unless you can lawfully discharge it.
4. You must collect and treat separately each water stream generated at the facility. For example, surface run-off water or process water. You must base separation on pollutant content and the treatment required. In particular, you must make sure you segregate uncontaminated water streams from those that require treatment.

5. You must use suitable drainage infrastructure to collect surface drainage from areas of the facility where you store, handle and treat waste. Drainage must be effective to make sure waste is not stored or treated in standing water.
6. Depending on the pollutant content, you must either:
    - recirculate what you have collected
    - discharge it in accordance with an environmental permit or trade discharge consent
    - send it for further treatment
7. You must have design and maintenance provisions in place to detect and repair leaks. These must include regularly monitoring, inspecting and repairing equipment and minimising underground equipment and infrastructure.
8. You should provide appropriate buffer storage capacity at your facility to store waste waters, taking into account:
    - potential abnormal operating scenarios and incidents
    - the nature of any polluting substances and their impact on the downstream waste water treatment plant and receiving environment
9. You must have appropriate measures in place to monitor, treat and reuse the water held in the buffer storage before discharging.
10. You must take measures to prevent emissions from washing and cleaning activities, including:
    - directing liquid effluent and wash waters to foul sewer or collecting them in a sealed system for off-site disposal – you must not discharge them to surface or storm drains
    - where possible, using biodegradable and non-corrosive washing and cleaning products
    - storing all detergents, emulsifiers and other cleaning agents in suitable bunded or containment facilities, within a locked storage area, or in a building away from any surface water drains preparing cleaning or disinfection solutions in contained areas of the site and never in areas that drain to the surface water system
11. Where relevant, you must have measures to prevent pollution from the on-site storage, handling and use of oils and fuels. See the **guidance on oil storage regulations for business**.

Spill response plan

12. You must produce and implement a spillage response plan and train staff to follow it and test it.
13. Your procedures and associated training must make sure you deal with spillages immediately.
14. You must keep spill kits at locations close to areas where a spillage could occur and make sure relevant staff know how to use them. Make sure kits are replenished after use.
15. You must stop spillages from entering drains, channels, gullies, watercourses and unmade ground. You must make available absorbent materials, sand or drain mats for use when required.

Designing and maintaining surfacing and subsurface structures

16. You must make sure your spillage response plan includes information about how to recover, handle and correctly dispose of waste produced from a spillage.
17. For subsurface structures, you must:
    - establish and record the routing of all site drains and subsurface pipework
    - identify all sub-surface sumps and storage vessels
    - engineer systems to minimise leakages from pipes and make sure they are detected quickly if they do occur, particularly where hazardous substances are involved, see the **list of hazardous substances**
    - provide secondary containment or leakage detection for sub-surface pipework, sumps and storage vessels
    - establish an inspection and maintenance programme for all subsurface structures, for example, pressure tests, leak tests, material thickness checks or CCTV
18. For surfacing, you must design appropriate surfacing and containment or drainage facilities for all operational areas, taking into account:
    - collection capacities
    - surface thicknesses
    - strength and reinforcement
    - falls
    - construction materials
    - permeability
    - resistance to chemical attack
    - inspection and maintenance procedures
19. You must have an inspection and maintenance programme for impermeable surfaces and containment facilities.

Tanks and bunding

20. You must bund all above-ground tanks containing liquids whose spillage could be harmful to the environment. Bunds must:
    - be impermeable and resistant to the stored materials
    - have no outlet (that is, no drains or taps) and drain to a blind collection point
    - have pipework routed within bunded areas with no penetration of contained surfaces
    - be designed to catch leaks from tanks or fittings
    - have a capacity greater than 110% of the largest tank or 25% of the total tankage, whichever is the larger
    - have regular visual inspections – any contents must be pumped out or otherwise removed under manual control after checking for contamination
    - be fitted with a high-level probe and an alarm (as appropriate) if not frequently inspected
    - have tanker connection points within the bund (where possible), otherwise provide adequate containment

- have programmed engineering inspections – normally visual, but extending to water testing if structural integrity is in doubt
- be emptied of rainwater regularly to maintain their containment capacity

You can find further guidance in **Construction Industry Research and Information Association (CIRIA) Containment systems for the prevention of pollution (C736F)**

Response/ evidence	The installation storage and treatment activities take place on an impermeable surface with a sealed drainage system and lawful discharges. The operating techniques document describes the sites surfacing. The discharge consists of rainfall dependent run off from site surface (storage and treatment areas). There are no waste process water streams generated at the facility. The site has an impermeable surface with a sealed drainage system and a lawful discharge. The surface water drainage system flows via abatement technique class 1 full retention oil water separator aka interceptor located to the east of the yard (W1) which discharges to surface water drainage opposite the site entrance which ultimately discharges to controlled watercourse Shaw Dike. The operating techniques also describes the storage arrangements for fluids whose spillage could be harmful to the environment. It confirms that these fluids will be stored in above ground tanks or containers with appropriate secondary containment measures capable of holding at least 110% of the volume of the primary containment vessel or 25% of the total tankage. A spill response plan is also in place. Storage areas are provided with spillage collection facilities including spill kits. The locations of such spill kits and instructions on their use is specified in the site's Emergency Action Plan. All employees are trained in the Emergency Action Plan. Copies of the plan are distributed to all employees and contractors. Use of spill kits are reported to site management to ensure regular restocking as required.
Compliant?	Compliant

7. Emissions limits, monitoring and appropriate measures

7.1 Emissions to air

1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to air, such as the:

- average values and variability of flow and temperature
- average concentration and load values of relevant substances and their variability
- flammability, lower and higher explosive limits and reactivity

- presence of other substances that may affect the waste gas treatment system or plant safety – for example, oxygen, nitrogen, water vapour, dust

2. Monitoring locations must meet MCERTS standards. Monitoring must use MCERTS qualified accredited methods and be done by MCERTs certified staff. You can find further guidance in the Environment Agency's M1 – Guidance on sampling requirements for monitoring stack emissions.

Response/evidence	The response to BAT 8 has covered the emission to air and the associated monitoring programme. The monitoring of emissions meets BAT, the requirements of M1 and uses MCERTS qualified accredited methods.
Compliant?	Compliant

7.2 Emissions limits and monitoring requirements

1. You must apply the following emission limits and monitoring requirements for point source emissions to air.
2. You must comply with any other emission limits or monitoring requirements set in your environmental permit. There may be situations where we set lower emission limits for the following substances listed.

Dust emissions

3. You must make sure dust monitoring is done every 6 months using method BS EN 13284-1.

The emission limits are as follows. When using:

- fabric filters – 5mg/m3
- other abatement techniques – a higher emission limit of 10mg/m3 may be appropriate

4. You must report results as the average value of 3 consecutive measurements of at least 30 minutes each. The 3 consecutive measurements must be representative of the dust and particulate emissions from the operations at the site.

Other point source emissions to air

5. You must apply the following emission limits and monitoring requirements for point source emissions to air where they are relevant, based on your facility's emissions inventory and environmental risk assessment.
6. You must also comply with any other emission limits or monitoring requirements set in your environmental permit.

BFRs

You should:

- do annual monitoring

- report results as the average value of 3 consecutive representative measurements of at least 30 minutes each

Dioxin-like polychlorinated biphenyls

Where these are identified in your inventory of point source emissions to air you should:

- do annual monitoring following standard EN1948-4
- report results from one sampling period of at least 6-8 hours

Metals and metalloids except mercury

Where these are identified in your inventory of point source emissions to air you should:

- do annual monitoring following standard EN14385
- report results as the average value of 3 consecutive representative measurements of at least 30 minutes each

Polychlorinated dibenzo-p-dioxin/furan(s)

Where these are identified in your inventory of point source emissions to air you should:

- do annual monitoring following standard EN1948-1 Parts1, 2 and 3
- report results from one sampling period of at least 6-8 hours

Total VOCs

You should:

- do 6-monthly monitoring following standard BS EN 12619
- report results as the average value of 3 consecutive representative measurements of at least 30 minutes each

Response/ evidence	As per response to BAT 8 and Bat 25. Emissions from the site will comply with BAT-AELs and monitoring requirements. The following are unlikely to be found in air emissions at the facility due to the nature of the wastes accepted at the facility: • BFRs • Dioxin-like polychlorinated biphenyls • Metals and metalloids except mercury • Polychlorinated dibenzo-p-dioxin/furan(s)

	• VOCs [Note: end of life fridges are stored on site but are not treated] Should there be the potential for wastes to be accepted which could result in the release of these pollutants, Ward will look to amend the monitoring regime to include the specific pollutants.
Compliant?	Compliant

7.3 Emissions to water and sewer

1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to water or sewer, such as:
   - average values and variability of flow, pH, temperature, and conductivity
   - average concentration and load values of relevant substances and their variability – for example, chemical oxygen demand (COD) and total organic carbon (TOC), nitrogen species, phosphorus, metals, priority substances or micro pollutants
   - data on bio-eliminability – for example, biological oxygen demand (BOD), BOD to COD ratio, Zahn-Wellens test, biological inhibition potential, for example, inhibition of activated sludge
2. For relevant emissions to water or sewer identified by the emissions inventory, you must monitor key process parameters (for example, waste water flow, pH, temperature, conductivity, or BOD) at key locations. For example, these could be at one of the following, the:
   - inlet or outlet (or both) of the pre-treatment
   - inlet to the final treatment
   - point where the emission leaves the facility boundary
3. You must comply with any other emission limits or monitoring requirements set in your environmental permit. We may set lower emission limits for the parameters that follow.
4. In addition to any other parameters specified by your permit, you must monitor the following emissions to water:

Hydrocarbon Oil Index (HOI)

You must comply with the following:

- monthly monitoring following EN ISO-9377-2
- the emission limit for HOI is 10mg/l whether direct or indirect (to water body or to sewer)
- if you discharge directly to a water body, you must monitor TOC or COD – TOC is the preferred monitoring parameter

TOC

You must comply with the following:

- monthly monitoring following EN1484
- an emission limit of 60mg/l

COD

You must comply with the following;

- monthly monitoring
- an emission limit of 180mg/l

Total suspended solids (TSS)

If you discharge directly to a water body:

- you must monitor TSS monthly in accordance with EN 872
- the emission limit is 60mg/l

5. If your waste water emissions inventory identified the following parameters are relevant, then you must monitor for them. You should monitor them monthly. There are various standards available for these parameters (for example, EN ISO 11885, EN ISO 17294-2, EN ISO 15586).

These emission limits apply whether the discharge is to a water body or to the sewer:

- arsenic (As) – emission limit 0.05mg/l
- cadmium (Cd) – emission limit 0.05mg/l
- chromium (Cr) – emission limit 0.15mg/l
- copper (Cu) – emission limit 0.5mg/l
- nickel (Ni) – emission limit 0.5mg/l
- lead (Pb) – emission limit 0.3mg/l
- zinc (Zn) – emission limit 2mg/l
- mercury (Hg) – emission limit is 5ug/l (SORT microgram) and the relevant standards are EN ISO 17852, EN ISO 12846)
- Perfluorooctanoic acid and perfluorooctanesulphonic acid

You should monitor 6-monthly. There is no EN standard available for the monitoring and no emission limit has been set.

Response/evidence	The site does not generate any point source emissions to sewer, and the shredder and granulation plants do not produce process wastewater from its treatment activities. The only discharge from the site is rainfall-dependent surface water runoff to a surface water body, which may include runoff from waste storage areas. As this discharge occurs intermittently and varies with weather conditions, it is not

	practicable to develop or maintain a detailed emissions inventory in line with BAT 3 requirements. Water use on site is minimal and limited to occasional dust suppression, which does not result in a process wastewater stream.
Compliant?	Compliant

8. Process efficiency appropriate measures

8.1 Energy Efficiency (installation only)

1. You must create and implement an energy efficiency plan at your facility. This must:
    - define and calculate the specific energy consumption of the activity (or activities) you carry out and the waste streams you treat
    - set annual key performance indicators – for example, specific energy consumption (expressed in kWh/tonne of waste processed)
    - plan regular improvement targets and related actions
2. You must regularly review and update your energy efficiency plan as part of your facility's management system.
3. You must have and maintain an energy balance record for your facility. This must provide a breakdown of your energy consumption and generation (including any energy or heat exported) by the type of source (electricity, gas, conventional liquid fuels, conventional solid fuels, and waste). You should provide Sankey diagrams or energy balances to show how energy is used in your waste treatment processes.
4. You must regularly review and update your energy balance record as part of your facility's management system, alongside the energy efficiency plan.
5. You must have operating, maintenance and housekeeping measures in place in relevant areas, for example, for:
    - air conditioning, process refrigeration and cooling systems (leaks, seals, temperature control, evaporator or condenser maintenance)
    - operating motors and drives
    - compressed gas systems (leaks, procedures for use)
    - steam distribution systems (leaks, traps, insulation)
    - space heating and hot water systems
    - lubrication to avoid high friction losses
    - boiler operation and maintenance, for example, optimising excess air

- other maintenance relevant to the activities within the facility

6. You must have measures in place to avoid gross energy inefficiencies. These should include, for example:
   - keeping the shredder infeed stable
   - insulation
   - containment methods (such as seals and self-closing doors)
   - avoiding unnecessary discharge of heated water or air (for example, by fitting simple control systems such as timers and sensors)
7. You should implement additional energy efficiency measures at the facility as appropriate, following our guidance Energy efficiency standards for industrial plants to get environmental permits. .

Response/evidence	This appropriate measure is addressed in the responses to BAT 11 and BAT 23.
Compliant?	Compliant

8.2 Raw materials (installations only)

1. You must maintain a list of the raw materials used at your facility and their properties. This includes auxiliary materials and other substances that could have an environmental impact.
2. You must regularly review the availability of alternative raw materials and use any suitable ones that are less hazardous or polluting. This should include, where possible, substituting raw materials with waste or waste-derived products.
3. You must justify the continued use of any substance for which there is a less hazardous alternative
4. You must have quality assurance procedures in place to control the content of raw materials.

Response/evidence	Waste returns are submitted to the EA for all wastes received and dispatched. Monitoring of raw water and energy use on site is carried out via supplier invoices and records of these are maintained. Use of hydraulic and lubricating oils is monitored via purchase invoices. A full description of the process techniques can be found in the operating techniques document, which accompanied the permit application.

	The raw materials used on site are as follows: • Lubricating oil/grease, for parts lubrication • Hydraulic oil, used as a power transmitting medium and to protect machine components At present, it is not considered possible to substitute the raw materials used by the process. No water is used on site in relation to the permitted installation activities. This is an ongoing process and Ward will continue to look into identifying alternative resources and enhance efficiency of material use, where possible. The response to BAT 22 has already covered the efficient use of raw materials.
Compliant?	Compliant

8.3 Water use (installations only)

1. You must make sure you optimise water consumption to:

- reduce the volume of waste water generated
- prevent or, where that is not practicable, reduce emissions to soil and water

You must take these measures:

- implement a water saving plan (involving establishing water efficiency objectives, flow diagrams and water mass balances
- optimise the use of washing water (for example, dry cleaning instead of hosing down, using trigger control on all washing equipment)
- recirculate and reuse water streams within the plant or facility, if necessary after treatment
- reduce the use of water for vacuum generation (for example, using liquid ring pumps with high boiling point liquids) where relevant
- reuse in a closed circuit water injected into the mill
- collect run off water and damping water for dust suppression

2. You must regularly review your water use (a water efficiency audit), at least every 4 years.

3. You must also:

- produce flow diagrams and water mass balances for your activities
- establish water efficiency objectives and identify constraints on reducing water use beyond a certain level (usually this will be site specific)

- identify the opportunities for maximising reuse and minimising use of water
- have a timetabled improvement plan for implementing additional water reduction measures

4. To reduce water use and associated emissions to water, you should apply these general principles in sequence:

- use water efficient techniques at source where possible
- reuse water within the process, by treating it first if necessary – if not practicable, use it in another part of the process or facility that has a lower water quality requirement

5. If you cannot use uncontaminated roof and surface water in the process, you should keep it separate from other discharge streams – at least until after you have treated the contaminated streams in an effluent treatment system and have carried out final monitoring.

6. You should establish the water quality requirements associated with each activity and identify whether you can substitute water from recycled sources. Where you can, include it in your improvement plan.

7. Where there is scope for reuse (possibly after some form of treatment) you should keep less contaminated water streams, such as cooling waters, separate from more contaminated streams.

8. You must minimise the volume of water you use for cleaning and washing down by:

- vacuuming, scraping or mopping rather than hosing down
- reusing wash water (or recycled water) where practicable
- using trigger controls on all hoses, hand lances and washing equipment

9. You must directly measure fresh water consumption and record it regularly at every significant usage point, ideally on a daily basis.

