

Treatment metal waste in shredders: appropriate measures for permitted facilities.				
Area	Requirement	Ecobat operating techniques / procedure / management system reference	GAP Analysis of Ecobat's current practices and BAT conclusions and how gaps will be addressed	By When?
Waste pre-acceptance	<p>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.</p> <p>2. Your procedures must follow a risk-based approach, considering:</p> <ul style="list-style-type: none"> 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) <p>3. You must get the following information in writing when you receive a customer query:</p> <ul style="list-style-type: none"> 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. <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> 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) <p>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.</p> <p>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.</p> <p>8. You must reassess the information required at pre-acceptance if the:</p> <ul style="list-style-type: none"> waste changes process giving rise to the waste changes. waste received does not conform to the pre-acceptance information. <p>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:</p> <ul style="list-style-type: none"> only accept wastes that are suitable for the site. avoid accumulating waste. 	<p>1. Waste pre-acceptance in place for Ecobat Solutions since 2014. Reviewed at least annually to improve performance, or information needed. Recently Lithium questionnaire introduced specifically for Lithium received for shredding.</p> <p>2. Pre-acceptance includes 5 step approval process, customer services, technical, operational / QHSE, driver and customs control on site. Information requested includes photographs, sources of material, history of material, composition of material to assess the potential risks to site, employees, public and the environment.</p> <p>3. All applicable points are covered within the lithium questionnaire and the Mixed NLA control form for pre-acceptance.</p> <p>4. Not applicable. No sources of material will currently be from a radioactive source, if this is identified during pre-acceptance, declaration will be requested and investigated further.</p> <p>5. Pre-acceptance is paramount for identifying and minimising the risk of fire with lithium batteries especially.</p> <p>6. This is the main collection for Ecobat therefore all procedures are specific to batteries, including and mainly Lithium batteries. Ecobat engineers are available to visit sites. Ecobat also works alongside OEMs.</p> <p>7. All pre-acceptance declarations and supporting documents are kept on IT server for the life of the facility.</p> <p>8. Each collection has a pre-acceptance completed, no long-term pre-acceptance in place.</p> <p>9. N/A as above.</p>	None	

	<ul style="list-style-type: none"> • have enough storage and treatment capacity. 		
Waste Acceptance	<p>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.</p> <p>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.</p> <p>3. Procedures should be documented and auditable and must follow a risk-based approach, considering:</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • hazardous properties of the waste • risks posed by the waste in terms of process safety, occupational safety and environmental impact <p>Storage areas</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Waste acceptance</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Monitoring for radioactive substances</p> <p>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.</p> <p>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</p>	<p>1. Waste acceptance forms part of the pre-acceptance. The driver will inspect all material against approved documentation he has (pre-acceptance form), if any discrepancies collection to be aborted. On arrival to site, internal customs control inspects all material, along with off-loading supervisors during offloading processes.</p> <p>2. Non-conformance process is in place and dedicated quarantine area.</p> <p>3. All the items listed are recorded within the control form / lithium questionnaire during pre-acceptance.</p> <p>4. This is included within the technical review completed during waste pre-acceptance. If any questions, collection put on hold until information can be confirmed or engineer visits customer’s site.</p> <p>5. Capacity of storage areas is recorded on a weekly basis, this is monitored for incoming stock during the operational check during waste pre-acceptance.</p> <p>6. Offloading / loading, reception and quarantine areas are impermeable surfaces with sealed drainage.</p> <p>7. Customs control, no one can enter or leave site without checking in to customs control as the site is fenced. All personnel on site including administrators etc are trained in ADR awareness, level dependant on their job role.</p> <p>8. Each consignment is weighted on the vehicle using vehicle mounted FLT along with calibrated scales. In the event of check weights required (completed ad hoc) or the breakdown of scales, there are calibrated scales on site (including two weighbridges and 6 platforms scales).</p> <p>9. Customs controls role including validating all paperwork and reporting any non-conformances.</p> <p>10. Non-conformance process in place. Ecobat will accept the material and place in to quarantine area as to not send the material back</p>	None

	<p>International Atomic Energy Agency. These are specified in Annex IV of 'Recommendations on Monitoring and Response Procedures for Radioactive Scrap Metal', UNECE, 2006.</p> <p>13. You must maintain, calibrate and test the radiation monitoring equipment in accordance with the manufacturer's specification.</p> <p>14. You must have clear procedures for responding to radiation detector alarms.</p> <p>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.</p> <p>Acceptance of drums and tanks</p> <p>15. You must make sure you only receive and accept drums or tanks:</p> <ul style="list-style-type: none"> • that have a certificate of cleanliness • with prior notice • with hazard warning symbols obliterated <p>Acceptance of baled metal waste</p> <p>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.</p> <p>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.</p> <p>Quarantine storage</p> <p>18. You must establish quarantine areas for materials that are prohibited, awaiting full inspection, or awaiting testing or removal.</p> <p>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.</p> <p>20. You must have written procedures for dealing with wastes held in quarantine, and a maximum storage volume.</p> <p>21. Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.</p> <p>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.</p>	<p>out unsafely / non-compliantly with our duty of care.</p> <p>11. Not deemed necessary due to the material collected and rigidus pre-acceptance process. Also, each consignment is collected individually and in packages, no bulk loads received.</p> <p>12. Not applicable.</p> <p>13. Not applicable</p> <p>14. Not applicable</p> <p>15. Drums received on site and owned by Ecobat that are purchased new and used to store batteries in only.</p> <p>16. Not applicable</p> <p>17. Not applicable</p> <p>18. There are two quarantine areas on site (sacrificial building and storage cage).</p> <p>19. Procedure in place on weekly inspections and if material within areas quarantines it will be recorded, action taken and monitored the following week to ensure the process has continued.</p> <p>20. Sacrificial building process in place.</p> <p>21. Quarantine area is adequately marked in dedicated areas away from the main facility.</p> <p>22. Non-conformance process in place along with dedicated storage area when found (cage as above).</p>		
Waste Tracking	<p>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.</p> <p>2. Your waste tracking system must hold all the information generated during:</p> <ul style="list-style-type: none"> • pre-acceptance • acceptance • non-conformance or rejection • storage • repackaging • treatment • removal off site 	<p>1. At Darlaston there are currently two computerised tracking system for wastes, these are David.net & WASP.</p> <p>2. Information stored on P drive and readily available for all Ecobat personnel to share when requested.</p>	WMS (waste management system) being identified by US to minimise the currently working between two systems. SAP trialled for 6months and not adequate for our operations.	August 2023