Response/evidence	There are no continuous processes at the facility which require water. The following point addresses how the above are met at the site: • water use within the plant is minimal and limited to dust suppression where required, • an impermeable surface directs surface water run-off to surface drains and via an interceptor to a release point to sewer (W1), • water consumption will be monitored. Monthly data will be collated and reviewed annually, • water saving plan includes sweeping and dry cleaning instead of hosing down, • water use will be reviewed annually, and the water plan will be reviewed at least every 4 years, • water efficiency objectives will be established and opportunities for reducing water use will be identified: • identify the opportunities for maximising reuse and minimizing use of water,

	• have an improvement plan for implementing any identified additional water reduction measures. These arrangements meet the requirements of appropriate measures.
Compliant?	Compliant
8.4 Waste minimisation, recovery and disposal 1. You must have and implement a residues management plan that: • minimises the generation of residues arising from waste treatment • optimises the reuse, regeneration, recycling or energy recovery of residues, including packaging • makes sure you properly dispose of residues where recovery is technically or economically impractical 2. Where you must dispose of waste, you must do a detailed assessment identifying the best environmental options for waste disposal. 3. You must regularly review your options for recovering and disposing of waste produced at the facility. You must do this as part of the management system to make sure you are still using the best environmental options and promoting the recovery of waste.	
Response/evidence	Ward does not operate a standalone residues management plan; however, all key elements of such a plan are fully embedded within the site's Environmental Management System (EMS). The fundamental purpose of the site is waste recovery. The minimisation of residues arising from waste treatment is addressed through the site's Operating Techniques and environmental controls, which are designed to reduce waste generation at source. Measures to optimise the reuse, regeneration, recycling, and recovery of residues, including energy recovery where appropriate, are also incorporated within the Operating Techniques. In addition, procedures within the EMS ensure that any residues which cannot be recovered are disposed of appropriately, using suitably permitted facilities and in compliance with regulatory requirements. As such, the combined EMS documentation effectively fulfils the function of a residues management plan, and Ward is considered to meet this requirement. The overarching objective of site operations is to maximise the recovery of valuable materials from the waste stream, thereby minimising waste generation and optimising recovery in line with the waste hierarchy.
Compliant?	Compliant

Table 2-3 Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities.

2. General management appropriate measures
2.1 Management System 1. You must have and follow an up-to-date written management system. It must incorporate the following features. You have: • management commitment, including from senior managers • an environmental policy that is approved by senior managers and includes the continuous improvement of the facility's environmental performance You plan and establish the resources, procedures, objectives and targets needed for environmental performance alongside your financial planning and investment. You implement your environmental performance procedures, paying particular attention to: • staff structure and relevant responsibilities • staff recruitment, training, awareness and competence • communication (for example, of performance measures and targets) • employee involvement • documentation and records • effective process control • maintenance programmes • the management of change (including legislative changes and waste classification changes) • emergency preparedness and response • making sure you comply with environmental legislation You check environmental performance and take corrective action paying particular attention to:

- monitoring and measurement
- learning from incidents, near misses and mistakes, including those of other organisations
- records maintenance
- independent (where practicable) internal or external auditing of the management system and operations to confirm it has been properly implemented and maintained

Senior managers review the management system at least annually to check it is still suitable, adequate and effective.

You review the development of cleaner and more efficient technologies and their applicability to site operations.

When designing new plant, you make sure that you assess the environmental impacts from the plant's operating life and eventual decommissioning.

You consider the risks a changing climate poses to your operations. You have appropriate plans in place to assess and manage future risks.

You compare your site's performance against relevant sector guidance and standards on a regular basis, known as sectoral benchmarking.

You have and maintain the following documentation:

- inventory of emissions to air and water
- residues management plan
- accident management plan
- site infrastructure plan
- site condition report
- fire prevention plan

If required, you have and maintain the following documentation:

- odour management plan
- noise and vibration management plan
- dust management plan
- pest management plan

• climate change risk assessment	
Response/ evidence	See response to BAT 1 in Table 2-1. The response to Section 2.1 of Treating Metal Waste in Shredders – Appropriate Measures, has already covered this point.
Compliant?	Compliant
2.2 Staff competence 1. Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence. 2. The design, installation and maintenance of infrastructure, plant and equipment must be carried out by competent people. 3. You must have appropriately qualified managers for your waste activity who are either: • qualified under a technical competence scheme • operating under a Competence Management System approved under a technical competence scheme 4. Non-supervisory staff must be reliable and technically skilled in the activities they are responsible for and in emergency response procedures. Their skills may be based on experience and relevant training.	
Response/ evidence	The response to Section 2.2 of Treating Metal Waste in Shredders – Appropriate Measures, has already covered this point.
Compliant?	Compliant
2.3 Accident management Plan 1. As part of your management system you must have a plan for dealing with any incidents or accidents that could result in pollution. 2. The accident management plan must identify and assess the risks the facility poses to human health and the environment. 3. Areas to consider may include: • waste types and the risks they pose • robust waste acceptance procedures to avoid receiving unwanted items, such as gas cylinders • failure of abatement systems	

- failure of plant and equipment (for example over-pressure of vessels and pipework, blocked drains)
- failure of containment (for example, bund failure, or drainage sumps overfilling)
- damaged lithium-ion batteries
- failure to contain firefighting water
- making the wrong connections in drains or other systems
- checking the composition of an effluent before emission
- vandalism and arson
- extreme weather conditions, for example flooding or very high winds
- loss of power

4. You must assess the risk of accidents and their possible consequences. Risk is the combination of the likelihood that a hazard will occur and the severity of the impact resulting from that hazard. Having identified the hazards, you can assess the risks by addressing 6 questions:

- how likely is it that the accident will happen?
- what may be emitted and how much?
- where will the emission go – what are the pathways and receptors?
- what are the consequences?
- what is the overall significance of the risk?
- what can you do to prevent or reduce the risk?

5. In particular, you must identify any fire risks that may be caused, for example by:

- arson or vandalism
- self-combustion, for example the finer fractions of shredder residue
- plant or equipment failure and electrical faults
- naked lights and discarded smoking materials

- hot works (for example welding or cutting), industrial heaters and hot exhausts
- neighbouring site activities
- sparks from loading buckets
- hot loads deposited at the site
- damage to, or shorting of, batteries

You must have a fire prevention plan that identifies the risks at your site and meets the requirements of our fire prevention plan guidance.

6. The depth and type of accident risk assessment you carry out will depend on the characteristics of the plant and its location. The main factors to consider are the:

- scale and nature of the accident hazard presented by the plant and its activities
- risks to areas of population and the environment (the receptors)
- nature of the plant and complexity of the activities and how difficult it is to decide and justify adequate risk control techniques

7. Through your accident management plan, you must also identify the roles and responsibilities of the staff involved in managing accidents. You must provide them with clear guidance on how to manage each accident scenario, for example, whether to use containment or dispersion to extinguish fires, or let them burn.

8. You must appoint one facility employee as an emergency co-ordinator who will take lead responsibility for implementing the plan. You must train your employees so they can perform their duties effectively and safely and know how to respond to an emergency.

9. You must also:

- establish how you will communicate with relevant authorities, emergency services and neighbours (as appropriate) both before, during and after an accident
- have appropriate emergency procedures, including for safe plant shutdown and site evacuation
- have post-accident procedures that include assessing the harm that may have been caused by an accident and the remediation actions you will take
- test the plan by carrying out emergency drills and exercises

Response/ evidence	See response to BAT 1 in Table 2-1. There will be an Emergency Action Plan and Fire Prevention Plan (FPP). These documents will be maintained under the EMS which is subject to regular internal auditing and management review.
Compliant?	Compliant

2.4 Accident Prevention Measures

1. You must take the following measures, where appropriate, to prevent events that may lead to an accident.

Segregating waste

2. You must keep incompatible wastes apart.

Preventing accidental emissions

3. You must make sure you contain the following for off-site disposal or route to the sealed drainage system as appropriate:

- process waters
- site drainage waters
- emergency firefighting water
- oil or chemical contaminated waters
- spillages of oils and chemicals

4. You must be able to contain surges and storm water flows. You must provide enough buffer storage capacity to make sure you can achieve this. You can define this capacity using a risk-based approach, for example, by considering the:

- nature of the pollutants
- effects of downstream waste-water treatment
- sensitivity of the receiving environment

5. You can only discharge waste-water from this buffer storage after you have taken appropriate measures, for example, to control, treat or reuse the water. Discharges to ground, surface water or sewer must be lawful and must comply with any consents or permissions that are required.

6. You must have spill contingency procedures to minimise the risk of an accidental emission of raw materials, products and waste materials, and to prevent their entry into water.

7. Your emergency firefighting water collection system must take account of additional firefighting water flows or firefighting foams. You may need emergency storage lagoons to prevent contaminated firefighting water reaching a receiving water body. This should be considered as part of your fire prevention plan.

8. You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from:

- overflows
- vents
- safety relief valves
- bursting discs

If this is not advisable on safety grounds, you must focus on reducing the probability of the emission.

Security measures

9. You must have security measures in place (including staff) to prevent:

- entry by vandals and intruders
- damage to plant and equipment
- theft
- fly-tipping
- arson

10. Facilities must use an appropriate combination of the following measures:

- security guards
- total enclosure (usually with fences)
- controlled entry points

- adequate lighting
- warning signs
- 24-hour surveillance, such as closed-circuit television (CCTV)

Fire prevention

11. There are 3 fire prevention objectives. You must:

- minimise the likelihood of a fire happening
- aim for a fire to be extinguished within 4 hours
- minimise the spread of fire within the site and to neighbouring sites

12. You must have a fire prevention plan that meets the requirements of our fire prevention plan guidance.

Other accident prevention measures

13. You must maintain plant control in an emergency using one or a combination of:

- alarms
- process trips and interlocks
- automatic systems
- manual interventions

14. You must:

- make sure all the measurement and control devices you would need in an emergency are easy to access and operate in an emergency situation
- maintain the plant so it is in a good state through a preventive maintenance programme and a control and testing programme
- use techniques such as suitable barriers to prevent moving vehicles damaging equipment
- have procedures in place to avoid incidents due to poor communication between operating staff during shift changes and following maintenance or other engineering work
- where relevant, use equipment and protective systems designed for use in potentially explosive atmospheres

Record keeping and procedures

15. You must:

- keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections
- carry out investigations into accidents, incidents, near misses and abnormal events and record the steps taken to prevent their reoccurrence
- maintain an inventory of substances, which are present (or likely to be) and which could have environmental consequences if they escape – many apparently innocuous substances can damage the environment if they escape
- have procedures for checking raw materials and wastes to make sure they are compatible with other substances they may accidentally come into contact with
- make sure that any documents that may be needed in the event of an incident are accessible

Response/ evidence	See response to BAT 1 in Table 2 1. Ward has an Emergency Action Plan and Fire Prevention Plan (FPP). These documents will be maintained under the EMS which is subject to regular internal auditing and management review.
Compliant?	Compliant

2**.5 Contingency plan and procedures**

1. You must have and implement a contingency plan and management procedures to make certain you comply with all your permit conditions and operating procedures during maintenance or shutdown at your site.

2. Your contingency plan must also contain provisions and procedures to make sure that you:

- do not exceed storage limits in your permit and you continue to apply appropriate measures for storing and handling waste
- stop accepting waste unless you have a clearly defined method of recovery or disposal and enough permitted storage capacity
- as far as possible, know in advance about any planned shutdowns at waste management facilities where you send waste

Your contingency plan must include plans and procedures for circumstances where you cannot send your wastes to other sites due to their planned or unplanned shutdown.

3. If you produce an end-of-waste material at your facility, your contingency planning must consider issues with storage capacity for end-of-waste products.

4. You must make your customers aware of your contingency plan, and of the circumstances in which you would stop accepting waste from them.

5. You must consider whether the sites or companies you rely on in your contingency plan:

- can take the waste at short notice
- are authorised to do so in the quantities and types likely to be needed – in addition to carrying out their existing activities

6. Where circumstances mean you could exceed your permitted storage limits or compromise your storage procedures, you must look for alternative disposal or recovery options. You must not discount alternative disposal or recovery options based on extra cost or geographical distance.

7. You must not include unauthorised capacity in your contingency plan. If your contingency plan includes using temporary storage for additional waste on your site, then you must make sure your site is authorised for this storage and you have the appropriate infrastructure in place.

8. Your management procedures and contingency plan must:

- identify known or predictable malfunctions associated with your technology and the procedures, spare parts, tools and expertise needed to deal with them
- include a record of spare parts held, especially critical spares – or state where you can get them from and how long it would take
- have a defined procedure to identify, review and prioritise items of plant which need a preventative regime
- include all equipment or plant whose failure could directly or indirectly lead to an impact on the environment or human health
- identify ‘non-productive’ or redundant items such as tanks, pipework, retaining walls, bunds, reusable waste containers (for example wheeled carts), ducts, filters and security systems
- make sure you have the spare parts, tools, and competent staff needed before you start maintenance

9. Your management system must include procedures for auditing your performance against all these contingency measures and for reporting the audit results to the site manager.

Response/ evidence	The Environmental Management System (EMS) incorporates standard operating procedures and safe working practices designed to minimise environmental risks and impacts during normal operations. It also includes contingency measures to

	reduce the effects of breakdowns, accidents, and other unplanned events. These procedures cover areas such as waste acceptance and environmental monitoring. Documentation will be developed in line with relevant guidance to ensure compliance with contingency management plan requirements set out in the applicable appropriate measures.
Compliant?	Compliant

2.6 Plant decommissioning

1. You must consider the decommissioning of the plant at the design stage and make suitable plans to minimise risks during later decommissioning.

2. For existing plant, identify potential decommissioning risks and take steps to address these. Make changes and design improvements as and when plant is upgraded, or when construction and development works are carried out at your site. Examples of design improvements could include avoiding using underground tanks and pipework. If it is not economically possible to replace them, you must protect them by secondary containment or a suitable monitoring programme.

3. You must have and maintain a decommissioning plan to demonstrate that:

- plant will be decommissioned without causing pollution
- the site will be returned to a satisfactory condition

4. Your decommissioning plan should include details on:

- whether you will remove or flush out pipelines and vessels (where appropriate) and how you will empty them of any potentially harmful contents
- site plans showing the location of all underground pipes and vessels
- how asbestos or other potentially harmful materials will be removed, unless we have agreed it is reasonable to leave such liabilities to future owners
- methods for dismantling buildings and other structures, and for protecting surface water and groundwater during construction or demolition at your site
- any soil testing needed to check for any pollution caused by the site activities, and information on any remediation needed to return the site to a satisfactory state when you cease activities, as defined by the initial site condition report
- the measures proposed, once activities have definitively stopped, to avoid any pollution risk and to return the site of operation to a satisfactory state (including, where appropriate, measures relating to the design and construction of the plant)

- the clearing of deposited residues, waste and any contamination resulting from the waste treatment activities

5. You should make sure that equipment taken out of use is decontaminated and removed from the site.

Response/ evidence	Site closure requirements will be set out within the EMS and will address the requirements of appropriate measures. These requirements will be maintained during the operational life of the facility via periodic review of the EMS. A site closure plan is included in the permit application.
Compliant?	Compliant

3. Waste pre-acceptance, acceptance and tracking appropriate measures

3.1 Waste pre-acceptance

1. Except in the case of small one-off deliveries of WEEE, for example from tradespeople, you must implement waste pre-acceptance procedures so that you know enough about a waste before it arrives at your facility. You need to do this to assess and confirm the waste is technically and legally suitable for your facility. Your procedures must follow a risk-based approach, considering:

- the source and nature of the waste
- any hazardous properties and persistent organic pollutant (POPs) content
- potential risks to process safety, occupational safety and the environment (for example, from the presence of hazardous substances that could be dispersed during treatment)
- knowledge about the previous waste holder
- the type of containment used for the waste

2. You must get the following information in writing when you receive a customer query:

- details of the waste producer (who you are receiving the waste from) including organisation name, address and contact details
- where the waste is coming from
- full description of the waste including the quantity

- the List of Waste code (European Waste Classification, EWC, code)
- any hazardous properties or presence of any regulated chemicals, for example, POPs
- if WEEE identified as POPs waste in the guidance on how to classify WEEE is described as not being a POPs waste, you should request evidence of the assessment demonstrating this
- with reference to Annex VII of the WEEE Directive, details of any treatment already undertaken

You can verify the pre-acceptance information by contacting or visiting the waste producer. Dealing with staff directly involved in waste production can help to fully characterise a waste.

3. You should consider with your customer whether the WEEE is suitable for preparing for reuse. Where that remains a possibility, you should ensure the WEEE is handled and transported with care to avoid any damage or loss that could affect reuse.

4. You must also obtain confirmation that the WEEE does not contain a radioactive source other than domestic smoke detectors and specialist lamps such as xenon lamps. If there is a risk of radioactive contamination, for example, in certain types of medical equipment, you must obtain confirmation that the waste is not radioactive, unless your facility is permitted to accept such waste.

5. You must consider whether specific wastes, from among those you are permitted to receive, have properties that can pose unacceptable risks to the site or process. For example, due to:

- a risk of explosion (for example, from gas or aerosol canisters that may be present)
- a risk of fire (for example, from WEEE containing lithium-ion batteries)

You should establish a list of such wastes and procedures for managing the risks from them.

6. You must keep pre-acceptance records following receipt of the waste. If an enquiry from a waste producer does not lead to the receipt of waste, you do not need to keep records.

7. You must reassess the information required at pre-acceptance if the:

- waste changes
- process giving rise to the waste changes
- waste received does not conform to the pre-acceptance information

8. In all cases you must reassess the information required at pre-acceptance on an annual basis.

9. The information required, and the assessment made at the pre-acceptance stage is to make sure you:

- only accept wastes that are suitable for the site
- avoid unnecessarily accumulating waste
- have enough storage and treatment capacity

Response/ evidence	As per response to BAT 2 in Table 2-1.
Compliant?	Compliant

3.2 Waste Acceptance

1. You must implement waste acceptance procedures to check that the characteristics of the waste received matches the information you obtained during waste pre-acceptance. This is to confirm that the waste is as expected, and you can accept it. If it is not, you must confirm that you can accept it as a non-conforming waste, or you must reject it. If you are rejecting hazardous waste you must follow the guidance on the procedure for rejecting hazardous waste. Procedures should be documented and auditable.

2. Your procedures must follow a risk-based approach, considering:

- the source, nature, condition and age of the waste
- any hazardous properties of the waste
- any POPs content in the waste
- potential risks to process safety, occupational safety and the environment (for example, the presence of lithium-ion batteries)
- knowledge about the previous waste holders

3. If, in the case of small one-off deliveries of WEEE (for example those from tradespeople) you have not received any pre-acceptance information, you must fully assess the load to make sure it is technically and legally suitable for your process.

Storage areas

4. All relevant storage areas (quarantine, reception and general) and treatment processes in your facility must have the physical capacity needed for the waste you receive. You must not receive wastes if this capacity is not available. The amount of waste you receive must also comply with storage limits in your permit.

5. The waste offloading, reception and quarantine areas must have impermeable surfaces with a sealed drainage system. This system must collect all surface water run-off and channel it to a blind sump unless you can lawfully discharge it.

6. You must clearly designate a materials reception area (or areas). Staff controlling the inspection, reception and validation of materials at the facility, must be trained in their respective roles.

Waste acceptance

7. You must weigh each load of waste on arrival to confirm the quantities against the accompanying paperwork, unless alternative reliable systems are available (for example, based upon volume). You must record the weight in the waste tracking system.

8. You must visually check wastes and verify them against pre acceptance information and transfer documentation before you accept them on site.

9. You must check and validate all transfer documentation and resolve discrepancies before you accept the waste. If you believe the incoming waste classification and description is incorrect or incomplete, then you must address this with the customer during waste acceptance. You must record any non-conformances. If you have assessed the waste as acceptable for on-site storage or treatment, you must document this.

10. You must have clear criteria that you use to reject non-conforming wastes. You must also have a written procedure for recording, reporting and tracking non-conforming wastes, including notifying the relevant customer or waste producer to prevent reoccurrence.

11. The person carrying out waste acceptance checks must be trained to effectively identify and manage any non-conformances in the loads received, complying with this guidance and your permit conditions.

12. If there is a known risk of radioactive contamination other than the presence of smoke detectors and certain specialist lamps such as xenon lamps, you must check the waste to determine that it does not include radioactive material unless your site is permitted to accept that type of radioactive waste.

Quarantine storage

13. You must establish quarantine areas for WEEE and materials that are prohibited, awaiting full inspection, or awaiting assessment or removal.

14. Quarantine storage must be for a maximum of fourteen working days.

15. You must have written procedures in place for dealing with wastes held in quarantine, and a maximum storage volume. For some limited and specific cases (for example, the detection of radioactivity), you can extend quarantine storage time if the Environment Agency agrees.

16. Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.

Response/ evidence	As per response to BAT 2 in Table 2-1.
Compliant	Compliant

3.3 Waste Tracking

1. You must use a waste tracking system to hold up to date information about the available capacity of the waste quarantine, reception, general and bulk storage areas of your facility. This must include treatment residues and end of waste product materials.

2. Your waste tracking system must hold all the information generated during:

- pre-acceptance
- acceptance
- non-conformance or rejection
- storage
- treatment
- removal off site

This information must be readily accessible.

3. You must create records and update them to reflect deliveries, on-site treatment and despatches. This can be done on a ‘loads received’ basis. Your tracking system will also operate as a waste inventory and stock control system. It must include this information as a minimum:

- the date the waste arrived on site
- the producer’s details (or unique identifier)
- a unique reference number
- waste pre-acceptance and acceptance information
- the quantity delivered
- the intended treatment route

- accurate records of the nature and quantity of wastes held on site, including all hazards – and identifying the primary hazards and presence of any regulated chemicals such as POPs
- where the waste is physically located on site

4. The tracking system must be able to report:

- the total quantity of waste present on site at any one time
- a breakdown by type of the waste quantities you are storing pending treatment or transfer
- the quantity of waste on site compared with the limits authorised by your permit
- the length of time the waste has been on site
- the quantity of end-of-waste product materials on site at any one time and, where applicable, details of any non-conformances and rejections

5. You must store back-up copies of electronic records off site. Records must be readily accessible in an emergency.

6. You must hold pre-acceptance and acceptance records for a minimum of 2 years after you have treated the waste or removed it off site. You may have to keep some records for longer if they are required for other purposes, for example, hazardous waste consignment notes.

Response/ evidence	Waste tracking procedures detailed in response to BAT 2 in Table 2-1.
Compliant	Compliant

4. Waste storage, segregation and handling appropriate measures

4.1 General waste storage

1. You should design and operate your facility in a way that minimises the handling of waste. Waste handling must be carried out by competent staff using appropriate equipment.

2. Where possible, you should locate storage areas away from watercourses and sensitive perimeters (for example, those close to public rights of way, housing or schools).

3. You must store all waste within the security protected area of your facility to prevent unauthorised access and vandalism.

Storage duration and capacity

4. You must clearly establish the maximum storage capacity of the site and designated storage areas and you must not exceed these maximum capacities.

5. You must define capacity in pile sizes as well as tonnage. You must regularly monitor the quantity of waste stored on the site and within the designated areas to check against the allowed maximum capacity. You must also monitor the quantities and pile sizes against those set out in your fire prevention plan.

6. Where relevant, you must conform to Health and Safety Executive (HSE) guidance and standards.

7. You must not accumulate waste unnecessarily. You must treat wastes, or remove them from the site, as soon as possible. Generally, all wastes must be removed within a maximum of 6 months of receipt. If you have a shorter time period as a permit condition or one is specified in your fire prevention plan you must comply with that condition or the fire prevention plan.

8. You must store all waste in a way that allows easy inspection. You must maintain safe access between piles of wastes. There must always be pedestrian and vehicular access (for example, forklift) to the whole of the storage area.

9. You must store and handle waste in a way that prevents pests and vermin. You must have specific measures and procedures in place to identify and manage any wastes that are causing pests or vermin at your site.

10. Waste storage areas and stored equipment must be subject to frequent inspection to make sure that any leaks, spillages of liquids, dust or loose material are identified and managed appropriately, and fire breaks are maintained. You must keep written records of the inspections. You must rectify and log any spillages of waste.

11. You must not carry out activities that represent a clear fire risk within any storage area. Examples include:

- grinding
- welding or brazing of metalwork
- smoking
- parking of normal road vehicles except while unloading or loading
- recharging forklift truck or power tool batteries

12. You should assess areas of the site where explosive atmospheres could occur. Where appropriate these must be classified into hazardous zones in accordance with the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR).

13. Outdoor waste storage areas must have an impermeable surface with a sealed drainage system. It must collect all surface water run-off and channel it to a blind sump unless it may be lawfully discharged.

14. Indoor waste storage areas must have an impermeable surface and you must provide spillage collection facilities.

15. You must use weatherproof covering to store any items that may be reused as whole appliances or may have components recovered from them for reuse. The type of covering will depend on the types and quantities of waste but must ensure the WEEE is protected from the weather. It could be as simple as a lid or cover over a container for small items but in other cases may require the construction of a roofed building.

16. You must also use weatherproof covering in areas used for storage of waste containing hazardous material or fluids where this is necessary to avoid contamination of surface water. This includes, but is not necessarily limited to, the storage of:

- lamps and processed fractions
- flat panel display equipment which may contain cold-cathode fluorescent lamp (CCFL) backlights and where these are processed by shredding, the shredded fractions
- broken cathode ray tubes (CRTs) and CRT glass
- shredded WEEE or plastic containing fractions that may be persistent organic pollutant (POPs) waste

17. Covering may still be required even if you have a consent to discharge surface water to sewer or if water is tankered away. For example, to avoid leached chemicals such as POPs from WEEE plastic entering the water environment.

18. Any spillage or leakage resulting from the storage of WEEE or processed materials must be collected without delay using equipment and procedures appropriate to the type of spillage. The collected residues must be stored in a lidded, leakproof container. Any containers or surfaces affected by the spillage must be cleaned.

19. You must train forklift drivers in the handling of waste, to minimise forklift truck damage to the integrity of containers or individual appliances.

20. Any liquids removed from WEEE must be collected and stored in lidded, leakproof containers. Containers must be kept closed when not being filled and must be stored within a bunded area to contain any leakage or spillage.

21. You must store the following separately and securely from other WEEE in leakproof containers to prevent leakage and spillage:

- batteries, capacitors and other similar components which could leak
- any components which may contain residual liquids

Containers must be closed or stored under cover to prevent the accumulation of rainwater. 22. You must clearly label containers to identify their contents. 23. Where lithium-ion batteries are stored (either separately or as mixed batteries) these must be recognised as a fire hazard and marked and stored accordingly.	
Response/ evidence	As per response to BAT 4 in Table 2-1. Waste will be stored in line with the site Fire Prevention Plan and Site Layout Plan. In addition, to meet appropriate measures for WEEE points 13 to 23, the facility has impermeable concrete surfacing with a sealed drainage system which is directed to a consented discharge point for outdoor waste storage areas. The drainage system collects all surface water run-off from the facility. Indoor waste storage areas have impermeable concrete surfacing. The Emergency Action plan details methods for spillage management. WEEE accepted on site is not suitable for reuse. Training is provided on the tipping of loads. Plant operatives have comprehensive training in respect of the use of the plant and machinery associated with the loading, handling and treatment activities, and be subject to periodic external assessment. Any batteries received will be stored in appropriate containers. No processing of batteries will take place on site, all will be despatched to a suitably licensed facility for specialist recovery. Batteries will be checked for damage, and any damaged batteries will be isolated within containers. No mixing of different battery types will take place. Battery containers are stored away from other WEEE and combustible wastes. Lithium-ion batteries will be stored in drums which are sealed to protect the contents.
Compliant?	Compliant
4.2 Additional storage requirements for specific categories of WEEE The following appropriate measures apply to specific WEEE categories in addition to those in the section 4.1. Gas discharge lamps 1. You must store lamps in lidded, leakproof and weatherproof containers. The containers must prevent the ingress of water and the release of any lamp fragments should any lamps break.	

2. Containers must be designed and constructed to be sufficiently rigid and strong, so they do not distort or flex when being moved. Storage tubes are not recommended and should only ever be used for small numbers of lamps. If you do use them, they must be stored and handled in a manner to prevent them from rolling which may cause breakage of the lamps.

3. You must pack lamps carefully into containers to minimise movement and the risk of lamps breaking. Linear fluorescent tubes must be stored separately from other format bulbs. Containers must not be overfilled – lids must close fully without exerting pressure on the contents.

4. You must handle containers of lamps carefully during loading and unloading to minimise the risk of breakage.

5. Any crushed lamps that have not been treated to remove the mercury must be stored in a gas-tight sealed drum or gas-tight sealed heavy-duty impermeable plastic bag resistant to punctures. Any bag that does become damaged must immediately be placed inside a secondary sealed container.

6. You must clean and decontaminate any container that has held broken lamps prior to reuse or disposal.

7. You must store any WEEE containing gas discharge lamps such as sun beds and facial tanners in a manner to prevent breakage of the lamps. The lamps should be removed as soon as possible and stored as set out in this section.

Flat panel display (FPD) equipment

8. You must store FPDs which may contain cold-cathode fluorescent lamp (CCFL) backlights under weatherproof covering.

9. You must store FPDs in such a way to prevent breakage. They must not be dropped into containers, tipped in bulk or stored loose but should be packed into cages or stillages to minimise movement.

10. You can only store FPDs on pallets if they are stacked and secured to prevent toppling.

11. You must only stack containers of FPDs on top of each other where damage to FPDs will be avoided.

12. Any damaged FPD devices should be prioritised for treatment to minimise any release of mercury vapour.

Cathode ray tube (CRT) equipment

13. You must handle display equipment containing CRTs and bare CRTs carefully and store it in cages, bulk bags or securely on pallets to prevent breakage. They must not be dropped or stacked in an unstable manner.

14. You must not tip containers of CRT equipment or bare CRTs in bulk unless enclosure, air extraction and abatement are provided to collect all dust generated.

15. You must store any broken CRTs under weatherproof covering and prioritise them for treatment.

Small mixed WEEE (SMW) 16. You must not mechanically compact or compress untreated and unsorted SMW during storage and transport. This is to minimise the dispersion of pollutants and the risk of fires caused by damage to batteries. Photovoltaic panels 17. Photovoltaic panels must be off-loaded, handled and stored to prevent breakage. 18. Disconnected photovoltaic panels are still capable of generating electricity which can pose a risk of electrocution or fire. You must store them glass side down and take other precautions to minimise these risks.	
Response/ evidence	The facility will be accepting SMW in their largest form prior to treatment processes which will remove the hazardous components. The facility does not mechanically compact or compress untreated and unsorted SMW. The facility may accept gas discharge lamps, FPD, CRT or photovoltaic panels, and the operations will handle and store as per the requirements of appropriate measures.
Compliant?	Compliant
5. Waste treatment appropriate measures	
5.1 Preparing WEEE for reuse 1. You should give priority to preparing WEEE so it can be reused either as a whole or in part. If it cannot be reused, you must make sure it is recycled or recovered at a suitable permitted or exempt WEEE treatment facility. 2. You should identify and segregate all WEEE that could be reused as soon as possible to prevent damage to it and to maximise the opportunities for reuse. 3. You must store WEEE designated for reuse under weatherproof covering and separate from other WEEE. You must transport it securely to an appropriately permitted or exempt site for preparing for reuse. 4. WEEE that is POPs waste must not be prepared for reuse – follow the guidance on how to identify and destroy waste that contains POPs. 5. You must demonstrate that any WEEE that is being prepared for reuse is fully functional and electrically safe. You should treat WEEE (both whole appliances and recovered parts) that is being prepared for reuse under a suitable standard such as BS EN 50614:2020.	

6. If you are preparing WEEE for reuse you must take precautions to make sure there is no pollution of the environment. The standards specified elsewhere in this guidance for storage of components, liquids and other materials apply equally when WEEE is being prepared for reuse. 7. If you are removing or re-charging refrigerants that are F-gas in temperature exchange equipment you must be suitably qualified to work with F-gas.	
Response/ evidence	The function of the site is to recover material for recycling from WEEE. No sorting for reuse is carried out on site. The EA guidance "Identify and classify waste containing persistent organic pollutants (POPs)" will be followed to identify any WEEE which may contain POPs including plastic coated with brominated flame retardants (BFR). The guidance is also followed to ensure POPs contaminated wastes are segregated and sent off site for destruction and not destined for reuse The facility will store end of life fridges (ELF) before transferring ELFs to another facility for treatment. There will not be any treatment of WEEE which involves removing or re-charging refrigerants that are F-gas in temperature exchange equipment.
Compliant?	Compliant

5.2 General waste treatment

1. Where WEEE cannot be prepared for reuse it must be treated to maximise the recycling and recovery of materials whether that is at the same facility or by further downstream processing.

2. You must fully understand, monitor and optimise your waste treatment process to make sure you treat waste effectively and efficiently. You must not treat waste to deliberately dilute it or mix any hazardous outputs with any non-hazardous outputs.

3. The treated output material must meet your expectations and you must fully classify and characterise them to ensure they are suitable for their intended disposal or recovery route.

4. You must identify and characterise emissions from the process and take appropriate measures to control them at source.

5. You must have up-to-date written details of your treatment activities, and the abatement and control equipment you are using. This should include information about the characteristics of the waste you will treat, and the waste treatment processes, including:

- simplified process flowsheets that show the origin of any emissions
- details of emission control and abatement techniques for emissions to air and water, including details of their performance
- diagrams of the main plant items where they have environmental relevance – for example, storage, tanks, treatment and abatement plant design

- details of manual dismantling processes, for example removal of cables and plugs, removal of batteries, capacitors and printer cartridges, draining of oil from radiators
- details of physical treatment processes, for example shredding, separation, compaction, filtration, heating, cooling or washing
- details of any chemical treatment processes
- details of any biological treatment processes
- details of any effluent treatment, including a description of any flocculants or coagulants used
- an equipment inventory, detailing plant type and design parameters – for example, time, temperature, pressure
- waste types to be subjected to the process
- the control system philosophy and how the control system incorporates environmental monitoring information
- process flow diagrams (schematics)
- venting and emergency relief provisions
- a summary of operating and maintenance procedures
- process instrumentation diagrams

6. You must have up to date written details of the measures you will take during abnormal operating conditions to make sure you continue to comply with permit conditions. Abnormal operating conditions may include:

- unexpected releases
- start up
- momentary stoppages
- shut down

7. You should use material flow analysis for relevant contaminants in the waste to help identify their flow and fate. You should use the analysis to determine the appropriate treatment for the waste either directly at the site or at any subsequent treatment site.

8. Material flow analysis considers the contaminant quantity in the:

- waste input
- different waste treatment outputs
- waste treatment emissions

9. You should use the analysis and your knowledge of the fate of the contaminants to make sure you correctly treat and either destroy or remove them.