	<p>You must make this information readily available.</p> <p>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:</p> <ul style="list-style-type: none"> • the date the waste arrived on-site. • the original producer's details (or unique identifier) • a unique reference numbers. • 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 <p>4. The tracking system must be able to report:</p> <ul style="list-style-type: none"> • 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 <p>5. You must store back-up copies of computer records off site. Records must be readily accessible in an emergency.</p> <p>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.</p>	<p>3. Currently split between the two systems as above.</p> <p>4. As above.</p> <p>5. INVU stores all scanned documentation. Weekly database back ups stored in a safe away from main facility.</p> <p>6. Consignment notes / WTN held on site for 5 years and on INVU computer system for the life of the facility.</p>		
<p>Waste storage locations</p>	<p>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.</p> <p>2. You should design and operate your facility in a way that minimises waste handling.</p> <p>3. You must store shredder non-metallic fractions under cover.</p> <p>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).</p> <p>5. You must store all waste within the security protected area of your facility to prevent unauthorised access and vandalism.</p>	<p>1. Lean programmes instilled on site, reviews completed regularly to ensure emphasizing production process flow.</p> <p>2. During construction of unit 3 for new shredder an additional shutter door will be implemented.</p> <p>3. Storage building 2 & 3 erected for this purpose</p> <p>4. Risk assessment completed, fully bunded site / buildings.</p> <p>5. Security provisions in place on site</p>	<p>2. Additional door to be implemented to minimise waste handling</p>	<p>October 2023</p>
<p>Waste storage duration and capacity</p>	<p>1. You must clearly establish the maximum storage capacity of the site and the designated storage areas. You must not exceed these maximum capacities.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>	<p>1.7000T across all of site on V008 approval. Each areas is either within a racking system identifying storage limits or within storage bays (maximum 21 pallet spaces) per bay.</p> <p>2. No piles on site.</p> <p>3. Stock control procedure in place on site.</p> <p>4. Each storage area has mitigation controls in place, either concrete frames or separation spaces.</p> <p>5. Pest control programmes on site. All material stored within containers and sealed.</p>		

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	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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 	<p>6. Monthly check completed; daily visual check completed however not logged.</p> <p>7. All work completed in designated work areas. Permit to work system in place.</p>	<p>6. Daily waste storage, containers, and infrastructure inspection record to be implemented.</p>	<p>August 2023</p>
<p>DSEAR</p>	<p>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).</p>	<p>1. DSEAR assessment completed on site including small scale shredder October 2022. 1 Potential area (small scale shredder) for a Zone 21. Signs implemented. On arrival of new machinery the DSEAR assessment will be reviewed.</p>		
<p>Waste Battery Storage</p>	<p>1. You must check for damage and the chemistry type of any batteries:</p> <ul style="list-style-type: none"> • produced through depollution activities on site • accepted as discrete loads <p>You must do this before allocating them to the storage area.</p> <p>2. You must isolate damaged batteries from other batteries.</p> <p>3. You must store batteries in either appropriate weatherproof containers, or in appropriate containers within a building.</p> <p>4. You must store:</p> <ul style="list-style-type: none"> • 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 <p>5. You must not mix batteries of incompatible chemistries, for example lead acid batteries with Ni-MH batteries.</p> <p>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:</p> <ul style="list-style-type: none"> • coming into contact with any liquids • being damaged • being exposed to high temperatures 	<p>1. Waste pre-acceptance procedures in place. Visual inspections completed, holding area in place prior to sorting / dismantling commencing.</p> <p>2. Damaged batteries identified and placed within sacrificial building / dedicated area.</p> <p>3. All containers on site are approved for use, either with a lid or plastic bag for weatherproofing.</p> <p>4. Storage procedures in place for all battery chemistries including lead and nickel.</p> <p>5. Ni-Mh has dedicated storage on site away from other materials.</p> <p>6. Dedicated storage buildings on site, 1, 2 & 3.</p>		
<p>General Waste treatment</p>	<p>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.</p> <p>2. The treated output material must meet your expectations and be suitable for its intended disposal or recovery route.</p> <p>3. You must identify and characterise emissions from the process and take appropriate measures to control them at source.</p> <p>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:</p> <ul style="list-style-type: none"> • 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 	<p>1. This is covered in 8.3 treatment operations for ABTO.</p> <p>2. Small scale shredder and sieving process will be used for this purpose to identify quality of output.</p> <p>3. Currently on-going through IC2 on the permit.</p> <p>4. Planned equipment and processes agreed to be reviewed on large scale shredder implementation.</p>	<p>3. On-going IC2 Additional monitoring will be completed on commissions the large-scale shredder (QTR 1 24)</p> <p>4. On implementation of plant review to further identify treatment activities, additional abatement, and control equipment.</p>	<p>October 2023 April 2024</p> <p>April 2024</p>

	<ul style="list-style-type: none"> • 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 <p>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:</p> <ul style="list-style-type: none"> • unexpected releases • start-up • momentary stoppages • shut-down • deflagrations <p>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:</p> <ul style="list-style-type: none"> • waste input • different waste treatment outputs • waste treatment emissions <p>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:</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>7. You must not proceed with the treatment if your risk assessment or material flow analysis show that losses from a process will cause:</p> <ul style="list-style-type: none"> • the breach of an environmental quality standard • the breach of a benchmark • a significant environmental impact 	<p>5. In the process of being implemented. Currently under review</p> <p>6. Will be completed upon plant commissioning.</p> <p>7. Detailed within risk assessment and trained out to employees.</p>	<p>5. Implement agreed and approved process prior to commissioning work being completed.</p> <p>6. Complete material flow analysis on plant commissioning</p> <p>2. Haz Op to be completed</p>	<p>December 2023</p> <p>April 2024</p> <p>2. August 2023</p>
<p>Metal shredding plant and downstream process</p>	<p>1. The metal shredding plant and downstream plant and processes must be specifically designed, commissioned and operated to be fit for purpose.</p> <p>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:</p> <ul style="list-style-type: none"> • working instructions 	<p>1. Plant is specifically being designed for the shredding and separation of lithium batteries.</p> <p>2. Initial risk assessment completed, prior to installation Haz Op to be completed</p>	<p>2. Haz Op to be completed</p>	<p>2. August 2023</p>

	<ul style="list-style-type: none"> • staff training • appropriate process control measures • monitoring systems, alarms and interlocks • plant maintenance • checks • audits • emergency procedures <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>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.</p> <p>6. You must also fully characterise and classify process solutions and washings from density separation processes before determining suitable disposal options.</p>	<p>3. Shredder is enclosed system and will be housed within unit 3 on site (under cover). Also separation will consist of density and magnetic separation.</p> <p>4. WM3 assessment to be implemented following commissions of plant.</p> <p>5. Agreed.</p> <p>6. Agreed.</p>	<p>4. WM3 assessment</p>	<p>4. February 2024</p>
<p>POPs</p>	<p>Some plastic components found in metal waste may contain flame retardants that are POPs.</p> <p>1. You must assess fractions containing plastic (including process solutions and washings from density separation processes) for POPs.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Separating POPs waste from non-POPs waste</p> <p>4. You can treat any plastic that is POPs waste to separate the POPs containing fraction from the non-POPs containing plastic.</p> <p>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.</p> <p>5. You must fully characterise and classify the following (including for POPs) before deciding on suitable disposal options:</p> <ul style="list-style-type: none"> • process solutions and washings from density separation processes • solid fractions produced by any process 	<p>This will be included during the WM3 assessment detailed above.</p>		
<p>Antimony Trioxide</p>	<p>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.</p>	<p>Non present within material handled by Ecobat.</p>		