10. The use of material flow analysis is risk-based considering:

- the hazardous properties of the waste
- the restricted chemicals in the waste
- the risks posed by the waste in terms of process safety
- occupational safety and environmental impact
- knowledge of the previous waste holders

11. A treatment process may destroy certain substances in the waste. It could also put substances into the air, water or the ground, or produce residues which are sent for disposal. You should minimise the weight of these outputs. The treatment process may produce residues for recovery or reuse and you should maximise the weight of these outputs.

12. You must not proceed with the treatment if your risk assessment or material flow analysis indicates that losses from a process will cause:

- the breach of an environmental quality standard
- the breach of a benchmark
- a significant environmental impact

13. To track and control the process of change, you must have a written procedure for proposing, considering and approving changes to technical developments, or to procedural or quality changes.

14. You must minimise the release of diffuse emissions to air from activities which may give rise to them (for example, shredding or granulating) by:

- carrying out the activity using enclosed equipment or in an enclosed building
- maintaining the enclosed equipment or buildings under an appropriate pressure

- collecting and directing the emissions to an appropriate abatement system

15. Unless you are preparing it for reuse, you must remove all fluids from WEEE along with those substances, mixtures and components listed in Annex VII of the WEEE Directive.

16. Removal may be a staged process and may be undertaken at different facilities. You must be able to demonstrate either:

- you have removed the substances, mixtures and components listed in Annex VII of the WEEE Directive from WEEE as required by the conditions of your permit
- those substances, mixtures and components will be removed at a suitably authorised downstream treatment facility

17. You must make sure that any substances, mixtures and components removed as part of your treatment process are subsequently recovered or disposed of at an appropriately permitted facility.

18. If you transfer partially treated WEEE to another site you must properly describe it, so the recipient knows which treatments are complete and which still need to be done.

19. You should no longer routinely find certain hazardous items and substances that were once used in electrical appliances but are now banned. However, they may still be present on occasions. For example, any capacitors found in equipment manufactured before 1987 should be assumed to contain polychlorinated biphenyls (PCBs) unless there is clear evidence to the contrary. Asbestos may be found in old coffee pots and heating elements. You must be alert to these possibilities and ensure you have documented procedures in place to identify and remove them for appropriate disposal before any mechanical or shredding operation takes place.

Capacitors containing PCB are POPs waste and must be treated in a way that results in the destruction of the PCB content.

20. You must monitor and record the outputs of your treatment activity, including their weight. The monitoring must be used to provide evidence that the treatment and removal of these components and substances has been carried out to a satisfactory standard.

21. When removing components, you must safely remove the whole item where breaking it up might:

- pollute the recyclate or waste stream
- result in unacceptable emissions

22. Components that you must always remove whole, that is intact and identifiable, (unless this guidance states specific circumstances where you do not need to) include:

- capacitors containing PCBs

- mercury containing components
- toner cartridges
- components with asbestos
- components with refractory ceramic fibres
- components with radioactive substances
- gas discharge lamps including CCFL backlights
- cathode ray tubes
- electrolyte capacitors containing substances of concern that have a height or diameter greater than 25mm, or have a proportionately similar volume
- batteries and powerpacks

23. Instead of removing them as whole components, you may recover the following as fragments or materials using mechanical treatment:

- chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) or hydrofluorocarbons (HFCs), hydrocarbons (HCs)
- external electric cables
- printed circuit boards
- liquid crystal displays
- the activated coating in cathode ray tubes (CRTs)
- plastic with brominated flame retardants (BFRs)

24. You may either:

- sort batteries on site
- send batteries as a mixture of chemistry types to a specialist battery treatment operator for sorting

25. You must pack and store lithium and lithium-ion batteries removed from WEEE during treatment in a way to minimise the likelihood of electrical shorting, physical impact and overheating.

26. All outdoor WEEE treatment areas must have an impermeable surface with a sealed drainage system. It must collect all surface water run-off and channel it to a blind sump unless it may be lawfully discharged. 27. Indoor WEEE treatment areas must have an impermeable surface and you must provide spillage collection facilities appropriate to the materials being handled. 28. WEEE treatment should take place under weatherproof covering such as a roofed building. Where this is not practicable, for example, due to the large size of the plant, appropriate measures must be taken to minimise the exposure of waste to rain and wind. This may include the covering of: • hoppers • conveyors • skips of treated materials • storage bays containing treated materials	
Response/ evidence	For processing and recovery of WEEE the materials will go through a process of size reduction and separation to enable the segregation of different fractions of recyclable materials in order to maximise the recycling and recovery of materials. The Operating Techniques sets out in detail, the granulation and mobile shredder treatment process for WEEE derived wastes. There is a site layout plan in will display the location of key site plant and equipment. There are process flow charts within the appendices of the Operating Techniques (Appendix 3) which illustrates the granulation process at the facility. The facility Waste Acceptance Procedure describes the manner in which hazardous and non-hazardous wastes will be kept segregated. No deliberate mixing of wastes will take place. The Waste Acceptance Procedure will include procedures so it can report on the quantity of end-of-waste product materials on site at any one time (stock takes/sampling/testing outputs). As set out in BAT 3, there are two process point source emissions to air and no process water emissions associated with the waste treatment activity. Minimal water is used as a mist within the shredder plant for dust suppression. Rainfall dependant surface water run-off is the only discharge from the facility and given this discharge is rainfall dependant a detailed inventory in order to reduce this emission is not appropriate. However, it is recognised that BAT-AELs for emissions of relevant pollutants in surface water run-off will have to be met. Monitoring, in accordance with the site protocol will be carried out to demonstrate compliance with the BAT-AELs. Details of mitigation measures to reduce fugitive emissions to air are included in the 'Ambient Emissions Monitoring Protocol' as agreed in writing with the Environment Agency.

	The Operating Techniques details the treatment process. As set out in the response to BAT 4 and Section 5.1 of appropriate measures above, the environmental risks associated with the waste storage are reduced by the following: • optimised storage location; • adequate storage capacity; and • safe storage operation. The Emergency Action Plan deals with abnormal operating conditions and measures to be taken to continue compliance with the permit. The Operating Techniques will include a description of WEEE derived wastes acceptance and treatment process considering POPs contamination. POPs contaminated wastes will be removed and sent to a third party facility for destruction. The Operating Techniques will be updated to provide further details on the waste treatment processes which include the removal of ferrous and non-ferrous metals, plastics and POPs contaminated streams. The procedures for waste treatment are based on the risks presented by the waste streams, within the Operating Techniques. Where wastes are identified as being unsuitable for the treatment process, these wastes are placed into quarantine. Treatment will not proceed where it could cause: • the breach of an environmental quality standard; • the breach of a benchmark; and • a significant environmental impact. The EMS sets out written procedures for proposing, considering and approving changes to technical developments, or to procedural or quality changes to the different aspects of the facility and waste activities, meeting the requirements of appropriate measures. The granulation activity is carried out within an enclosed building. The facility will not carry out treatment on wastes such as ELFs, ELVs or other wastes which would involve the removal of liquids. These wastes are transferred to a third-party facility for treatment. Therefore, appropriate measures points 15 to17 does not apply. The Waste Acceptance Procedure will be updated to details the information set out in point 18 of this appropriate measure, which includes the waste treatment carried out at the facility.

	Asbestos containing WEEE are segregated and stored separately and any PCB containing WEEE is either batch processed through the granulation or shredding processes, and outputs are either sent for further recovery / treatment off site or processed further to remove the PCB fraction. Capacitors containing PCBs and POPs will not be accepted at the facility. The appendices of the Operating Techniques will be updated to provide information about the WEEE dismantling and treatment activities at the facility should SMW be mechanically treated as site The handling and storage of batteries has already been covered for Section 4.1 of appropriate measures above. The engineering of internal and external WEEE treatment areas has been covered in the response to BAT19 and Section 3.1 of appropriate measures above. WEEE treatment will be carried out within buildings or undercover. The shredder is a low-speed unit which cuts the incoming metal and therefore is not prone to high levels of dust generation. The facility stores processed wastes in designated areas across the facility including inside buildings, under weatherproof covers and in bays.
Compliant?	Compliant

5.3 Treatment of WEEE containing BRFs and POPs

1. You must identify, separate and remove any plastic containing BFRs for further treatment.

2. Some BFRs used in electrical appliances are POPs. An industry-led investigation identified the presence of decabromodiphenyl ether (deca BDE) and other polybrominated diphenyl ethers (PBDE) in some WEEE plastics.

3. You must make sure that any items of WEEE and any component or material fractions derived from the treatment of WEEE that is POPs waste (as defined by Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants) are treated as required by that regulation. This means the treatment must make sure the POP content is destroyed or irreversibly transformed. The only known cost effective way of doing this is by incineration or similar thermal treatment. You must not recycle this plastic.

Check the guidance on the classification of WEEE and the presence of POPs.

4. POPs may be present in any WEEE category. In large domestic appliance (LDA) white goods (tumble driers, washing machines, dishwashers and cookers only) and temperature exchange equipment, POPs have been shown to be present but in insufficient quantities to make the appliances themselves POPs waste.

5. All other categories of WEEE should be regarded as POPs waste, unless you have clear evidence of the chemical composition of the cables, printed circuit boards and plastic components in the individual devices present that demonstrates it is not.

6. Plastic removed from WEEE that is POPs waste must be managed as POPs waste.

7. Components that have been found to contain POPs above the POPs waste threshold include printed circuit boards and electrical cable. If you remove these and/or any other components that may be POPs waste as a separate stream from any type of WEEE you must treat them and any plastic fractions resulting from their treatment, as POPs waste unless you have clear evidence that proves they are not.

8. The treatment of WEEE that is not POPs waste, but which may contain POPs in some components, may result in fractions where the POPs threshold is exceeded. You must assess plastic containing fractions at each stage in the treatment process to establish whether the threshold is exceeded and, where it is, manage those fractions as POPs waste.

9. You may treat any plastic that is POPs waste to separate the POPs containing fraction from the non-POPs containing plastic. For example, density separation can be used to separate plastic containing all BFRs from that which does not. The non-BFR plastic may then be recycled. You must demonstrate that your process reliably achieves a satisfactory separation.

10. Other hazardous chemicals may be used as flame retardants. For example, antimony trioxide has been widely used as a synergist with a range of BFRs, not just those that are POPs. It has also been widely used in polyvinyl chloride (PVC) cable even where BFRs are absent. It is present in some plastics at concentrations exceeding the hazardous waste threshold. You must consider antimony trioxide when you are classifying any WEEE or plastic containing fraction from the treatment of WEEE.

Preparing WEEE for reuse

11. You must not repair or refurbish for reuse any WEEE that is a POPs waste – it must be treated to destroy the POP.

12. Deca BDE was the last of the PBDEs to be banned from use in electrical equipment under the Restriction of Hazardous Substances Directive (RoHS) and came into effect during 2008. Even so, there is evidence that deca BDE is present in some appliances manufactured since then.

13. If you prepare for reuse WEEE that may be POPs waste, you can only do so if it has an original manufacture date on or after 1 January 2009 and if it is reused within the UK.

14. If you repair or refurbish WEEE that may be POPs waste and intend to export the equipment for reuse abroad, you must demonstrate that the equipment does not contain POPs.

Response/ evidence	The EA guidance “Identify and classify waste containing persistent organic pollutants (POPs)” will be followed to identify any WEEE which may contain POPs including plastic coated with BFR. The guidance is also followed to ensure POPs contaminated wastes are segregated and sent off site for destruction. WEEE derived plastics are handled as POPs waste and will be identified and managed before being sent off site for destruction. All non-POPs materials will be separated during the manual dismantling stage. Plastic materials that potentially contain POPs is identified and stored separately, ready for further processing and destruction off site. WEEE containing POPs is not designated for reuse. Antimony trioxide can be present in some plastics at concentrations exceeding the hazardous waste threshold. To meet appropriate measures, point 10, Ward handle WEEE derived plastics as containing antimony trioxide when classifying any WEEE or plastic containing fraction from the treatment of WEEE.
Compliant?	Compliant

5.4 Processing monitoring

1. At least once a year, for every WEEE stream you treat, you must carry out a mass balance exercise to determine and record the mass of each individual output fraction derived from a given mass of input material. The batch size must be large enough to make sure you can assess a representative sample of typical input materials.

2. You should compare each set of results with previous results to monitor the performance of your site and to ensure it is performing optimally.

3. Where process monitoring requires chemical analysis to be carried out on waste fractions and residues produced by your treatment process, this must be carried out by an independent accredited laboratory, using recognised accredited methods where they are available.

4. You must have, and be able to provide, a full description of the material testing and analysis procedures and methods used, which provide details of the calibration methods and reference standards used.

5. You must choose the sample containers and packaging used for storing and transporting according to the nature and requirements of the materials they will contain. For example, chemical properties, pressure and gas tightness.

6. You must clearly label sample containers with at least the name of the treatment facility, a description of the waste material or residue contained, the waste stream it was produced from and the date of sampling.

7. You must make sure that any required sample is representative of the waste and has been taken by someone technically competent to do so. A representative sample is one that takes account of the full variation and any partitioning of the material.

8. Samples must be stored in a dark, cool place and dispatched to the laboratory for analysis as soon as possible, preferably within 24 hours of being taken.

9. You must carry out sampling under normal operating conditions unless otherwise stated.

10. If process monitoring shows that the performance of your treatment plant does not meet any of the standards stated in this guidance, you must send a report to the Environment Agency, summarising:

- the actions you will take to improve performance in order to achieve the standards given, including any additional sampling and testing
- the dates you will complete these actions by, including the dates for any additional sampling and testing

11. Wherever possible you should sample waste fractions and residues in line with relevant guidance, for example:

- WM3 Waste classification – Guidance on the classification and assessment of waste – Appendix D
- EN 14899 Characterization of waste – Sampling of waste materials – Framework for the preparation and application of a Sampling Plan
- CEN/TR 15310 1 Characterization of waste – Waste Collection – Part 1: Guide on the selection and application of criteria for sampling under various conditions
- CEN/TR 15310 2 Characterization of waste – Waste Collection – Part 2: Guide on sampling techniques
- CEN/TR 15310 3 Characterization of waste – Waste Collection – Part 3: Guide on procedures for sub sampling in the field
- CEN/TR 15310 4 Characterization of waste – Waste Collection – Part 4: Guide to the packaging procedures for storage, conservation, transportation and delivery of samples
- CEN/TR 15310 5 Characterization of waste – Sampling of waste – Part 5: Guide on the process of developing a sampling plan. Other guidance on waste sampling and analysis can be found in A10 Weeelabex de-pollution monitoring specification

Response/ evidence	Ward will produce a formal process to carry out a mass balance exercise on each WEEE stream. This will be carried out at least once per year in line with the requirements of appropriate measures.
Compliant?	Once a formal process for carrying out the annual mass balance exercise for each WEEE stream has been produced.

5.5 Treatment of gas discharge lamps

1. The main environmental risk from the treatment of gas discharge lamps is the release of mercury. Mercury may be present as a vapour but will also be present in the phosphor powders, glass, electrodes and end caps.

You must remove mercury from any gas discharge lamps where it is present including fluorescent tubes, compact fluorescent lamps, high intensity discharge lamps, high pressure sodium lamps and cold cathode fluorescent lamps.

2. You must not manually break lamps that may contain mercury.

3. You can only crush lamps to reduce volume before transport using dedicated crushing equipment designed and built specifically for that purpose.

4. You must make sure you capture and contain mercury vapours, dusts and powders when you treat lamps – including if you crush for volume reduction when particular care must be taken during the changeover of bags receiving crushed material. Suitable extraction and abatement must be provided for the receipt and handling of crushed but otherwise untreated lamps.

5. Whether you are crushing for volume reduction or carrying out full treatment, you must make sure all equipment is sealed and operated under negative pressure. You must channel and abate all exhaust gases through a filter system that captures dust and mercury. This will require the use of both a HEPA (high efficiency particulate air) filter and a sulphur-impregnated carbon filter.

6. You must regularly check, maintain and replace as necessary all parts of your treatment plant and any associated equipment including seals and filters to make sure they remain fit for purpose. You must retain evidence of maintenance procedures and the replacement of parts for at least 2 years.

7. You must immediately clean up spillages of broken or crushed lamp material using appropriate equipment, such as an industrial vacuum cleaner with suitable filters, to retain mercury vapour and dust. Used filters and all spill materials that cannot be recycled must be stored in gas-tight, leakproof containers, labelled as mercury containing waste and disposed of at an appropriate authorised site.

8. Your recycling process must keep phosphor powders separate from recycled materials to minimise contamination by mercury. You must store removed phosphor powders in gas-tight sealed containers. You must store other processed materials securely.

9. The phosphor powders should be treated to recover rare earth elements where that technology is available and is economically viable.

10. You must treat lamps containing metallic sodium so that no metallic sodium remains.

11. Certain specialist lamps may pose additional hazards. For example, xenon lamps used in cinema applications may contain thorium 232 and are also highly pressurised. Quantities of radioactive material are very small and below the threshold that would require a radioactive substances permit. Small quantities of these lamps can be recycled with other lamps but you may need to take additional precautions when handling them.

12. Plastic containing components from lamps may contain flame retardants. You must manage these as containing BFRs including POPs unless you can demonstrate they are absent.

Process monitoring for the treatment of gas discharge lamps

The following monitoring requirements and limits apply to the specified fractions derived from lamp recycling.

13. Recycled materials including glass, plastic and metal fractions must be sampled and tested for mercury at least once every 6 months. The limit value is 10mg/kg total mercury for glass, plastic and 100mg/kg for metal.

14. Phosphor powders must be sampled and tested for mercury at least once every 6 months with a limit value of 200mg/kg total mercury. Further treatment should be used to reduce mercury concentrations to below this value where necessary.

Response/ evidence	N/A – the facility will not treat gas discharge lamps.
Compliant?	N/A

5.6 Treatment of cathode ray tube (CRT) equipment

1. Hazardous substances present in cathode ray tubes include high concentrations of lead oxide in the neck glass (about 40%), funnel glass (about 20%) and solder glass or frit (about 75%). The phosphor powders coating the screens contain compounds of transition or rare earth elements, often zinc or yttrium. The plastic casings as well as other plastic components such as cables and printed circuit boards may contain BFRs that are POPs.

When you treat CRT equipment you must remove the following items and materials:

- activated coatings from screens
- printed circuit boards greater than 10 square centimetres in area
- capacitors identified in Annex VII of the WEEE directive
- plastics containing BFRs
- external electrical cables

2. The plastic casings of CRT TVs and monitors are known to often contain high concentrations of BFRs including POPs. Other components such as cables and printed circuit boards may contain them too. You must manage CRT equipment and all separated plastic from CRT equipment as POPs waste unless you can prove it is not.

3. You must take steps to minimise the uncontrolled breakage of CRTs, especially when the deflection coil is being removed.

4. You must separate panel glass (low lead content) from the neck, funnel and frit glass that contains much higher lead concentrations. The cleaned panel glass may be suitable for use as an aggregate in certain applications.

5. You must take measures to minimise the release of activated coatings, particularly when the CRT is broken to remove the electron gun.

6. You must split the screen from the funnel and then remove the activated coatings – this is usually done by suction.

7. All activities involving the breaking or splitting of CRTs as well as the removal of the activated coatings must take place in a controlled environment that minimises the release of any dust. For example, within a booth provided with local exhaust ventilation and suitable abatement.

8. You must only mechanically process equipment containing CRTs if you can achieve effective separation of the panel glass from all of the activated coatings so they are removed as a separate fraction.

9. Mechanical processing of CRT equipment or the crushing of CRT glass must be provided with an adequate dust extraction and abatement system to make sure dust release is minimised.

Process monitoring for the treatment of CRT equipment

10. Where your process produces a crushed panel glass fraction for recycling, you must sample and test it at least once every 6 months for:

- lead (as lead oxide) with a limit value of 3% lead oxide
- sulphide with a limit value of 5mg/kg sulphide

Response/ evidence	N/A – the facility will not treat CRT equipment.
Compliant?	N/A

5.7 Treatment of FPD equipment

1. Many flat panel displays (FPDs) use cold-cathode fluorescent lamps (CCFLs) as back-lights which contain mercury. Unless you can clearly identify a display as having a plasma screen or a screen backlit by LED or organic LED (OLED), you must treat all FPDs as though they contain CCFLs. The plastic casings as well as plastic components such as cables and printed circuit boards may contain BFRs that are POPs.

2. When you treat FPDs you must remove the following items and materials:

- CCFLs
- liquid crystal displays

- printed circuit boards greater than 10 square centimetres in area
- capacitors identified in Annex VII of the WEEE Directive
- plastics containing BFRs
- external electrical cables
- batteries (where the FPD forms part of a portable device)

3. If manually removing CCFLs, you must remove them very carefully to minimise breakage and the release of mercury. You must only remove them within a controlled environment such as a sealed booth with local exhaust ventilation.

4. If mechanically removing CCFLs, you must do this in a way that avoids any contamination of other fractions with mercury. You must only remove them within a controlled environment such as a sealed booth with local exhaust ventilation.

5. You can only shred whole or partially dismantled FPDs containing CCFLs if you can clearly demonstrate that:

- there is no fugitive release of mercury
- all releases from the process are channelled and abated to capture dust and mercury vapour
- recycled outputs are not more contaminated by mercury than those produced by manual treatment

This must include determining the total mercury concentration in all output fractions and residues from the process.

6. Whether using mechanical or manual processes to remove CCFLs, you must use appropriate air extraction, abatement and filter systems to capture dust and mercury vapour. This will require using both a HEPA filter and a carbon filter.

7. Once removed, CCFLs must be treated following the guidance on treating gas discharge lamps in section 5.5. Where that treatment does not follow on immediately, you must pack CCFLs to prevent breakage following the guidance on storage of gas discharge lamps in section 4.2.

8. You must remove broken lamps from the working areas. You must collect any residues from broken lamps using an industrial vacuum cleaner with suitable filters to retain mercury vapour and dust. You must store all broken lamp debris in appropriate gas-tight, leakproof containers, until they can be treated in line with the guidance on gas discharge lamps.

9. The plastic casings of FPD televisions and monitors, as well as the cables and printed circuit boards, are known to often contain high concentrations of BFRs including POPs. You must manage FPD equipment and all separated plastic from FPD equipment as POPs waste unless you can prove they are not.

Process monitoring for the treatment of FPD equipment

10. Where you use a mechanical process to remove CCFLs from FPD equipment, or you use a shredding process to shred equipment containing CCFLs, you must carry out the following monitoring:

- all recycled material fractions must be sampled and tested for mercury at least once every 6 months with a limit value of 1mg/kg
- phosphor powders and other fines for disposal must be sampled and tested for mercury at least once every 6 months with a limit value of 200mg/kg. Further treatment should be used to reduce mercury concentrations to below this value where necessary

Response/ evidence	N/A – the facility will not treat FPD equipment.
Compliant?	N/A

5.8 Treatment of SMW

1. Small mixed waste electrical and electronic equipment (SMW) can consist of many different categories of WEEE, including those requiring specific forms of treatment such as CRT equipment, gas discharge lamps and temperature exchange equipment containing refrigerants. You must identify items such as these and remove them for appropriate treatment.

2. If you treat separately any particular categories of small WEEE, the guidance in this section still applies subject to any category specific guidance that may exist, for example for display equipment.

3. Some appliances found in SMW are known to contain high concentrations of POPs in plastic components such as casings, cables and printed circuit boards. You must manage SMW and all plastic containing fractions from treating SMW as POPs waste unless you can prove they are not.

4. You must remove the following items from SMW before mechanical treatment:

- any WEEE or component containing a fluid, such as oil filled radiators
- any components containing mercury such as fluorescent lamps and mercury switches
- any WEEE containing any CRT display or a FPD of greater than 100 square centimetres in area
- any WEEE containing asbestos or refractory ceramic fibres identified in Annex VII of the WEEE Directive
- any WEEE or component containing radioactive substances, such as ionization smoke detectors

- any WEEE containing CFCs, HCFCs, HFCs or hydrocarbon gases, such as small refrigeration equipment, portable air conditioners and dehumidifiers
- all external batteries (including powerpacks) and internal batteries designed to be accessible by the user
- any non-WEEE items that may contain fluids or hazardous substances, such as petrol lawnmowers or gas cylinders

5. You must remove the following items from SMW before mechanical treatment unless your specific process makes sure they remain whole and intact, and you have effective procedures to remove them following that treatment:

- capacitors identified in Annex VII of the WEEE Directive
- ink and toner cartridges

6. You must also remove the following from SMW, but you can do this as material streams after mechanical treatment:

- external electrical cables
- printed circuit boards from mobile phones and from other devices if greater than 10 square centimetres in area
- batteries other than those identified in measure 4, provided they remain intact and identifiable
- plastics containing BFRs

7. If you mechanically treat SMW, you must provide and use an effective dust extraction and abatement system to minimise dust release.

Process monitoring for the treatment of SMW

8. Where you use a mechanical process to shred SMW you must sample the physically finest non-metallic fraction at least once every 6 months and test for:

- mercury with a limit value of 1mg/kg
- cadmium with a limit value of 100mg/kg

Evidence/ response	SMW will be treated in accordance with documented operating procedures. As with all WEEE, items such as CRT equipment, gas discharge lamps and temperature exchange equipment containing refrigerants will be removed before further treatment.

	The Environment Agency guidance “Identify and classify waste containing persistent organic pollutants (POPs)” will be followed to identify any WEEE which may contain POPs including plastic coated with BFR. The guidance will also be followed to ensure POPs contaminated wastes are segregated and sent off site for destruction. The Operating Techniques will be updated to set out how waste containing POPs will be identified and managed before being sent off site for destruction. All non-POPs materials will be separated during the process and manual dismantling stage. Plastic materials that potentially contain POPs will be identified and stored separately, ready for further processing and destruction off site. These storage locations are marked on the Site Layout Plan. WEEE containing POPs are not identified and segregated for reuse. WEEE containing fluid, such as oil filled radiators, hazardous substances, such as petrol lawnmowers or gas cylinders, CFC/HFCs, mercury such as fluorescent lamps and mercury switches, asbestos, radioactive substances, display equipment with screens >100cm^2 are not treated at the facility. These items, if accepted will be sent to a third party authorised facility for treatment. All external batteries (including powerpacks) and internal batteries designed to be accessible by the user will be removed from items of SMW before mechanical treatment. WEEE containing capacitors identified in Annex VII of the WEEE Directive will not be accepted at the facility. The granulation activity takes place within a building with an air extraction system which contains potential dust emissions. **Process monitoring for the treatment of SMW** Should the facility mechanically shred / granulate SMW, appropriate measures require sampling the physically finest non-metallic fraction at least once every 6 months and test for: • mercury with a limit value of 1mg/kg; and • cadmium with a limit value of 100mg/kg. This testing is not currently being carried out. Ward will update procedures to meet appropriate measures point 8 should this activity take place.
Compliant?	Will be Compliant when process monitoring for the treatment of SMW is in place.
5.9 Treatment of IT, telecommunications and business equipment	

1. This can consist of many different categories of WEEE including those requiring specific forms of treatment such as flat panel display equipment. You must identify items like these and remove them for appropriate treatment.

2. Some appliances found in IT, telecommunications and business equipment are known to contain high concentrations of POPs. You must manage this waste stream and all plastic containing fractions arising from the treatment of it as POPs waste, unless you can prove they are not.

3. If you mechanically treat IT, telecommunications and business equipment, you must meet the standards for small mixed WEEE (see section 5.8).

Process monitoring for the treatment of IT, telecommunications and business equipment

4. Where you use a mechanical process to shred IT, telecommunications and business equipment, you must sample the physically finest non-metallic fraction at least once every 6 months and test for:

- mercury, with a limit value of 1mg/kg
- cadmium with a limit value of 100mg/kg

Response/ evidence	Items of WEEE which fall into this category will be treated in the same manner as SMW appropriate measures above, which meet the requirements of appropriate measures. • Process monitoring for the treatment of IT, telecommunications and business equipment • The facility will use a mechanical shredder for the treatment of IT, telecommunications and business equipment. Appropriate measures require sampling the physically finest non-metallic fraction at least once every 6 months and test for: • mercury, with a limit value of 1mg/kg • cadmium with a limit value of 100mg/kg This testing is not currently being carried out. Ward will update procedures to meet this appropriate measure.
Compliant?	Will be once the process monitoring for the treatment of IT, telecommunications and business equipment is carried out.

5.10 Treatment of LDA

1. LDA that may be treated in conventional metal shredders is limited to only:

- washing machines
- vented and condensing tumble dryers

- dishwashers
- cookers

2. You must have effective procedures in place to ensure that other types of WEEE are removed from mixed loads of LDA before it is treated by shredding, especially:

- fridges, freezers and any other temperature exchange equipment
- heat pump tumble dryers
- any WEEE that contains oil or other liquids
- any WEEE that may be hazardous waste or POPs waste

3. You must remove the following items when treating LDA, but you can do this as material streams after mechanical treatment, provided any capacitors remain whole and intact:

- capacitors identified in Annex VII of the WEEE Directive
- printed circuit boards if greater than 10 square centimetres in area
- external electrical cables
- plastics containing BFRs
- batteries

Response/ evidence	N/A - the site will not be treating LDA.
Compliant?	N/A

5.11 Treatment of photovoltaic panels

1. Photovoltaic panels may contain hazardous substances such as lead (in solder), cadmium telluride and compounds of selenium (in the semiconductor layer of non-silicon based photovoltaic panels).

You must establish, maintain and use an effective process for identifying non-silicon based photovoltaic panels.

2. You must remove the lead from all photovoltaic panels and you must remove the hazardous semi-conductor layer from non-silicon based photovoltaic panels. **Process monitoring for the treatment of photovoltaic panels** 3. Where you shred non-silicon based photovoltaic panels, you must sample and test the recycled glass fraction at least once every 6 months for cadmium with a limit value of 10mg/kg cadmium.	
Response/ evidence	N/A - the site will not be treating photovoltaic panels.
Compliant?	N/A
5.12 Post-Shredding treatments 1. You may use a range of separation technologies to further segregate and purify shredded fractions of WEEE. For example, eddy-current separators, electrostatic separators, and density separation, either at the shredding facility or elsewhere. 2. You must fully characterise and classify fractions produced by these processes. 3. Where materials originate from WEEE that was POPs waste, fractions of plastic containing brominated flame retardants must be managed as POPs waste. 4. Where materials originate from WEEE that was not POPs waste, fractions of plastic containing brominated flame retardants must be assessed to determine if they are POPs waste. 5. You must fully characterise and classify (including for POPs) process solutions and washings from density separation processes before determining suitable disposal options. Where these originate from the treatment of POPs waste, any POPs must be destroyed. 6. You must only use waste codes for single material outputs, for example plastic, where the treatment involved is aimed at producing a pure material fraction. Contamination by other materials must be negligible. **Process monitoring for the separation of BFR containing plastic** 7. You must monitor at least once every 3 months how much BFR containing plastic is present in any fraction destined for recycling.	
Response/ evidence	The facility will make use of a number of post-shredding technologies to further separate the recyclable materials from shredded WEEE. These technologies include drum magnets, metal and non-metal sorting machines, screening, and air separation. These treatment methods will be set out in the Operating Techniques.

	POPs contaminated wastes are sent off site for destruction. **Process monitoring for the separation of BFR containing plastic** Ward will update procedures to meet the appropriate measures requirement to monitor at least once every 3 months how much BFR containing plastic is present in any fraction destined for recycling.
Compliant?	Once monitoring of BFR plastic is in place
5.13 Record keeping for all treatment residues 1. You must record in the waste tracking system: • that the WEEE has been treated or consigned to another WEEE treatment facility • what WEEE has been prepared for reuse or has been consigned to a preparing for reuse operator • what the treatment residues, treated components and fractions are	
Response/ evidence	The Waste Acceptance Procedure will provide information which meets the following appropriate measures requirements: • that the WEEE has been treated or consigned to another WEEE treatment facility; • that the treatment residues, treated components and fractions are recorded.
Compliant?	Compliant
6. Emissions control appropriate measures	
6.1 Point source emissions to air 1. You must contain the waste treatment process to make sure that you collect, extract and direct all process emissions to an appropriate abatement system for treatment before release. 2. You must identify the main chemical constituents of the site's point source emissions as part of the site's inventory of emissions to air. You must include the speciation of volatile organic compounds (VOCs) if you have identified them in the emissions inventory and it is practicable to do so.	

3. You must assess the fate and impact of the substances emitted to air, following the Environment Agency's air emissions risk assessment methodology. 4. To reduce point source emissions to air (for example, dust, volatile organic compounds and odour) from the treatment of waste, you must use an appropriate combination of abatement techniques, including one or more of the following systems: • adsorption • fabric filter • wet scrubbing • HEPA filter • condensation and cryogenic condensation • cyclone • electrostatic precipitator (ESP) • thermal oxidation 5. You must assess and design vent and stack locations and heights to make sure dispersion capability is adequate. 6. Where monitoring is required, including for odour, you must install a suitable monitoring point. Monitoring points will be required to meet MCERTS standards. 7. Your procedures must make sure you correctly install, operate, monitor and maintain abatement equipment. For example, this includes monitoring and maintaining: • appropriate flow and chemical concentration of scrubber liquor • the handling and disposal or regeneration of spent scrubber or filter medium	
Response/ Evidence	The granulation process is located within a building and is extracted to point source emission point A1 and A2. As set out in the response to BAT25, the granulation plant is contained within a building and has an air extraction system which includes a cyclone (BAT 25a) and filter (BAT 25b) to collect dust. Dust is collected in sealed bags / covered containers and transported off site for disposal.

	Monitoring of dust emissions is carried out as per the response to BAT 8. Monitoring has been extended to emission point A2
Compliant?	Compliant

6.2 Fugitive emissions to air (including odour)

1. You must use appropriate measures to prevent emissions of dust, mud, litter and odour. See our guidance on suggested appropriate measures to control dust, mud and litter, and to control odour.

2. You must design, operate and maintain storage and treatment plant in a way that prevents fugitive emissions to air, including dust, organic compounds and odour. Where that is not possible, you must minimise these emissions.

Storage and treatment plant includes associated equipment and infrastructure such as:

- shredders
- sorting equipment
- conveyors
- skips or containers
- building fabric, including doors and windows
- pipework and ducting

3. You must make sure fugitive emissions are collected and directed to appropriate abatement and your treatment plant must use high integrity components (for example, seals or gaskets).