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<p>Minimising diffuse emissions from the process</p>	<p>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:</p> <ul style="list-style-type: none"> • 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 <p>2. To track and control changes to processes, you must have a written procedure for proposing, considering and approving changes to both:</p> <ul style="list-style-type: none"> • technical developments • procedural or quality changes to the plant and processes <p>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).</p>	<p>1. Plant will have enclosed equipment also within an enclosed building. Maintenance plant will be implemented (PPM), abatement system (scrubber and baghouse) along with the system having water sprays in place.</p> <p>2. Management of change procedure in place.</p> <p>3. All system will only vent to air using abatement system.</p>		
<p>Record keeping for all treatment residues</p>	<p>. You must record in the computerised waste tracking system:</p> <ul style="list-style-type: none"> • 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 	<p>Currently will be recorded within WASP. WMS being investigated to be implemented as identified in Waste Tracking section.</p>		
<p>Point source emissions to air</p>	<p>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.</p> <p>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.</p> <p>3. You must assess the fate and impact of the substances emitted to air, following the Environment Agency’s air emissions risk assessment methodology.</p> <p>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:</p> <ul style="list-style-type: none"> • cyclonic filtration • fabric filters • wet scrubbing • high efficiency particulate (HEPA) filter <p>5. You must assess and design vent and stack locations and heights to make sure dispersion capability is adequate.</p> <p>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.</p> <p>7. Your procedures must make sure you correctly install, operate, monitor and maintain abatement equipment. For example, this includes monitoring and maintaining:</p> <ul style="list-style-type: none"> • appropriate flow and chemical concentration of scrubber liquor • the handling and disposal or regeneration of spent scrubber or filter medium 	<p>1. All shredders are enclosed and directed to the abatement (scrubber and baghouse)</p> <p>2. Will be completed on commissioning of plant, also Germany data will be used in September to make an initial assessment</p> <p>3. H1 to be completed following the above.</p> <p>4. Fabric filters and wet scrubber will be in place.</p> <p>5. Specification of vent / stack locations is being designed inline with EN15259 6.2 & 6.3.</p> <p>6. Will be reviewed following commissions of plant.</p> <p>7. Procedure to be implemented following design confirmation of equipment</p>	<p>2. Identify sites inventory of emissions to air</p> <p>6. Review on commissioning</p> <p>7. Implement procedure</p>	<p>February 2024</p> <p>February 2024</p> <p>December 2023</p>
<p>Fugitive emissions to air (including Odour)</p>	<p>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.</p> <p>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.</p> <p>Storage and treatment plant includes associated equipment and infrastructure such as:</p> <ul style="list-style-type: none"> • shredders • conveyors • skips or containers 	<p>1. Identified along with control measures within RA47 Environmental Risk Assessment</p> <p>2. Plant designed with an enclosed process to prevent emissions to air, dust, organic compounds, and odour. This will be reviewed again on plant arrival to site..</p>		

	<ul style="list-style-type: none"> • building fabric, including doors and windows • pipework and ducting <p>3. You must minimise the number of potential diffuse dust and particulates emission sources, using a combination of the following:</p> <ul style="list-style-type: none"> • 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 <p>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).</p> <p>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:</p> <ul style="list-style-type: none"> • take appropriate, risk assessed measures to prevent and control emissions • prioritise their treatment or transfer <p>Storage of odorous or dusty wastes</p> <p>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).</p> <p>7. You should store and handle the waste within an enclosed building including:</p> <ul style="list-style-type: none"> • light fractions of the shredder residue • dust derived from sweeping the waste treatment and storage areas • dust derived from the abatement equipment <p>8. You should use fully enclosed material transfer and storage systems and equipment, for example:</p> <ul style="list-style-type: none"> • conveyors • hoppers • containers • tanks and skips <p>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.</p> <p>10. You should:</p> <ul style="list-style-type: none"> • 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 <p>11. You must fully enclose and contain pre- and post-treatment shredder plant to prevent emissions.</p> <p>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.</p> <p>13. You must contain and extract dust emissions from the shredder plant to an appropriate abatement system, for example HEPA air filtration.</p> <p>14. Where ambient dust monitoring is required it must be carried out by MCERTS qualified staff.</p> <p>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.</p> <p>16. Where a dust management plan is required, you must develop and implement it following our guidance.</p>	<p>3. Conveyors belts covered including transfer points, water spray throughout the shredding processes, venting pipework and ducting to the abatement system to prevent fugitive emissions.</p> <p>4. High integrity seals will be in place and PPM to monitor and replace where needed.</p> <p>5. All waste through plant will be lithium batteries using pre-acceptance and acceptance checks. Material will go through testing, discharging and disassembly prior to shredding.</p> <p>6, 7 & 8 – all material will be stored within sealed containers and within enclosed building (either unit 3, or storage buildings 1,2 or 3).</p> <p>9. Extraction fans to be implemented during building re-construction</p> <p>10. Fast acting shutter doors will be implemented during building re-construction</p> <p>11. Fully enclosed</p> <p>12. Confirmation needed to ensure included on design.</p> <p>13. Dust emissions will be extracted into emissions kit.</p> <p>14, 15. will be reviewed on installation of plant.</p> <p>16. As above, will be reviewed and implemented if required.</p>	<p>9 / 10. Include with architects on specification of building</p> <p>12. Ensure specification included on BCA plant</p>	<p>July 2023</p> <p>July 2023</p>
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	<p>Maintenance and cleaning</p> <p>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).</p> <p>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.</p> <p>19. Your maintenance and cleaning schedules must make sure that tanks and plant are regularly cleaned to avoid large-scale decontamination activities.</p> <p>20. You must take measures to prevent the corrosion of plant and equipment (for example, conveyors or pipes). This includes:</p> <ul style="list-style-type: none"> • selecting and using appropriate construction materials • lining or coating equipment with corrosion inhibitors • regularly inspecting and maintaining plant <p>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.</p> <p>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.</p> <p>Odorous wastes</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • dynamic olfactometry according to EN 13725 to determine the odour concentration • EN 16841-1 or -2 to determine the odour exposure <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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 <p>29. Where an odour management plan is required, you must develop and implement it following our odour management guidance.</p> <p>Deflagration Management</p>	<p>17, 18, 19, 21. This will be included in the PPM</p> <p>20. Inspection of this will be included in PPM. Plant will be made from steel, and it is unlikely for corrosive substances to be in contact.</p> <p>22. Minimum usage, sealed drainage system.</p> <p>Odorous Wastes – Not applicable.</p> <p>Deflagration Management – Not applicable.</p>	<p>17. Include in PPM</p>	<p>December 2023</p>
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	<p>30. To prevent deflagrations and to reduce emissions where deflagrations have occurred, we may require a deflagration management plan. This should include:</p> <ul style="list-style-type: none"> • 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 <p>31. You must also have one or both of the following:</p> <ul style="list-style-type: none"> • 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 <p>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.</p>			
Emissions of noise and vibration	<p>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.</p> <p>2. You must use appropriate measures to control noise, including for example:</p> <ul style="list-style-type: none"> • 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 <p>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:</p> <ul style="list-style-type: none"> • 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 <p>4. The noise and vibration management plan should also include a noise and vibration reduction programme designed to:</p> <ul style="list-style-type: none"> • 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 <p>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.</p>	<p>1. Initial desktop noise assessment completed.</p> <p>2. Control measures included in risk assessment along with noise assessment above.</p> <p>3. Not Applicable</p> <p>4. Not Applicable</p> <p>5. Not Applicable</p>	1. On commissioning complete full noise impact assessment.	February 2024
Point source emissions to water and sewer	<p>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.</p> <p>2. You must assess the fate and impact of the substances emitted to water and sewer following the Environment Agency’s risk assessment guidance.</p>	<p>1. Current water discharge consent in place. Will be reviewed in line with commissioning.</p> <p>2. As above.</p>		