4. You must use your waste pre-acceptance, waste acceptance and site inspection checks and procedures to identify and manage wastes that could cause, or are causing, fugitive emissions to air. When you identify any of these wastes you must:

- take appropriate, risk assessed measures to prevent and control emissions
- prioritise their treatment or transfer

5. Where necessary, to prevent fugitive emissions to air from the storage and handling of odorous or dusty wastes, you should use a combination of the following measures:

- store and handle such wastes within a building or enclosed equipment
- keep buildings and equipment under adequate negative pressure with an appropriate abated air circulation or extraction system
- where possible, locate air extraction points close to potential emissions sources
- use fully enclosed material transfer and storage systems and equipment, for example, conveyors, hoppers, containers, tanks and skips
- keep building doors and windows shut to provide containment, other than when access is required for loading or unloading
- minimising drop height
- use misting systems and wind barriers

6. Where a dust management plan is required, you must develop and implement it following our guidance on emissions management plans for dust.

Maintenance and cleaning

7. You must set up a leak detection and repair programme. You must use it to promptly identify and mitigate any fugitive emissions from treatment plant and associated infrastructure (such as pipework, conveyors, tanks).

8. You must regularly inspect and clean all waste storage and treatment areas, equipment (including conveyor belts) and containers. You must contain any residues collected during cleaning.

9. Your maintenance and cleaning schedules must make sure that your plant is regularly cleaned to avoid large-scale decontamination activities.

10. You must take measures to prevent the corrosion of plant and equipment (for example, conveyors or pipes). This includes:

- selecting and using appropriate construction materials
- lining or coating equipment with corrosion inhibitors
- regularly inspecting and maintaining plant

11. You must have an appropriate regular maintenance programme covering all buildings, plant and equipment. This must also include protective equipment such as air ventilation and extraction systems, curtains and fast-action doors used to prevent and contain fugitive releases.

Odorous wastes

12. You must have procedures to minimise the amount of time odorous wastes spend in your storage and handling systems (for example, pipes, conveyors, hoppers, tanks). In particular, you must have provisions to manage waste during periods of peak volume.

13. You must have measures to contain, collect and treat odorous emissions, including using contained buildings and plant or equipment with appropriate air extraction and abatement. We do not consider masking agents to be appropriate measures for the treatment of odorous emissions.

14. You must monitor and maintain odour abatement systems to ensure optimum performance. For example, you should make sure that scrubber liquors are maintained at the correct pH and replenished or replaced at an appropriate frequency.

15. Contaminated waters have potential for odours. You must store them in containers or enclosed tanks that are vented to an abatement system.

16. Where you expect odour pollution at sensitive receptors, or it has been substantiated, you must periodically monitor odour emissions using European (EN) standards. For example, either:

- dynamic olfactometry according to EN 13725 to determine the odour concentration
- EN 16841-1 or -2 to determine the odour exposure

17. If you are using alternative methods for which no EN standards are available (for example, estimating odour impact), you should use ISO, national or other international standards to make sure you use data of an equivalent scientific quality. You must set out the monitoring frequency in the odour management plan.

18. Where you expect odour pollution at sensitive receptors, or it has been substantiated, you must also set up, implement and regularly review an odour management plan. It must be part of your management system and include all of the following elements:

- actions and timelines to address any issues identified
- a procedure for conducting odour monitoring
- a procedure for responding to identified odour incidents, for example, complaints
- an odour prevention and reduction programme designed to identify the sources, to characterise the contributions of the sources and to implement prevention and reduction measures

19. Where an odour management plan is required, you must develop and implement it following our guidance on odour management plans.

Response/ Evidence	Activities on site are managed to minimise the risk of related impact of fugitive emissions. Downstream processing is carried out within a building with the following measures in place: Air extraction system (Pre cyclones and bag filter) to safely and effectively contain dusts generated as part of the process.

	• Containment of process fractions within suitable containers. • The concrete surfaces of the site are regularly cleaned. • The primary shredder magnet separation point is enclosed with fixed netting; there is netting around the bay where the material is dropped and there is a net over the outfeed bay to reduce chance of any windblown litter. Measures to reduce fugitive emissions of dust from the shredder have been discussed previously in the response to BAT 10, BAT 12 and BAT 14. The DEMP provides information about the in-house dust monitoring carried out at the facility. The leak detection and repair arrangements have been discussed in the response to BAT 5, BAT 19 and BAT 21. Housekeeping measures have been previously discussed in the response to BAT 14. Odour emissions have been discussed already within the response to BAT 10. The nature of the waste accepted at the site generally presents a low risk of odour nuisance. The processes undertaken on site will not give rise to malodours or residues with malodours. Odour management controls are discussed within Section 3.2 of the Operating Techniques. This includes control and monitoring of waste acceptance procedures will ensure wastes likely to cause malodours not accepted. Should odorous material be identified it will be handled accordingly and removed from site as a priority. Site employees will undertake regular inspections and undertake remedial action if odour is identified as a problem. Good housekeeping is implemented across the site to minimise the risk of odours occurring. Therefore, the appropriate measures set out in points 23 to 29 are not relevant. Incoming loads are checked for wastes which may cause deflagrations as per the site operating techniques, as per the response to BAT 27. The facility does not deflagration incidents due to the waste pre-acceptance and waste acceptance procedures. The shredder plant will operate at low speeds which negates the need for a low speed pre-shredder.
Compliant?	Compliant
6.3 Emissions of noise and vibration 1. You should design the layout of the facility to locate potential sources of noise (including building exits and entrances) away from sensitive receptors and boundaries. You should locate buildings, walls, and embankments so they act as noise screens.	

2. You must use appropriate measures to control noise, for example, including:

- adequately maintaining plant or equipment parts that may become noisier as they deteriorate – such as bearings, air handling plant, building fabric, and specific noise attenuation kit associated with plant or machinery
- closing doors and windows of enclosed areas and buildings
- avoiding noisy activities at night or early in the morning
- minimising drop heights and the movement of waste and containers
- using broadband (white noise) reversing alarms and enforcing the on-site speed limit
- using low-noise equipment, for example, drive motors, fans, compressors and pumps
- adequately training and supervising staff
- where possible, providing additional noise and vibration control equipment for specific noise sources – such as noise reducers or attenuators, insulation, or sound-proof enclosures

3. Where you expect noise or vibration pollution at sensitive receptors, or it has been substantiated, you must create, use and regularly review a noise and vibration management plan. This must be part of the environmental management system and must include:

- actions and timelines to address any issues identified
- a procedure for conducting noise and vibration monitoring
- a procedure for responding to identified noise and vibration events, for example, complaints

4. The noise and vibration management plan should also include a noise and vibration reduction programme designed to:

- identify the sources of noise and vibration
- measure or estimate noise and vibration exposure
- characterise the contributions of the sources
- implement prevention and reduction measures

5. Where a noise and vibration management plan is required, you must develop and implement it following our guidance on noise and vibration management plans.

Response/ Evidence	The response to BAT 17 and BAT 18 has covered off the points of this appropriate measure.
Compliant?	Compliant

6.4 Point source emissions to water and sewer

1. You must identify the main chemical constituents of the site's point source emissions to water and sewer as part of the site's inventory of emissions.

2. You must assess the fate and impact of the substances emitted to water and sewer following the Environment Agency's risk assessment guidance.

3. Except for uncontaminated surface water, for example roof drainage, discharges to water or sewer must comply with the conditions of an environmental permit or trade effluent consent. Relevant sources of waste water include (but are not limited to):

- water or condensate collected from treatment processes
- waste compactor run-off
- vehicle washing
- vehicle oil and fuel leaks
- washing of containers
- spills and leaks in waste storage areas
- loading and unloading areas
- uncovered storage areas

4. POPs may leach or wash out in particulates from some wastes, such as shredded WEEE plastic or granulated cable, if exposed to the weather. You must prevent the release of POPs to water or sewer by storing these wastes and any other shredded POPs waste under weatherproof covering.

5. To reduce emissions to water and sewer, if you need to treat waste water before discharge or disposal, you must use an appropriate combination of treatment techniques, including one or more of the following:

- preliminary or primary treatment – for example, equalisation, neutralisation or physical separation
- physico-chemical treatment – for example, adsorption, distillation or rectification, precipitation, chemical oxidation or reduction, evaporation, ion exchange, or stripping

- biological treatment – for example, activated sludge process or membrane bioreactor
- nitrogen removal – for example, nitrification and denitrification
- solids removal – for example, coagulation and flocculation, sedimentation, filtration or flotation

Response/ Evidence	There are no process effluents generated from waste processing activities at the facility. Minimal water is used for dust suppression across the site. Details of the site drainage infrastructure has been set out in the Operating Techniques. The only discharge from the permitted activities arises from surface water runoff which contains water from the external waste storage areas. Wastes which contain POPs are stored within buildings, under cover or within bays to avoid contaminating surface water.
Compliant?	Compliant

6.5 Fugitive emissions to land and water

1. You must use appropriate measures to control potential fugitive emissions and make sure that they do not cause pollution. See the guidance on emissions to water and leaks from containers.

2. You must have these in all operational areas of the facility:

- an impermeable surface
- sealed construction joints
- spill containment kerbs

3. For outdoor operational areas you must also have a sealed drainage system.

4. Your sealed drainage system must collect all surface water run-off and channel it to a blind sump unless it may be lawfully discharged to water or sewer.

5. You must collect and treat separately each water stream generated at the facility, for example, surface run-off water or process water. Separation must be based on pollutant content and treatment required. You must make sure you segregate uncontaminated water streams from those that require treatment.

6. You must use suitable drainage infrastructure to collect surface drainage from areas of the facility where you store, handle and treat waste. You must also collect washing water and occasional spillages.

7. Depending on the pollutant content, you must either:

- recirculate what you have collected
- discharge it in accordance with an environmental permit or trade discharge consent
- send it for further treatment

8. You must have design and maintenance provisions in place to detect and repair leaks. These must include regularly monitoring, inspecting and repairing equipment and minimising underground equipment and infrastructure.

9. You should provide appropriate buffer storage capacity at your facility to store waste waters, taking into account:

- potential abnormal operating scenarios and incidents
- the nature of any polluting substances and their impact on the downstream waste water treatment plant and receiving environment

10. You must have appropriate measures in place to monitor, treat and reuse the water held in the buffer storage before discharging.

11. You must take measures to prevent emissions from washing and cleaning activities, including:

- directing liquid effluent and wash waters to foul sewer or collecting them in a sealed system for off-site disposal – you must not discharge them to surface or storm drains
- where possible, using biodegradable and non-corrosive washing and cleaning products
- storing all detergents, emulsifiers and other cleaning agents in suitable bunded or containment facilities, within a locked storage area, or in a building away from any surface water drains
- preparing cleaning or disinfection solutions in contained areas of the site and never in areas that drain to the surface water system

12. Where relevant, you must have measures to prevent pollution from the on-site storage, handling and use of oils and fuels. Follow the guidance on oil storage regulations for businesses.

Spill response plan

13. You must produce and implement a spillage response plan and train staff to follow it and test it.

14. Your procedures and associated training must make sure you deal with spillages immediately.

15. You must keep spill kits at locations close to areas where a spillage could occur and make sure relevant staff know how to use them. Make sure kits are replenished after use.

16. You must take measures to stop spillages from entering drains, channels, gullies, watercourses and unmade ground. You must make available proprietary sorbent materials, sand or drain mats for use when required.

17. You must make sure your spillage response plan includes information about how to recover, handle and correctly dispose of waste produced from a spillage.

Designing and maintaining surfacing and sub-surface structures

18. For sub-surface structures, you must:

- establish and record the routing of all site drains and sub-surface pipework
- identify all sub-surface sumps and storage vessels
- engineer systems to minimise leakages from pipes and make sure they are detected quickly if they do occur, particularly where hazardous substances are involved
- provide secondary containment or leakage detection for sub-surface pipework, sumps and storage vessels
- establish an inspection and maintenance programme for all sub-surface structures, for example, pressure tests, leak tests, material thickness checks or CCTV

19. For surfacing, you must design appropriate surfacing and containment or drainage facilities for all operational areas, taking into account:

- collection capacities
- surface thicknesses
- strength and reinforcement
- falls
- materials of construction
- permeability

• resistance to chemical attack • inspection and maintenance procedures 20. You must have an inspection and maintenance programme for impermeable surfaces and containment facilities. **Tanks and bunding** 21. You must bund all above-ground tanks containing liquids whose spillage could be harmful to the environment. Bunds must: • be impermeable and resistant to the stored materials • have no outlet (that is, no drains or taps) and drain to a blind collection point • have pipework routed within bunded areas with no penetration of contained surfaces • be designed to catch leaks from tanks or fittings • have a capacity greater than 110% of the largest tank or 25% of the total tankage, whichever is the larger • have regular visual inspections – any contents must be pumped out or otherwise removed under manual control after checking for contamination • be fitted with a high-level probe and an alarm (as appropriate) if not frequently inspected • have tanker connection points within the bund (where possible), otherwise provide adequate containment • have programmed engineering inspections – normally visual, but extending to water testing if structural integrity is in doubt • be emptied of rainwater regularly to maintain their containment capacity	
Response/ Evidence	Surface water discharges from the site are rainfall dependent and discharge via an interceptor to surface water. Most treatment takes place within a building and wastes containing POPs are stored in a manner that avoids contaminating surface water. Routine inspections of above ground storage tanks, drums etc to check for leaks are undertaken. Where leaks are identified spillage procedures will be followed and repairs or alternative plans to mitigate the leak arranged, details of spillage management in accordance with the requirements of the appropriate measures are set out in the emergency Action Plan. The provision of buffer storage for waste waters is only applicable to fire waters and is described within the FPP. The

	response to BAT 19 and BAT 20 sets out in full how fugitive emissions to land and water will be managed which meets the requirements of appropriate measures. The response to BAT 5 and BAT 14 provides information about the Spill Response Plan . As discussed in the response to BAT 19, underground systems are limited to site drainage and interceptors. Routine inspections of above ground storage tanks, drums etc to check for leaks are undertaken. Where leaks are identified spillage procedures will be followed and repairs or alternative plans to mitigate the leak will be arranged. The daily inspection and regular maintenance of the engineered site surfacing and drainage system has been discussed in the Operating Techniques. The response to BAT 14 provides information regarding the use of above ground tanks. The facility does store oils and fuels for use in plant and machinery. These are stored in above tanks and bunded areas which are inspected at least monthly for their integrity and to ensure that their capacity remains at 110%. Inspection details and actions are recorded in the Monthly Site Checklist, as detailed within the Operating Techniques. These arrangements meet the requirements of appropriate measures.
Compliant?	Compliant

7. Emissions monitoring and limits appropriate measures

7.1 Point source emissions to air

1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to air, such as the:

- average values and variability of flow and temperature
- average concentration and load values of relevant substances and their variability
- flammability, lower and higher explosive limits and reactivity
- presence of other substances that may affect the waste gas treatment system or plant safety – for example, oxygen, nitrogen, water vapour, dust

2. Monitoring locations must meet MCERTS standards. Monitoring must be carried out using MCERTS qualified accredited methods and MCERTS certified staff. Further guidance can be found in our guidance M1 sampling requirements for stack emissions monitoring.

3. You must carry out emissions monitoring when the plant is operating at or near to full treatment capacity. Information regarding the plant treatment processing rate and air flow rate at the time of monitoring must be recorded and submitted with the monitoring results.

4. You must monitor point source emissions to air from your treatment plant for the following substances using the monitoring standards stated. You must monitor at the frequencies stated and meet the specified emission limits unless your permit states alternative requirements.

Channelled emissions to air from all mechanical treatment of WEEE

Dust

Monitoring standard – EN 13284-1.

Frequency – every 6 months.

Emission limit – 5mg/m³ (where it is inappropriate to fit a fabric filter due to the potential effects of deflagration on the filter, the limit is 10mg/m³).

TVOC

Monitoring standard – EN 12619.

Frequency – every 6 months.

In addition, the following monitoring is required from all mechanical treatment of WEEE when the substance concerned is identified as relevant based on your facility's emissions inventory.

Dioxin-like PCBs

Monitoring standard – EN 1948-1, -2 and -4.

Frequency – every 12 months.

PCDD/F

Monitoring standard – EN 1948-1, -2 and -3.

Frequency – every 12 months.

BFRs

Frequency – every 12 months.

Metals and metalloids excluding mercury

Monitoring standard – EN 14385.

Frequency – every 12 months.

Channelled emissions to air from the treatment of WEEE containing mercury

Total mercury

Monitoring standard – EN 13211.

Frequency – every 3 months.

Emission limit – 7µg/m³.

Periodic monitoring results should normally consist of the average value of 3 consecutive measurements of at least 30 minutes each. For some parameters, due to analytical limitations, a longer sampling period may be required.

Monitoring frequencies may be reduced if the emission levels are proven to be sufficiently stable over time.

Response/evidence	See the response to BAT 25.
Compliant?	Compliant

7.2 Point source emissions to water or sewer

1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to sewer or water, such as:

- average values and variability of flow, pH, temperature, and conductivity
- average concentration and load values of relevant substances and their variability – for example, COD (chemical oxygen demand) and TOC (total organic carbon), nitrogen species, phosphorus, metals, priority substances or micropollutants
- data on bio-eliminability – for example, BOD (biological oxygen demand), BOD to COD ratio, Zahn-Wellens test, biological inhibition potential, for example, inhibition of activated sludge

2. For relevant emissions to water or sewer identified by the emissions inventory, you must carry out monitoring of key process parameters (for example, waste water flow, pH, temperature, conductivity, or BOD) at key locations. For example, these could either be at the:

- inlet or outlet (or both) of the pre-treatment

- inlet to the final treatment
- point where the emission leaves the facility boundary

3. For the following types of discharges, you must monitor point source emissions to water or sewer for the substances listed using the monitoring standards stated. You must meet the specified emission limits unless your permit states otherwise.