	<p>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):</p> <ul style="list-style-type: none"> • 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 <p>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:</p> <ul style="list-style-type: none"> • 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 	<p>3. Discharge consent in place.</p> <p>4. PH adjustment and removal solids</p>		
<p>Fugitive emissions to land and water</p>	<p>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.</p> <p>2. You must have the following in all operational areas of the facility:</p> <ul style="list-style-type: none"> • an impermeable surface • spill containment kerbs • sealed construction joints • a sealed drainage system <p>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.</p> <p>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.</p> <p>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.</p> <p>6. Depending on the pollutant content, you must either:</p> <ul style="list-style-type: none"> • recirculate what you have collected • discharge it in accordance with an environmental permit or trade discharge consent • send it for further treatment <p>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.</p> <p>8. You should provide appropriate buffer storage capacity at your facility to store waste waters, taking into account:</p> <ul style="list-style-type: none"> • 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 <p>9. You must have appropriate measures in place to monitor, treat and reuse the water held in the buffer storage before discharging.</p> <p>10. You must take measures to prevent emissions from washing and cleaning activities, including:</p> <ul style="list-style-type: none"> • 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 	<p>1. Included in risk assessment RA47.</p> <p>2. All operational areas in the facility are on an impermeable surface, spill containment kerbs, sealed construction joints, sealed drainage system.</p> <p>3. Effluent Treatment Plant on site and all water captured</p> <p>4. All water that falls on to operational site and process water will be processed together currently. Surface water on non-operational areas separate.</p> <p>5. Drainage survey completed on a regular basis, storage tanks in place if water needs to be held.</p> <p>6. Dependent on content the water will be recirculated where possible or discharged following discharge consent.</p> <p>7. Leak inspection and drainage survey completed on a regularly basis. Added in to PPM</p> <p>8. This is included in the site Fire Prevention Plan to ensure correct capacity.</p> <p>9. Calibrated and regularly serviced ETP.</p> <p>10. Liquid effluent and wash waters all within operational sealed drainage. Non-corrosive wash used for container washing. Bunding on</p>	<p>4. Investigate and gain clarification.</p>	

	<ul style="list-style-type: none"> 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 <p>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.</p> <p>Spill response plan</p> <p>12. You must produce and implement a spillage response plan and train staff to follow it and test it.</p> <p>13. Your procedures and associated training must make sure you deal with spillages immediately.</p> <p>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.</p> <p>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.</p> <p>Designing and maintaining surfacing and subsurface structures</p> <p>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.</p> <p>17. For subsurface structures, you must:</p> <ul style="list-style-type: none"> 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 <p>18. For surfacing, you must design appropriate surfacing and containment or drainage facilities for all operational areas, taking into account:</p> <ul style="list-style-type: none"> collection capacities surface thicknesses strength and reinforcement falls construction materials permeability resistance to chemical attack inspection and maintenance procedures <p>19. You must have an inspection and maintenance programme for impermeable surfaces and containment facilities.</p> <p>Tanks and bunding</p> <p>20. You must bund all above-ground tanks containing liquids whose spillage could be harmful to the environment. Bunds must:</p> <ul style="list-style-type: none"> 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 	<p>site for all chemicals additional to site sealed bunding.</p> <p>11. Dedicated oil quarantine area on site.</p> <p>12. Spill procedure in place.</p> <p>13. All employees trained spill procedure</p> <p>14. Spill kits in all sorting areas and doorways on site.</p> <p>15. Drains are sealed with internal containment,</p> <p>16. Included in spill plan (emergency plan SM12)</p> <p>17. Full site survey completed and reviewed. Add in to PPM</p> <p>18. Completed and included in site survey.</p> <p>19. This is included in I-22 monthly audit.</p> <p>20. All tanks will be bunded to at least 110% or 25% if tankage (whichever is largest)</p>		
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	<ul style="list-style-type: none"> • 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. <p>You can find further guidance in Construction Industry Research and Information Association (CIRIA) Containment systems for the prevention of pollution (C736F)</p>			
Emissions to air	<p>1. Your facility’s emissions inventory must include information about the relevant characteristics of point source emissions to air, such as the:</p> <ul style="list-style-type: none"> • 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. <p>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</p>	<p>1. will be added to emissions inventory as detailed above once implemented.</p> <p>2. Dependant on the above, this will be completed.</p>	Add to the above (Point source emissions to air) due date February 2024	
Emissions limits and monitoring requirements	<p>1. You must apply the following emission limits and monitoring requirements for point source emissions to air.</p> <p>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.</p> <p>Dust emissions</p> <p>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:</p> <ul style="list-style-type: none"> • fabric filters – 5mg/m3 • other abatement techniques – a higher emission limit of 10mg/m3 may be appropriate. <p>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.</p> <p>Other point source emissions to air</p> <p>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.</p> <p>6. You must also comply with any other emission limits or monitoring requirements set in your environmental permit.</p> <p>BFRs</p> <p>You should:</p> <ul style="list-style-type: none"> • do annual monitoring • report results as the average value of 3 consecutive representative measurements of at least 30 minutes each <p>Dioxin-like polychlorinated biphenyls</p> <p>Where these are identified in your inventory of point source emissions to air you should:</p> <ul style="list-style-type: none"> • do annual monitoring following standard EN1948-4 • report results from one sampling period of at least 6-8 hours <p>Metals and metalloids except mercury</p> <p>Where these are identified in your inventory of point source emissions to air you should:</p> <ul style="list-style-type: none"> • do annual monitoring following standard EN14385 • report results as the average value of 3 consecutive representative measurements of at least 30 minutes each 	<p>1. Agreed</p> <p>2. Agreed. Permit compliance internal audit in place.</p> <p>3. On emissions inventory will be added</p> <p>4. Initial testing completed on small scale shredder (IC2), this will be completed again following commissioning</p> <p>5. As above</p> <p>6. Agreed.</p>	<p>Add to the above (Point source emissions to air) due date February 2024</p> <p>Emissions testing completed following emissions testing</p>	April 2024

	<p>Polychlorinated dibenzo-p-dioxin/furan(s) Where these are identified in your inventory of point source emissions to air you should:</p> <ul style="list-style-type: none"> do annual monitoring following standard EN1948-1 Parts 1, 2 and 3 report results from one sampling period of at least 6-8 hours <p>Total VOCs You should:</p> <ul style="list-style-type: none"> 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 			
Emissions to water or sewer	<p>1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to water or sewer, such as:</p> <ul style="list-style-type: none"> 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 <p>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:</p> <ul style="list-style-type: none"> inlet or outlet (or both) of the pre-treatment inlet to the final treatment point where the emission leaves the facility boundary <p>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.</p> <p>4. In addition to any other parameters specified by your permit, you must monitor the following emissions to water:</p> <p>Hydrocarbon Oil Index (HOI) You must comply with the following:</p> <ul style="list-style-type: none"> 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 <p>TOC You must comply with the following:</p> <ul style="list-style-type: none"> monthly monitoring following EN1484 an emission limit of 60mg/l <p>COD You must comply with the following;</p> <ul style="list-style-type: none"> monthly monitoring an emission limit of 180mg/l <p>Total suspended solids (TSS) If you discharge directly to a water body:</p> <ul style="list-style-type: none"> you must monitor TSS monthly in accordance with EN 872 the emission limit is 60mg/l <p>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:</p> <ul style="list-style-type: none"> arsenic (As) – emission limit 0.05mg/l 	<p>1. Current ETP in place with plan to upgraded software on it to include the items listed.</p> <p>2. To be investigated</p> <p>3. Agreed</p> <p>4. Agreed.</p>	<p>1. Quote to upgrade current ETP</p> <p>2. Will be identified during the emissions inventory</p>	June 2023