Direct discharges to a water body from all sites carrying out the mechanical treatment of WEEE

TOC

Monitoring standard – EN 1484.

Frequency – every month.

Emission limit – 60mg/l.

COD

Frequency – every month.

Emission limit – 180mg/l.

The requirement is to monitor for either total organic carbon or chemical oxygen demand.

Total suspended solids

Monitoring standard – EN 872.

Frequency – every month.

Emission limit – 60mg/l.

Discharges to sewer or a water body from all mechanical treatment of WEEE

Hydrocarbon oil index

Monitoring standard – EN ISO 9377-2.

Frequency – every month.

Emission limit – 10mg/l.

Discharges to sewer or a water body from all mechanical treatment of WEEE, when the substance concerned is identified as relevant based on your facility's emissions inventory Metals and metalloids Monitoring standard – various EN standards available. Frequency – every month. Emission limits: • arsenic, 0.05mg/l • cadmium, 0.05mg/l • chromium, 0.15mg/l • copper, 0.5mg/l • lead, 0.1mg/l • nickel, 0.5mg/l • mercury, 0.005mg/l • zinc, 1.00mg/l PFOA, PFOS and deca BDE Frequency – every 6 months. Monitoring frequencies may be reduced if the emission levels are proven to be sufficiently stable over time. Monitoring frequencies for discharges to sewer may be reduced if the downstream waste-water treatment plant abates the pollutants concerned.	
Response/evidence	See the responses to BAT 6, BAT 7, BAT 19, and BAT 20
Compliant?	Compliant
8. Process efficiency appropriate measures	

8.1 Energy Efficiency

1. You must create and implement an energy efficiency plan at your facility. This must:
    - define and calculate the specific energy consumption of the activities you carry out and waste streams you treat
    - set annual key performance indicators – for example, specific energy consumption (expressed in kWh/tonne of waste processed)
    - plan periodic improvement targets and related actions

2. You must regularly review and update your energy efficiency plan as part of your facility's management system.

3. You must have and maintain an energy balance record for your facility. This must provide a breakdown of your energy consumption and generation (including any energy or heat exported) by the type of source (electricity, gas, conventional liquid fuels, conventional solid fuels, and waste). You should provide Sankey diagrams or energy balances to show how energy is used in your waste treatment processes.

4. You must regularly review and update your energy balance record as part of your facility's management system, alongside the energy efficiency plan.

5. You must have operating, maintenance and housekeeping measures in place in relevant areas, for example, for:
    - air conditioning, process refrigeration and temperature exchange systems (leaks, seals, temperature control, evaporator or condenser maintenance)
    - the operation of motors and drives
    - compressed gas systems (leaks, procedures for use)
    - steam distribution systems (leaks, traps, insulation)
    - space heating and hot water systems
    - lubrication to avoid high friction losses
    - boiler operation and maintenance, for example, optimising excess air
    - other maintenance relevant to the activities within the facility

6. You must have measures in place to avoid gross energy inefficiencies. These should include, for example:
    - insulation

- containment methods (such as seals and self-closing doors)
- avoiding unnecessary discharge of heated water or air (for example, by fitting simple control systems such as timers and sensors)

7. You should implement additional energy efficiency measures at the facility as appropriate, following our guidance on energy efficiency standards for industrial plants.

Response/ evidence	The response to Section 8.1 of Treating Metal Waste in Shredders – Appropriate Measures, has already covered this point.
Compliant?	Compliant

8.2 Raw materials (installations only)

1. You must maintain a list of the raw materials used at your facility and their properties. This includes auxiliary materials and other substances that could have an environmental impact.

2. You must regularly review the availability of alternative raw materials and use any suitable ones that are less hazardous or polluting. This should include, where possible, substituting raw materials with waste or waste-derived products.

3. You must justify the continued use of any substance for which there is a less hazardous alternative.

4. You must have quality assurance procedures in place to control the content of raw materials.

Response/ evidence	The response to Section 8.2 of Treating Metal Waste in Shredders – Appropriate Measures, has already covered this point.
Compliant?	Compliant

8.3 Water use (installations only)

1. You must take measures to make sure you optimise water consumption to:

- reduce the volume of waste water generated
- prevent or, where that is not practicable, reduce emissions to soil and water

2. Measures you must take include:

- implementing a water saving plan (involving establishing water efficiency objectives, flow diagrams and water mass balances)

- optimising the use of washing water (for example, dry cleaning instead of hosing down, using trigger control on all washing equipment)
- recirculating and reusing water streams within the plant or facility, if necessary after treatment
- the use of water for vacuum generation (for example, using liquid ring pumps with high boiling point liquids), where relevant

3. You must carry out a regular review of water use (a water efficiency audit) at least every 4 years.

4. You must also:

- produce flow diagrams and water mass balances for your activities
- establish water efficiency objectives and identify constraints on reducing water use beyond a certain level (usually this will be site specific)
- identify the opportunities for maximising reuse and minimising use of water
- have a timetabled improvement plan for implementing additional water reduction measures

5. To reduce water use and associated emissions to water, you should apply these general principles in sequence:

- use water efficient techniques at source where possible
- reuse water within the process, by treating it first if necessary – if not practicable, use it in another part of the process or facility that has a lower water quality requirement

6. If you cannot use uncontaminated roof and surface water in the process, you should keep it separate from other discharge streams – at least until after you have treated the contaminated streams in an effluent treatment system and have carried out final monitoring.

7. You should establish the water quality requirements associated with each activity and identify whether you can substitute water from recycled sources. Where you can, include it in your improvement plan.

8. Where there is scope for reuse (possibly after some form of treatment) you should keep less contaminated water streams, such as cooling waters, separate from more contaminated streams.

9. You must minimise the volume of water you use for cleaning and washing down by:

- vacuuming, scraping or mopping in preference to hosing down
- reusing wash-water (or recycled water) where practicable
- using trigger controls on all hoses, hand lances and washing equipment

10. You must directly measure fresh water consumption and record it regularly at every significant usage point, ideally on a daily basis.	
Response/ evidence	The response to Section 8.3 of Treating Metal Waste in Shredders – Appropriate Measures, has already covered this point.
Compliant?	Compliant
8.4 Waste minimization, recovery and disposal 1. You must have and implement a residues management plan that: • minimises the generation of residues arising from waste treatment • optimises the reuse, regeneration, recycling or energy recovery of residues, including packaging • makes sure you properly dispose of residues where recovery is technically or economically impractical 2. Where you must dispose of waste, you must carry out a detailed assessment identifying the best environmental options for waste disposal. 3. You must review options for recovering and disposing of waste produced at the facility on a regular basis. You must do this as part of the management system to make sure you are: • still using the best environmental options • promoting the recovery of waste where technically and economically viable	
Response/ evidence	The response to Section 8.4 of Treating Metal Waste in Shredders – Appropriate Measures, has already covered this point
Compliant?	Compliant

Table 2-4 End of life vehicles (ELVs); appropriate measures for permitted facilities

2.2 General management appropriate measures
2.1 Management System 1. You must have and follow an up to date, written management system. It must incorporate the following features. You must have: • management commitment, including from senior managers • an environmental policy that is approved by senior managers and includes the continuous improvement of the facility's environmental performance You must plan and establish the resources, procedures, objectives, and targets needed for environmental performance alongside your financial planning and investment. You must implement environmental performance procedures, paying particular attention to: • staff structure and relevant responsibilities • staff recruitment, training, awareness, and competence • communication (for example, of performance measures and targets) • employee involvement • documentation • effective process control • maintenance programmes • the management of change (including legislative changes and ELV or components classification changes) • emergency preparedness and response • making sure you comply with environmental legislation You must check environmental performance and take corrective action paying particular attention to: • learning from incidents, near misses and mistakes, including those of other organisations • records maintenance

- independent (where practicable) internal or external auditing of the management system to confirm it has been properly implemented and maintained

Senior managers must review the management system to check it is still suitable, adequate, and effective.

You must review the development of cleaner technologies and their applicability to site operations.

When installing new or upgraded equipment, you must assess the environmental impacts from its operating life and eventual decommissioning.

You must consider the risks a changing climate poses to your operations. You have appropriate plans in place to assess and manage future risks.

You must compare your site's performance against relevant sector guidance and standards on a regular basis.

You must have and maintain the following documentation:

- inventory of emissions to air and water
- residues management plan
- accident management plan
- site infrastructure plan
- site condition report
- fire prevention plan

If required, you have and maintain the following documentation:

- odour management plan
- noise and vibration management plan
- dust management plan
- pest management plan

Response/ evidence	See response to BAT 1 in Table 2 1.
Compliant?	Compliant

2.2 Staff competence

1. Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence.

2. The design, installation and maintenance of infrastructure, site and equipment must be carried out by competent people.

3. You must have appropriately qualified managers for your ELV activity who are either:

- qualified under a technical competence scheme
- operating under a government approved technical competence scheme

4. Non-supervisory staff must be reliable and technically skilled. Their skills may be based on experience and relevant training.

Response/evidence	The EMS will include details on the organizational structure and staffing. Staff training and competency requirements have been detailed in section 2 of the Operating Techniques document and in the submitted details of the TCMs who will be responsible for the facility.
Compliant?	Compliant

2.3 Accident Management Plan

1. As part of your management system you must have a plan for dealing with any incidents or accidents that could result in pollution.

2. The accident management plan must identify and assess the risks the facility poses to human health and the environment.

3. Areas to consider include:

- ELV types and the risks that they pose
- robust ELV acceptance procedures to avoid receiving unwanted items, such as gas cylinders
- abatement systems failure for example, interceptors
- equipment failure (for example, over-pressure of vessels and pipework, blocked drains)
- containment failure (for example, bund failure, or drainage sumps overfilling)
- damaged lithium-ion (Li-ion) batteries and any part of the electrical circuit in electric end of life vehicles (EELVs)
- failing to contain firefighting water
- making the wrong connections in drains or other systems
- making sure that interceptors are functioning correctly
- vandalism and arson
- extreme weather conditions for example, flooding or very high winds

Assessing the risks

4. You must assess the risk of accidents and their possible consequences by carrying out a risk assessment.

Risk is the combination of the likelihood that a hazard will occur and the severity of the impact resulting from that hazard. Having identified the hazards, you can assess the risks by addressing 6 questions:

- how likely is it that the accident will happen?
- what may be emitted and how much?
- where will the emission go – what are the pathways and receptors?
- what are the consequences?
- what is the overall significance of the risk?
- what can you do to prevent or reduce the risk?

5. You must identify any fire risks that may be caused, for example by:

- arson or vandalism
- self-combustion, for example within oily rags and overalls
- equipment failure and electrical faults
- naked lights and discarded smoking materials
- use of improper tools
- hot works (for example welding or cutting), industrial heaters and hot exhausts
- reactions between incompatible materials
- neighbouring site activities
- sparks from forklift trucks and machinery
- hot loads deposited at the site for example, vehicles involved in collisions resulting in thermal runaway of batteries
- damaged Li-ion batteries
- batteries left connected in ELVs causing an electrical short circuit
- batteries (storage, processing, and handling)

This list is not exhaustive and you must have a fire prevention plan that identifies the risks at your site and meets the requirements of our fire prevention plan guidance.

6. The depth and type of accident risk assessment you carry out will depend on the characteristics of the site and its location. The main factors to consider are the:

- scale and nature of the accident hazard presented by the activities
- risks to areas of population and the environment (the receptors)
- complexity of the activities and how difficult it is to decide and justify adequate risk control techniques

7. Through your accident management plan, you must also identify the roles and responsibilities of the staff involved in managing accidents. You must provide them with clear guidance on how to manage each accident scenario.

8. You must appoint one facility employee as an emergency co-ordinator who will take lead responsibility for implementing the plan. You must train your employees so they can perform their duties effectively and safely and know how to respond to an emergency.

9. You must also:

- establish how you will communicate with relevant authorities, emergency services and neighbours (as appropriate) both before, during and after an accident
- have appropriate emergency procedures, including for safe shutdown and site evacuation
- have post-accident procedures that include assessing the harm that may have been caused by an accident and the remediation actions you will take
- depending on scale, test the plan by carrying out emergency drills and exercises

Response/evidence	See response to BAT 1 in Table 2-1. There will be an Emergency Action Plan and Fire Prevention Plan (FPP). These documents will be maintained under the EMS which is subject to regular internal auditing and management review.
Compliant?	Compliant

2.4 Accident prevention measures

1. You must take the following measures, where appropriate, to prevent events that may lead to an accident.

Segregating ELVs

2. You must keep apart incompatible ELVs or components. Examples could include but are not limited to:

- keeping depolluted and un-depolluted ELVs separate

- keeping ELVs for as short a duration as possible before depollution
- disconnecting and removing batteries as soon as is practicable upon receipt of the ELV
- storing lead acid batteries separately to nickel metal hydride and Li-ion batteries
- segregating flammable gas cylinders in cages away from other activities

Preventing accidental emissions

3. You must make sure you contain the following (where appropriate) or route to a sealed drainage system (where necessary):

- site drainage waters
- emergency firefighting water
- oil, fuel, or chemical contaminated waters
- spillages of oils, fuels, and chemicals

Clean surface waters should be kept separated from contaminated surface water.

4. You must be able to contain surges and storm water flows. You must provide enough buffer storage capacity to make sure you can achieve this. You can define this capacity using a risk-based approach, for example, by considering the:

- nature of the pollutants
- effects on downstream wastewater treatment
- sensitivity of the receiving environment

5. You can only discharge wastewater from this buffer storage after you have taken appropriate measures to control, treat, or reuse the water.

6. You must have spill contingency procedures to minimise the risk of an accidental emission of raw materials, products, and waste materials, and to prevent their entry into water.

7. Your emergency firefighting water collection system must take account of additional firefighting water flows, firefighting foams, and other firefighting media. You may need emergency storage lagoons to prevent contaminated firefighting water reaching a receiving water body. This should be considered as part of your fire prevention plan.

8. You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from:

- overflows
- vents
- safety relief valves

If this is not advisable on safety grounds, you must focus on reducing the probability of the emission.

Security measures

9. You must have security measures in place to prevent:

- entry by vandals and intruders
- damage to equipment
- theft
- fly-tipping
- arson

10. Facilities must use an appropriate combination of the following measures:

- security guards
- total enclosure (usually with fences)
- controlled entry points
- adequate lighting
- warning signs
- 24-hour surveillance, such as CCTV

Fire prevention

11. There are 3 fire prevention objectives. You must:

- minimise the likelihood of a fire happening
- aim for a fire to be extinguished within 4 hours
- minimise the spread of fire within the site and to neighbouring sites
- You must have a fire prevention plan that meets the requirements of our fire prevention plan guidance.

Other accident prevention measures

12. You must maintain control in an emergency using one or a combination of the following measures:

- alarms
- process trips and interlocks
- manual interventions

13. You must:

- make sure all the monitoring, measurement, and control devices you would need in an emergency are easy to access and operate in an emergency
- maintain the equipment so it is in a good state of repair through a preventive maintenance programme and a control and testing programme
- use techniques such as suitable barriers to prevent moving vehicles damaging equipment
- have procedures in place to avoid incidents due to poor communication between operating staff during shift changes, or following maintenance or other engineering work
- where relevant, use equipment and protective systems designed for use in potentially explosive atmospheres

Record keeping and procedures

14. You must:

- keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections
- carry out investigations into accidents, incidents, near misses and abnormal events and record the steps taken to prevent their reoccurrence
- maintain an inventory of chemicals, which are present (or likely to be) and which could have environmental consequences if they escape – many apparently innocuous substances (for example, AdBlu) can damage the environment if they escape
- have procedures for checking and segregating ELVs to make sure they are compatible with other substances they may accidentally come into contact with
- make sure that any documents that may be needed in the event of an incident are accessible

Response/ evidence	See response to BAT 1 in Table 2 1. Ward has an Emergency Action Plan and Fire Prevention Plan (FPP). These documents will be maintained under the EMS which is subject to regular internal auditing and management review.
Compliant?	Compliant

2.5 Contingency plan and procedures

1. You must have and implement a contingency plan and management procedures to make certain you comply with all your permit conditions and operating procedures during maintenance or shutdown at your site.

2. Your contingency plan must also contain provisions and procedures to make sure that you:

- do not exceed storage limits in your permit and you continue to apply appropriate measures for storing and handling ELVs
- stop accepting ELVs unless you have a clearly defined method of recovery or disposal and enough permitted storage capacity
- as far as possible, know in advance about any planned shutdowns at ELV management facilities where you send ELVs

3. Your contingency plan must include plans and procedures for circumstances where you cannot send your ELVs to other sites due to their planned or unplanned shutdown.

4. If you produce waste material at your facility, your contingency planning must consider issues with storage capacity for the waste.

5. You must make your customers aware of your contingency plan, and of the circumstances in which you would stop accepting ELVs from them.

6. You must consider whether the sites or companies you rely on in your contingency plan:

- can take the ELVs at short notice
- are authorised to do so in the quantities and types likely to be needed – in addition to carrying out their existing activities

Where circumstances mean you could exceed your permitted storage limits or compromise your storage procedures, you must look for alternative disposal or recovery options. You must not discount alternative disposal or recovery options on the basis of extra cost or geographical distance.

You must not include unauthorised capacity in your contingency plan. If your contingency plan includes using temporary storage for additional ELVs on your site, then you must make sure your site is authorised for this storage and you have the appropriate infrastructure in place.

7. Your management procedures and contingency plan must also:

- identify known or predictable malfunctions associated with your technology and the procedures, spare parts, tools, replacement equipment and expertise needed to deal with them
- include a record of spare parts held, especially critical spares – or state where you can get them from and how long it would take
- have a defined procedure to identify, review and prioritise items on site which need a preventative regime.
- include all equipment whose failure could directly or indirectly lead to an impact on the environment or human health
- identify and decommission ‘non-productive’ or redundant items such as tanks, pipework, retaining walls, bunds, reusable ELVs containers, ducts, filters, and security systems
- make sure you have the spare parts, tools, and competent staff needed before you start maintenance

8. Your management system must include procedures for:

- auditing your performance against all these contingency measures
- reporting the audit results to the site manager

• taking corrective actions as necessary	
Response/ evidence	The Environmental Management System (EMS) incorporates standard operating procedures and safe working practices designed to minimise environmental risks and impacts during normal operations. It also includes contingency measures to reduce the effects of breakdowns, accidents, and other unplanned events. These procedures cover areas such as waste acceptance and environmental monitoring. Documentation will be developed in line with relevant guidance to ensure compliance with contingency management plan requirements set out in the applicable appropriate measures.
Compliant	Compliant

2.6 Plant decommissioning

1. You must consider the decommissioning of the site at the design stage and make suitable plans to minimise risks during later decommissioning.

2. For an existing site, identify potential decommissioning risks and take steps to address these. Changes and design improvements should be made as and when site is upgraded, or when construction and development works are carried out at your site. Examples of design improvements could include avoiding using underground tanks and pipework. If it is not economically possible to replace them, you must protect them by secondary containment or a suitable monitoring programme.

3. You must have, and maintain, a decommissioning plan to demonstrate that the site will be:

- decommissioned without causing pollution
- returned to a satisfactory condition

4. Your decommissioning plan should include details of:

- whether you will remove or flush out pipelines and vessels (where appropriate) and how you will empty them of any potentially harmful contents
- site plans showing the location of all underground pipes and vessels
- how you will remove asbestos or other potentially harmful materials generated from storing the waste and treatment operations, unless we have agreed it is reasonable to leave such liabilities to future owners
- methods for dismantling buildings and other structures as part of the site closure, and for protecting surface water and groundwater during construction or demolition at your site
- protecting of surface water and groundwater during construction or demolition at your site
- any soil testing needed to check for any pollution caused by the site activities, and information on any remediation needed to return the site to a satisfactory state when you cease activities, as defined by the initial site condition report

- the measures proposed, once activities have definitively stopped, to avoid any pollution risk and to return the site of operation to a satisfactory state (including, where appropriate, measures relating to the design and construction of the site)
- the clearing of deposited residues, ELVs and any contamination resulting from the ELV treatment activities

5. When the site is changing use, you should make sure that you decontaminate equipment taken out of use and remove it from the site.

Response/ evidence	Site closure requirements will be set out within the EMS and will address the requirements of appropriate measures. These requirements will be maintained during the operational life of the facility via periodic review of the EMS. A site closure plan is included in the permit application.
Compliant?	Compliant

3. ELV pre-acceptance, acceptance and tracking

3.1 ELV pre-acceptance

1. In all cases you must reassess the information required at pre-acceptance on an annual basis. The information required and the assessment made at the pre-acceptance stage is to make sure you:

- only accept ELVs that are suitable for the site
- avoid accumulating ELVs
- have enough storage and treatment capacity

2. You must implement ELV pre-acceptance procedures so that you know enough about ELVs before they arrive at your facility. You need to do this to assess and confirm the ELVs are technically and legally suitable for your facility and processes. Your procedures must follow a risk-based approach, considering:

- the source and nature of the ELV
- its hazardous properties, for example, whether it is a combustion vehicle or electric end of life vehicle (EELV)
- potential risks to the environment (for example, from fire)

3. You must get the following information in writing when you agree to accept an ELV:

- details of the ELV holder, including name, address and contact details
- the specific source of the ELV
- a description of the ELV including its composition and quantity

- the List of Waste codes (European Waste Catalogue (EWC) code)

If the ELV has already been depolluted, you should request evidence to show this has been done. A certificate of destruction (COD), a visual check, declaration or some other evidence may help to confirm that depollution has been carried out.

4. You must consider whether any of the specific ELVs you are permitted to receive have properties that can pose unacceptable risks to the site or process. For example, damaged batteries can present a chemical, electric shock and fire risk

5. You should establish a list of these ELVs and procedures for managing the risks they pose.

6. You must keep pre-acceptance records for at least 3 years in a suitable ELV tracking system following receipt of the ELV .

7. You must reassess the information required at pre-acceptance if the ELV received does not conform to the pre-acceptance information.

Response/ evidence	As per response to BAT 2 in Table 2-1.
Compliant?	Compliant

3.2 ELV acceptance and tracking

1. You must implement ELV acceptance procedures to check that the ELV received matches the information you obtained during pre-acceptance. This is to confirm that the waste is as expected and that you are permitted to accept it.

2. If not, you must confirm that you can accept it as a non-conforming waste, or you must reject it. If you are rejecting an undepolluted ELV, you must follow the guidance on the procedure for rejecting hazardous loads.

3. Your procedures should be documented and auditable and must follow a risk-based approach, considering the ELVs':

- source, nature, and age
- hazardous properties
- potential to contain persistent organic pollutants (POPs)
- potential risks to process or occupational safety, and to the environment (for example, from odour and other emissions)
- previous holders and your knowledge about them

4. If you have not received any pre-acceptance information, you must assess the load to make sure it is technically (and legally) suitable for the site. Your checks and assessment must be risk-based considering, for example, the:

- hazardous properties of the ELV

- risks posed by the ELV in terms of process safety, occupational safety, and environmental impact

Storage areas

5. All relevant storage areas (quarantine, reception and general) and treatment processes in your facility must have the physical capacity needed for the ELVs you receive. You must not receive ELVs if this capacity is not available. The amount of ELVs you receive must also comply with storage limits in your permit.

6. The ELV offloading, reception, treatment and quarantine areas must have impermeable surfaces with a sealed drainage system. This system must collect all surface water run-off and channel it to a blind sump unless you can lawfully discharge it in another way.

ELVs and treatment areas should be stored under cover to prevent ingress of rain and surface water.

You should keep clean surface water from roofs separate from contaminated waters.

7. You must clearly designate a materials reception area (or areas). Staff controlling the inspection, reception and validation of materials at the installation must be trained in their respective roles.

Waste acceptance

8. You must assess the weight of each load of ELVs on arrival to confirm the quantities against the accompanying paperwork. This is unless you have alternative reliable systems (for example, based on established data). You must record the weight in a suitable ELV tracking system.

9. You must check and validate all transfer documentation and resolve discrepancies before you accept the ELVs. If you believe the classification and description of the incoming ELVs is incorrect or incomplete, then you must address this with the customer during ELV acceptance. You must record any non-conformances. If you have assessed the ELVs as acceptable for on site storage or treatment, you must document this.

10.You must have clear criteria that you use to reject non-conforming ELVs. You must also have a written procedure for recording, reporting, and tracking non-conforming ELVs, including notifying the relevant customer or ELV producer to prevent reoccurrence.

Baling ELVs or components

11. If you are baling ELVs, you must make sure they are fully depolluted before baling.

Quarantine storage

12. You must establish quarantine areas for materials that are prohibited, awaiting full inspection, or awaiting testing or removal.

13. Quarantine storage must be for a maximum of 14 working days. For some limited and specific cases (for example, gas cylinders) you can extend the quarantine storage time if the Environment Agency agrees.

14. You must have written procedures for dealing with waste held in quarantine, and a maximum storage volume.

15. Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.

16. You must identify and isolate gas cylinders and other prohibited items to remove them from the ELV stream. You must store gas cylinders in locked cages. Where possible, you must send prohibited items back to the appropriate owner.

Response/ evidence	The response to ELV appropriate measure 3.1 is applicable to this measure Waste storage area are management in lien with the EA approved site FPP.
Compliant?	Compliant, as with ELV appropriate measure 3.1.

3.3 ELV Tracking

1. You should use an electronic tracking system to hold up-to-date information about the available capacity of the ELV. This includes in the quarantine, reception, general and bulk storage and treatment areas of your facility. If you do not have an electronic system, you still need to hold the equivalent level of information. You should use a pre-booking system to make sure you have enough waste storage and treatment capacity for the incoming ELVs.

2. Your ELV tracking system must hold all the information generated during:

- pre-acceptance
- acceptance
- non-conformance or rejection
- storage
- repackaging
- treatment
- removal off site

This information must be readily accessible.

3. You must create records and update them to reflect deliveries, on site treatment, and despatches.

4. Your tracking system will also operate as a ELV inventory and stock control system. It must include this information as a minimum:

- the date the ELV arrived on site
- the original producer's details (or unique identifier)
- a unique reference number

- ELV pre-acceptance and acceptance information
- the intended treatment or recycling route
- accurate records of the nature and quantity of ELVs held on site, including all hazards – you should identify the primary hazards
- where the ELV are physically located on site

5. The tracking system must be able to report:

- the total quantity of ELVs present on site at any one time
- a breakdown by type of the ELV quantities you are storing pending treatment or transfer
- the quantity of ELVs on site compared with the limits authorised by your permit
- the length of time the ELVs have been on site
- the quantity of ELV product materials on site at any one time, and where applicable, details of any non-conformances and rejections

6. You must store back-up copies of computer records off site. Records must be readily accessible in an emergency.

7. You must hold acceptance records for a minimum of 2 years after you have treated the ELVs or removed them off site. You may have to keep some records for longer if they are required for other purposes, for example, hazardous ELV consignment notes.

Response/ evidence	Waste tracking procedures detailed in response to BAT 2 in Table 2-1.
Compliant?	Compliant

4.ELV Storage

4.1 General

Directive 2000/53/EC (known as the ‘ELV Directive’) sets out minimum standards for dismantling and recycling ELVs. Its purpose is to minimise the environmental impacts of dismantling ELVs and to set targets for reuse, recycling, and recovery of ELVs and their components.

The ELV Directive requirements relate only to cars and light commercial vehicles. However, the Environmental Permitting Regulations (EPR) have extended these requirements to cover all motor vehicles, including motorbikes and commercial vehicles.

Sites that accept, depollute, and dismantle ELVs must have an EPR waste permit authorising the activity, and must have the following facilities:

- impermeable surfaces and sealed drainage for areas where the depollution process is carried out
- suitable storage for parts removed from the ELV that are destined for re-use – this will prevent damage to the parts

All undepolluted ELVs are classed as hazardous. They contain fluids and components that can cause pollution if not removed and handled correctly.

Oil contaminated parts (such as engines and gear boxes) must be stored in an area that has an impermeable surface and sealed drainage.

Oils, fluids, and other components removed as part of the depollution process should be stored in a manner that prevents contamination and in separate containers. If pollution is likely to occur, then fluid contaminated parts should be stored in an area that has an impermeable surface and sealed drainage.

Inadequate or poor depollution processes may lead to contamination of soils and water. This may also increase the risk of fire and explosions at sites that store and treat ELVs.

After dismantling, the remaining ELV shell is either crushed, baled, or sent intact to a metal shredder. In all cases the vehicle must be fully depolluted before crushing, baling, or shredding.

Response/ evidence	The site has suitable impermeable surfaces on which to store ELVs and oil contaminated parts. Parts are not removed and stored for re-use. End of Life Vehicles may be accepted on site for storage prior to removal to an ELV ATF. If ELV depollution is to take place, the appropriate equipment and infrastructure will be purchased. ELV depollution is currently not being undertaken at the site.
Compliant?	Compliant

4.2 Storage of undepolluted ELVs

1. Areas storing undepolluted ELVs awaiting depollution must have the following infrastructure:

- an impermeable surface
- sealed drainage

Impermeable surface means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface. It should be read in conjunction with the term sealed drainage system

Sealed drainage system in relation to an impermeable surface, means a drainage system with impermeable components which does not leak, and which will ensure that:

- no liquids will run off the surface other than into the system
- all liquids entering the system are collected in a sealed sump, except where liquids may be lawfully discharged

The definition of sealed drainage can vary between permits. Standard rules permits take a narrower definition of sealed drainage and bespoke permits may have additional specific conditions. It is important to always check the wording and conditions of the permit.

Permits issued before the ELV Regulations 2003 came into force were directly modified by the regulations to make the ELV Directive requirements apply.

Although the permitting parts of the ELV Regulations have been revoked, the Environmental Permitting Regulations have kept the condition that automatically applies the ELV Directive requirements to permits.

Response/ evidence	ELVs will be stored on the site within an area that benefits from a sealed drainage system. All waste stored at the site will be in positions stated in the site FPP. The sealed drainage system will ensure that no liquids will run off the surface other than into the system and all liquids that enter the system will be collected in the sealed sump unless a discharge is authorised.
Compliant?	Compliant

4.3 Storage of fully depolluted ELVs

1. After the ELVs are fully depolluted they can be stored on either:

- an impermeable pavement with a sealed drainage system
- a hard standing

Hardstanding means ground surfaced with a durable material. It must have the ability to be kept clear of debris, remain level and rut free. It must be maintained so that it is permeable and does not cause surface water ponding.

2. Uncontaminated plastic, glass, ferrous and non-ferrous metals arising from ELVs can be stored on either:

- an impermeable pavement with a sealed drainage system
- a hard standing

3. You must store parts contaminated with oils in an area that has an impermeable surface and sealed drainage. Oils, fluids and other components removed as part of the depollution process should be stored in a manner that prevents pollution and in separate containers.

4. You may be able to store intact shock absorbers and undeployed airbags in otherwise fully depolluted ELVs on a hardstanding until you remove them for second hand parts, if you comply with the requirements of regulatory position statement (RPS) 195.

Dangerous Substances and Explosive Atmospheres Regulation 2002 (DSEAR)

5. You should assess areas of the site where explosive atmospheres could occur (for example, ELV depollution bays). Where appropriate, you must classify these into hazardous zones, following the Dangerous Substances and Explosive Atmospheres Regulation 2002 (DSEAR).	
Response/ evidence	ELVs are not being de-polluted at the site. If un-depolluted ELVs are accepted at the site, then they shall be stored on an impermeable pavement with a sealed drainage system or a hard standing.
Compliant?	Compliant

4.4 Other Storage

Battery storage

1. You must check for damage and the chemistry type of any batteries:
    - produced through depollution activities on site
    - accepted as discrete loads
2. You must do this before allocating them to the storage area.
3. You must isolate damaged batteries from other batteries.
4. You must store batteries in appropriate containers that are either:
    - weatherproof
    - stored in a building, but in a way that prevents them from being exposed to high temperatures
5. You must store:
    - lead acid batteries upright in acid proof containers to prevent leaks and short circuits
    - nickel metal hydride (Ni-MH) batteries in a way that will prevent them being damaged
6. You must not mix batteries of incompatible chemistries, for example lead acid batteries with Ni-MH batteries.
7. You must store lithium-ion (Li-ion) batteries from electric vehicles separately from other batteries.
8. You must store them in a way that prevents them from:
    - coming into contact with any liquids

• being damaged • being exposed to high temperatures	
Response/evidence	The Fire Prevention Plan will provide procedures for managing battery storage. Batteries are accepted on site for storage prior to removal for processing at a suitably authorised facility. Lead acid batteries are stored in leak proof battery boxes. Batteries are stored in leak-proof containers with lids to prevent the ingress of water. Damaged batteries shall be isolated from non damaged batteries.
Compliant?	Compliant

3.0 Conclusions

3.1.1 Based on a comprehensive review of all available information, including site documentation, monitoring data, operational procedures, and permit requirements, it has been determined that the site/operator is compliant with the majority of the requirements set out in the applicable BAT conclusions. This indicates that, in general, appropriate techniques, controls, and management systems have been implemented and are functioning effectively to minimise environmental impacts in line with BAT expectations.

3.1.2 However, two of the applicable BAT conclusions have not yet been fully achieved. These relate to specific areas where further improvements, refinements, or additional evidence are required to demonstrate full alignment with BAT requirements. The operator is aware of these gaps and is expected to address them through targeted actions, such as process optimisation, enhanced monitoring, or updates to management procedures, as appropriate.

3.1.3 At this time, there are no BAT conclusions for which the operator requires derogation. This suggests that the site is either currently meeting, or is capable of meeting, the required BAT-associated performance levels without the need for site-specific exemptions. Overall, the installation demonstrates a high level of compliance, with only a limited number of outstanding items requiring resolution to achieve full conformity with all applicable BAT conclusions.

3. References

- Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010L0075&from=EN
- Environmental Permitting (England and Wales) Regulations 2016 http://www.legislation.gov.uk/uksi/2016/1154/pdfs/uksi_20161154_en.pdf
- Best Available Techniques (BAT) Reference Document for Waste Treatment, JCR Science for Policy Report, 2018 https://eippcb.jrc.ec.europa.eu/reference/BREF/WT/JRC113018_WT_Bref.pdf
- Waste Treatment BAT Conclusions https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018D1147&from=EN