	<ul style="list-style-type: none"> • 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) <p>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.</p>			
Energy Efficiency	<ol style="list-style-type: none"> 1. You must create and implement an energy efficiency plan at your facility. This must: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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. 	<ol style="list-style-type: none"> 1. To be implemented 2. Will be reviewed inline with management system on site. 3. Will be implement on commissioning of plant 4. Will be reviewed inline with management system on site. 5. Contained with the PPM schedule for site. 6. Will be included in operating procedures 7. Following monitoring this will be reviewed and any additional controls implemented. 	<ol style="list-style-type: none"> 1. Implement energy efficiency plan at the facility once consumption and usages known. 3. Implement and start energy balance record on commissioning 6. Add in to operating procedures 	<p>April 2024</p> <p>April 2024</p> <p>December 2023</p>
Raw materials efficiency	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Listed in site inventory & FPP 		

	<p>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.</p> <p>3. You must justify the continued use of any substance for which there is a less hazardous alternative.</p> <p>4. You must have quality assurance procedures in place to control the content of raw materials.</p>	<p>2. This will be completed on a least an annual basis.</p> <p>3. As above</p> <p>4. As above</p>	<p>2. Add to audit schedule</p>	<p>December 2023</p>
<p>Water use efficiency</p>	<p>1. You must make sure you optimise water consumption to:</p> <ul style="list-style-type: none"> • reduce the volume of waste water generated • prevent or, where that is not practicable, reduce emissions to soil and water <p>You must take these measures:</p> <ul style="list-style-type: none"> • 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 <p>2. You must regularly review your water use (a water efficiency audit), at least every 4 years.</p> <p>3. You must also:</p> <ul style="list-style-type: none"> • 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 <p>4. To reduce water use and associated emissions to water, you should apply these general principles in sequence:</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>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.</p> <p>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.</p> <p>8. You must minimise the volume of water you use for cleaning and washing down by:</p> <ul style="list-style-type: none"> • 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 <p>9. You must directly measure fresh water consumption and record it regularly at every significant usage point, ideally on a daily basis.</p>	<p>1. Recirculate the water where possible. Following commissioning usage will be measured and monitoring completed. Water saving plan will be established where required.</p> <p>2. Agreed,</p> <p>3. Will be implemented.</p> <p>4. Control measures implemented following general principles</p> <p>5. Will be assessed during step 1</p> <p>6. Will be assessed during step 1-3</p> <p>7. Agreed.</p> <p>8. Will be added to the above assessment</p> <p>9. Fresh water consumption will be recorded</p>	<p>1. Monitor and record waste water usage.</p> <p>3. implemented procedures / diagrams during commissioning stage</p> <p>6. Identify water quality</p>	<p>December 2023</p> <p>November 2023</p> <p>December 2023</p>
<p>Waste minimisation, recover and disposal</p>	<p>1. You must have and implement a residues management plan that:</p> <ul style="list-style-type: none"> • 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 	<p>1. Residues management plan to be completed. Residues from the treatment will go back through the process for further treatment.</p>		

	<p>2. Where you must dispose of waste, you must do a detailed assessment identifying the best environmental options for waste disposal.</p> <p>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.</p>	<p>2. the waste hierarchy will be followed at all times.</p> <p>3. As above, will be followed and reviewed on a regular basis.</p>		
<p>Management System</p>	<p>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:</p> <ul style="list-style-type: none"> • 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 <p>You check environmental performance and take corrective action paying particular attention to:</p> <ul style="list-style-type: none"> • 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 <p>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:</p> <ul style="list-style-type: none"> • inventory of emissions to air and water • residues management plan • accident management plan • site infrastructure plan • site condition report • fire prevention plan 	<p>ISO 14001 approved including extension of scope.</p>		
<p>Staff Competence</p>	<p>1. Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence.</p> <p>2. The design, installation and maintenance of infrastructure, plant and equipment must be carried out by competent people.</p> <p>3. You must have appropriately qualified managers for your waste activity who are either:</p> <ul style="list-style-type: none"> • qualified under a technical competence scheme • operating under a government approved technical competence scheme 	<p>1. At least 3 COTC holders. If shift patterns change or extends than 12 hours days additional COTC holders will be required.</p> <p>2. All contractors are monitored and audited.</p> <p>3. As in point 1</p>		

	<p>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:</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <p>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.</p> <p>7. You must also:</p> <ul style="list-style-type: none"> • 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 	<p>5. Will be updated following Haz Op</p> <p>6. As above point 2/4</p> <p>7. As above points</p>	<p>5. Update as point 2</p>	<p>5. December 2023</p>
<p>Accident Prevention Measures</p>	<p>You must take the following measures, where appropriate, to prevent events that may lead to an accident.</p> <p>Waste acceptance and pre acceptance procedures</p> <p>1. You must have clear and detailed procedures for pre-acceptance and acceptance of waste and for rejected and quarantined wastes.</p> <p>2. These should be produced and maintained as set out in the waste pre-acceptance, acceptance and tracking appropriate measures section.</p> <p>Segregating waste</p> <p>3. You must keep apart incompatible wastes. Examples could include but are not limited to:</p> <ul style="list-style-type: none"> • storing lead acid batteries separately to nickel metal hydride batteries • segregating flammable gas cylinders in cages away from oxygen cylinders <p>Preventing accidental emissions</p> <p>4. You must make sure you contain the following (where appropriate) or route to the effluent system (where necessary):</p> <ul style="list-style-type: none"> • process waters • site drainage waters • emergency firefighting water • oil or chemical contaminated waters • spillages of oils and chemicals <p>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:</p> <ul style="list-style-type: none"> • nature of the pollutants • effects of downstream waste water treatment • sensitivity of the receiving environment <p>6. You can only discharge waste water from this buffer storage after you have taken appropriate measures, to control, treat or reuse the water.</p> <p>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.</p>	<p>1.As detailed in step 1. Procedures in place and adequately monitored.</p> <p>2. Agreed.</p> <p>3. Detailed above in acceptance procedures, all in line.</p> <p>4. All operational site sealed drainage leading to ETP</p> <p>5. included in FPP, weighbridge, storage tanks available to flood where needed.</p> <p>6. Discharge point within ETP V notch only.</p> <p>7. Spill procedures in place as noted during previous section.</p>		

	<p>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.</p> <p>9. You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from:</p> <ul style="list-style-type: none"> • overflows • vents • safety relief valves • bursting discs <p>If this is not advisable on safety grounds, you must focus on reducing the probability of the emission.</p> <p>Security measures</p> <p>10. You must have security measures in place to prevent:</p> <ul style="list-style-type: none"> • entry by vandals and intruders • damage to equipment • theft • fly-tipping • arson <p>11. Facilities must use an appropriate combination of the following measures:</p> <ul style="list-style-type: none"> • security guards • total enclosure (usually with fences) • controlled entry points • adequate lighting • warning signs • 24-hour surveillance, such as CCTV <p>Fire prevention</p> <p>12. There are 3 fire prevention objectives. You must:</p> <ul style="list-style-type: none"> • 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 <p>13. You must have a fire prevention plan that meets the requirements of our guidance.</p> <p>Other accident prevention measures</p> <p>14. You must maintain plant control in an emergency using one or a combination of the following measures:</p> <ul style="list-style-type: none"> • alarms • process trips and interlocks • manual interventions <p>15. You must:</p> <ul style="list-style-type: none"> • 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 <p>Record keeping and procedures</p> <p>16. You must:</p> <ul style="list-style-type: none"> • keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections 	<p>8. Included in FPP</p> <p>9. Will be added in to emissions inventory and emergency plan</p> <p>10. Full site monitored 24hourly, fencing, CCTV, intruder detection, locked site.</p> <p>11. All of the items listed in place on site.</p> <p>12. FPP in place.</p> <p>13. In Place</p> <p>14. Interlocks will be in place. Emergency plan to be updated</p> <p>15. Added in to specification of plant layout on site and sent to architectures.</p> <p>16. Management systems in place for recording of all and included on internal auditing schedule.</p>	<p>15. Send to one creative to include specification</p>	<p>July 2023</p>
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	<ul style="list-style-type: none"> • 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 			
Contingency plan and procedures	<ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • make sure your site is authorised for this storage • have the appropriate infrastructure in place 8. Your management procedures and contingency plan must also: <ul style="list-style-type: none"> • 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 	1. Contingency plan to be updated to include large scale shredder	1. Update Contingency plan	August 2023

	<p>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.</p>			
<p>Plan decommissioning</p>	<p>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.</p> <p>2. You must have, and maintain, a decommissioning plan to demonstrate that:</p> <ul style="list-style-type: none"> • plant will be decommissioned without causing pollution • the site will be returned to a satisfactory condition <p>3. Your decommissioning plan should include details on:</p> <ul style="list-style-type: none"> • 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 <p>4. You should make sure that equipment taken out of use is decontaminated and removed from the site.</p>	<p>1. Decommissioning of the plant plan to minimise risk will be requested from manufacturers.</p>	<p>1. Request information from US to implement decommissioning plan.</p>	<p>July 2023</p>

Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities.				
Area	Requirement	Ecobat operating techniques / procedure / management system reference	GAP Analysis of Ecobat's current practices and BAT conclusions and how gaps will be addressed	By When?
Management System	<p>1. You must have and follow an up-to-date written management system. It must incorporate the following features. You have:</p> <ul style="list-style-type: none"> • 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 <p>2. You plan and establish the resources, procedures, objectives and targets needed for environmental performance alongside your financial planning and investment.</p> <p>3. You implement your environmental performance procedures, paying particular attention to:</p> <ul style="list-style-type: none"> • 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 <p>4. You check environmental performance and take corrective action paying particular attention to:</p> <ul style="list-style-type: none"> • 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 <p>5. Senior managers review the management system at least annually to check it is still suitable, adequate and effective.</p> <p>6. You review the development of cleaner and more efficient technologies and their applicability to site operations.</p> <p>7. When designing new plant, you make sure that you assess the environmental impacts from the plant's operating life and eventual decommissioning.</p> <p>8. You consider the risks a changing climate poses to your operations. You have appropriate plans in place to assess and manage future risks.</p> <p>9. You compare your site's performance against relevant sector guidance and standards on a regular basis, known as sectoral benchmarking.</p> <p>10. You have and maintain the following documentation:</p> <ul style="list-style-type: none"> • inventory of emissions to air and water • residues management plan • accident management plan • site infrastructure plan • site condition report 	ISO 14001 in place.		

	<ul style="list-style-type: none"> • fire prevention plan <p>If required, you have and maintain the following documentation:</p> <ul style="list-style-type: none"> • odour management plan • noise and vibration management plan • dust management plan • pest management plan • climate change risk assessment 			
Staff Competence	Covered in the above BAT. No GAPS identified.			
Accident Management Plan	Will be included in updated emergency plan in line with metal in shredders BAT assessment above.			
Accident Preventative Measures	Covered in the above BAT. No GAPS identified.			
Contingency plan and procedures	Covered in the above BAT. No GAPS identified.			
Plant Decommissioning	Covered in the above BAT. No GAPS identified. As above.			
Waste pre-acceptance	Covered in the above BAT. No GAPS identified.			
Waste Acceptance	Covered in the above BAT. No GAPS identified.			
Waste Tracking	Covered in the above BAT. No GAPS identified.			
Waste Storage	Covered in the above BAT. No GAPS identified.			
Preparing WEEE for reuse	Not applicable to Ecobat Solutions Operations			
General waste treatment	Not applicable to Ecobat Solutions Operations			
Treatment of WEEE Containing BFRs and POPs	Not applicable to Ecobat Solutions Operations			
Process Monitoring	<ol style="list-style-type: none"> 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. 			

	<p>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.</p> <p>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.</p> <p>9. You must carry out sampling under normal operating conditions unless otherwise stated.</p> <p>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:</p> <ul style="list-style-type: none"> • 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 <p>11. Wherever possible you should sample waste fractions and residues in line with relevant guidance, for example:</p> <ul style="list-style-type: none"> • 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 			
Treatment of gas discharge lamps	Not applicable to Ecobat Solutions Operations			
Treatment of cathode ray tube (CRT) equipment	Not applicable to Ecobat Solutions Operations			
Treatment of FPD equipment	Not applicable to Ecobat Solutions Operations			
Treatment of SMW	Not applicable to Ecobat Solutions Operations			
Treatment of IT, telecommunication's & business equipment	Not applicable to Ecobat Solutions Operations			
Treatment of LDA	Not applicable to Ecobat Solutions Operations			
Treatment of photovoltaic panels	Not applicable to Ecobat Solutions Operations			
Post-shredding treatments	<p>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.</p> <p>2. You must fully characterise and classify fractions produced by these processes.</p>			

	<p>3. Where materials originate from WEEE that was POPs waste, fractions of plastic containing brominated flame retardants must be managed as POPs waste.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Process monitoring for the separation of BFR containing plastic</p> <p>7. You must monitor at least once every 3 months how much BFR containing plastic is present in any fraction destined for recycling.</p>			
Record keeping for all treatment residues	<p>1. You must record in the waste tracking system:</p> <ul style="list-style-type: none"> • 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 			
Emissions to air	Covered in the above BAT. No GAPS identified.			
Fugitive emissions to air	Covered in the above BAT. No GAPS identified.			
Emissions of noise and vibration	Covered in the above BAT. No GAPS identified.			
Point source emissions to water and sewer	Covered in the above BAT. No GAPS identified.			
Fugitive emissions to land and water	Covered in the above BAT. No GAPS identified.			
Emissions to air	<p>In addition to the above techniques listed under shredding metal waste, is the below:</p> <p>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.</p> <p>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.</p> <p>Channelled emissions to air from all mechanical treatment of WEEE</p> <p><i>Dust</i> 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).</p> <p><i>TVOC</i> Monitoring standard – EN 12619. Frequency – every 6 months.</p> <p>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.</p> <p><i>Dioxin-like PCBs</i> Monitoring standard – EN 1948-1, -2 and -4. Frequency – every 12 months.</p>	<p>3. Included in the planned emissions monitoring</p> <p>4. At a minimum the below will be tested for on initial testing. Other substances may be identified and added during permitting process.</p>		

	<p><i>PCDD/F</i> Monitoring standard – EN 1948-1, -2 and -3. Frequency – every 12 months.</p> <p><i>BFRs</i> Frequency – every 12 months.</p> <p><i>Metals and metalloids excluding mercury</i> Monitoring standard – EN 14385. Frequency – every 12 months.</p> <p>Channelled emissions to air from the treatment of WEEE containing mercury <i>Total mercury</i> 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.</p>			
Point source emissions to water or sewer	Covered in the above BAT. No GAPS identified.			
Energy Efficiency	Covered in the above BAT. No GAPS identified.			
Raw Materials	Covered in the above BAT. No GAPS identified.			
Water Use	Covered in the above BAT. No GAPS identified.			
Waste minimisation, recovery and disposal	Covered in the above BAT. No GAPS identified.			

Chemical waste: appropriate measures for permitted facilities.				
Area	Requirement	Ecobat operating techniques / procedure / management system reference	GAP Analysis of Ecobat's current practices and BAT conclusions and how gaps will be addressed	By When?
Management System	Covered in the above BAT. No GAPS identified.			
Staff Competence	Covered in the above BAT. No GAPS identified.			
Accident Management Plan	Will be included in updated emergency plan in line with metal in shredders BAT assessment above.			
Accident Preventative Measures	Covered in the above BAT. No GAPS identified.			
Contingency plan and procedures	Covered in the above BAT. No GAPS identified.			
Plant Decommissioning	Covered in the above BAT. No GAPS identified.			
Waste pre-acceptance	Covered in the above BAT. No GAPS identified			
Waste acceptance	Covered in the above BAT. No GAPS identified			

Waste tracking	Covered in the above BAT. No GAPS identified		
Waste Storage	<p>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.</p> <p>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). You must store all waste within the secure area of your facility to prevent unauthorised access and vandalism.</p> <p>3. Where relevant, you must conform to HSE standards and in particular to:</p> <ul style="list-style-type: none"> • HSG51 Storage of flammable liquids in containers • HSG71 Chemical warehousing: storage of packaged dangerous substances • HSG76 Warehousing and storage: a guide to health and safety • HSG140 Safe use and handling of flammable liquids • HSG176 Storage of flammable liquids in tanks • CS21 Storage and handling of organic peroxides <p>4. You must clearly document the maximum storage capacity of your site and the designated storage areas. You must not exceed these maximum capacities. You should define capacity in terms of, for example, maximum tank or vessel capacities, tonnage and numbers of skips, pallets or containers. You must regularly monitor the quantity of stored waste on site and designated areas and check against the allowed maximum capacities.</p> <p>5. You must clearly mark hazardous waste storage areas and provide signs showing the maximum quantity and hazardous properties of wastes that can be stored there.</p> <p>6. Storage area drainage infrastructure must:</p> <ul style="list-style-type: none"> • contain all possible contaminated run-off • prevent incompatible wastes coming into contact with each other • make sure that fire cannot spread <p>7. Secondary and tertiary containment systems must conform to CIRIA guidance C736 Containment systems for the prevention of pollution.</p> <p>8. You must store containerised wastes that are sensitive to air, light, heat, moisture or extreme ambient temperatures under cover protected from such ambient conditions. Covered areas must have good ventilation. This applies to any such container:</p> <ul style="list-style-type: none"> • held in general storage, reception storage (pending acceptance) or quarantine • being emptied, repackaged or otherwise managed <p>For example, waste held in fibre or cardboard primary or secondary packaging should be stored under cover in a dry area and not exposed to rain or moisture. It must be kept off floors to prevent damage by damp.</p> <p>9. You must store wastes in sealed metal containers under cover if they have the potential for self-heating or self-reactivity. You must monitor the containers for heat build-up. Such wastes include rags and filter materials contaminated with metal swarf, low boiling point oils or low flash point solvents.</p> <p>10. Wherever practicable you should store all other wastes under cover. Covered areas must have good ventilation. This applies to any such container:</p> <ul style="list-style-type: none"> • held in general storage, reception storage (pending acceptance) or quarantine • being emptied, repackaged or otherwise managed <p>Under cover storage provides better protection for containers than open air storage and minimises the generation of contaminated water. Covered storage also:</p> <ul style="list-style-type: none"> • lowers temperature fluctuations that can cause pressure build up in containers • reduces the degradation of containers through weathering <p>11. You must not store hazardous waste in open-topped containers. Empty open-topped containers should be kept in a building or undercover to prevent rainwater ingress.</p> <p>12. You must not store or hold wastes on site in vehicles or vehicle trailers unless you are receiving them or preparing them for imminent transfer (meaning that you will remove them from site within 24 hours, or 72 hours if over a weekend).</p>	<p>1. minimised handling of waste. Lead on site, introduction of new building so material is not handled more than necessary.</p> <p>2. In place as detailed in above BAT analysis.</p> <p>3. HSG71, HGS67 complied with and regularly audited against.</p> <p>4 - 8. Inline as above BAT analysis</p> <p>9. Wastes on site not deemed self-heating</p> <p>10. Where practical this is completed utilising additional storage buildings on site.</p> <p>11. All drums of materials will be lidded and sealed.</p> <p>12. Within site working plan, in place currently.</p>	

	<p>13. You should pay particular attention to avoid the build-up of static electricity when you are storing or handling flammable wastes and materials. You should use leak detection systems and alarms (for example VOC alarms) and automatic fire suppression equipment based on a recorded risk assessment.</p> <p>14. You must provide adequate bunding of all storage areas, and containment and treatment of any water run-off.</p> <p>15. You must not accumulate waste. You must treat wastes, or remove them from the site, as soon as possible. Generally you should do this within one month of receipt but all wastes must be removed within 6 months of receipt. This applies even when the waste might be used as a reactant. Where a shorter time period is given in a permit condition you must comply with the permit for that waste. Where a waste is stored for longer than allowed you must inform the Environment Agency.</p> <p>16. All stored containers must keep the labelling they had at acceptance. If the label is damaged or no longer legible you should replace the label with that same information.</p> <p>17. You must handle and store containers so that the label is easily visible and continues to be legible.</p> <p>18. You should keep solid waste dry and avoid the dilution of hazardous waste.</p> <p>19. You must keep clean rainwater and clean cooling water separate from wastes and waste waters.</p> <p>20. You must keep incompatible wastes segregated so that they cannot come into contact with one another. You must store flammable wastes apart from other wastes to prevent fire spreading between them and other materials. You must use sealed drainage systems to prevent leaks and spillages contaminating other wastes.</p> <p>21. There must be pedestrian and vehicular access (for example, forklift) at all times to the whole storage area so that you can retrieve containers without removing others that may be blocking access – other than removing those in the same row.</p> <p>22. You must store all waste containers in a way that allows easy inspection. You must maintain safe access, with a gap of at least 0.7m between rows of bulk containers or palletised wastes.</p> <p>23. You must move drums and other mobile containers between different locations (or loaded for removal off site) following written procedures. You must then amend your waste tracking system to record these changes.</p> <p>24. You must stack bags and boxes of waste no more than 1m high on a pallet. You must not stack pallets more than 2 high.</p> <p>25. You must stack containers specifically designed for stacking, and no more than 2.2m high on a pallet.</p> <p>26. You must store all other containers on pallets. You must not stack these pallets more than 2 high, except for empty containers which can be stacked 3 high.</p> <p>27. Stacked bags, boxes and containers must be stable. They must be secured with, for example, banding or shrink-wrap, if required. The packages must not extend beyond (over-hang) the sides of the pallet. Any shrink-wrap used must be clear or transparent so that you can identify waste types, damaged containers, leaks or spillages and incorrectly stacked containers. You must be careful not to damage any packages during stacking.</p> <p>28. All waste containers must remain fit for purpose. You must check any containers (and pallets they may be stored on) daily and record non-conformances. Non-compliant containers and pallets must be made safe. You must immediately and appropriately manage any unsound, poorly labelled or unlabelled containers (for example, by relabelling, over drumming and transferring the container’s contents). You must risk assess, approve and record the use of containers, tanks and vessels:</p> <ul style="list-style-type: none"> • beyond their specified design life • where you use them for a purpose, or substances, other than the ones they were designed for <p>29. You must not handle waste or its packaging in a way that might damage its integrity, unless it is appropriate to destroy a waste or its packaging, for example by shredding. You must not, for example, walk on or throw waste or waste packages.</p> <p>30. You should, where applicable and based on a recorded risk assessment, make inert the atmosphere of tanks containing organic liquid waste with a flashpoint less than 21°C. This can be done, for example, by using nitrogen gas.</p>	<p>13. Wastes not deemed flammable.</p> <p>14. Full site bunding and ETP.</p> <p>15 – 20 as detailed in above BAT analysis, no GAPS identified.</p> <p>21. Storage racking system.</p> <p>22. In place currently.</p> <p>23. Written procedures in place, tracking system update to come as detailed in above BAT analysis.</p> <p>24. Add into procedure</p> <p>25. Add into procedure</p> <p>26. in line currently</p> <p>27. boxes shrink wrapped to pallet (batteries), residue will be in drums / nags</p> <p>28. Continual inspections in place and recorded</p> <p>29. In place currently as above inspection.</p> <p>30. No organic liquids with flashpoint of less than 21°C handled.</p>	<p>24. Add restrictions into procedure and train out.</p> <p>25. Add into procedure</p>	
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	<p>31. You must store asbestos waste double bagged or wrapped, in sealed, closed and locked containers. You must not store asbestos waste loose. You must not put asbestos wastes into bays or transfer it between different skips or containers. You must not use mechanical equipment, for example loading shovels, chutes and conveyors to move asbestos waste.</p> <p>32. You must not stack wheeled containers on top of one another. Do not stack empty wheeled containers into one another more than 2.2m high.</p> <p>33. All containers that need them should have a lid or bung, and the lid or bung must be closed except when the container is being sampled, having waste added into it or having waste removed from it.</p> <p>34. You must not stack skips containing waste. Skips containing hazardous waste must be enclosed when not being loaded or unloaded. You should store loose bulk hazardous wastes under cover.</p> <p>35. You can use racking systems to store waste but you must consider segregation, ability to inspect, separation and fire suppression measures. Racking systems must be designed and constructed in accordance with HSG76 Warehousing and storage.</p> <p>36. You must:</p> <ul style="list-style-type: none"> • contain wash waters within an impermeable area and either discharge them to foul sewer or dispose of them appropriately off site. • prevent run-off into external areas or to surface water drains <p>37. You must manage waste in a way that prevents pests or vermin. You must have specific measures and procedures in place to deal with wastes that are identified as causing pests or vermin.</p> <p>38. 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 spillages of waste.</p> <p>39. You must train forklift drivers in the handling of palletised goods, to minimise forklift truck damage to the integrity of containers and infrastructure.</p> <p>40. You must not carry out activities that represent a clear fire risk within any storage area. Examples include:</p> <ul style="list-style-type: none"> • grinding • welding or brazing of metalwork • smoking • parking normal road vehicles, except while unloading or loading • recharging batteries 	<p>31 No asbestos material on site</p> <p>32. No stacking of wheeled containers on site.</p> <p>33. Inspection process in place</p> <p>34. No skips used.</p> <p>35. Racking system uses and HSG76 applied by.</p> <p>36. Full site bunded. Additional bunding where appropriate and ETP on site.</p> <p>37. Containerized. Regular pest inspections.</p> <p>38. Added in to a new audit as action detailed in above BAT analysis.</p> <p>39. Drained in FLT & ADR awareness</p> <p>40. FPP in place.</p>		
Bulk Storage	None on site.			
Transfer of waste into and from tankers	Not applicable to our operations			
Aerosol Storage	<p>71. You must store aerosol canisters under cover in secure, well-ventilated containers, and within caged storage areas. You must also store them in a well-vented place that is not subject to extreme temperatures or direct sunlight. You must not store canisters in open containers to prevent the risk of them spreading fires by 'missiling' or 'ejection'.</p> <p>72. You must segregate aerosol canisters from other flammable wastes and potential sources of ignition. Preferably put them in a separate building or use a fire-resistant enclosure or fire wall. You must not hold any combustible material within the storage area, other than the canister's packaging, containers, and the pallets on which they stand.</p> <p>73. You must provide suitable containment measures (for example drip trays) for aerosol canisters held in containers which cannot collect and hold free liquids released from the canisters. Or you should transfer them to secure containers that are able to hold free liquid.</p> <p>74. During storage, lids on containers holding aerosol canisters must remain securely closed at all times when not being filled, emptied, or internally inspected. When not in use, the doors or hatches of cages must remain closed and locked.</p> <p>75. You must not overfill containers used to store canisters. Overfilling can result in canisters being actuated and discharging their contents, either:</p>	<p>Dedicated roofed cage in place in quarantined area.</p> <p>As above</p>		

	<ul style="list-style-type: none"> • under the weight of the canisters above them • when the container lid is closed • when containers are stacked <p>76. Cages used to store aerosol canister containers must be robust, fire resistant and of an appropriate mesh size (based upon the size of the canisters being stored). This is to constrain the canisters and prevent any ejection. Where the cage is not constructed with a mesh roof, the mesh wall panels must extend into the roof space of the storage area to make sure that the structure is completely enclosed.</p> <p>77. You should store aluminium canisters separately from steel canisters (especially rusting canisters). This will:</p> <ul style="list-style-type: none"> • prevent thermite sparks during storage, handling, and treatment. • allow the different metals to be more easily recovered. 			
Sorting, repackaging, and bulking	Identified in above BAT analysis. No GAP identified.			
Laboratory smalls	Do not handle laboratory smalls.			
General Waste Treatment	Identified in above BAT analysis. No GAP identified.			
Aerosol Cannister Treatment	No aerosol treatment completed on site. Identified in above BAT analysis. GAP of wasp system to be updated.			
Record keeping for all treatment residues.				
Emissions to air	Covered in the above BAT. No GAPS identified.			
Fugitive emissions to air	Covered in the above BAT. No GAPS identified.			
Point source emissions to water and sewer	Covered in the above BAT. No GAPS identified.			
Fugitive emissions to land and water	Covered in the above BAT. No GAPS identified.			
Emissions to air	Covered in the above BAT. No GAPS identified.			
Point source emissions to water or sewerAn	Covered in the above BAT. No GAPS identified.			
Energy Efficiency	Covered in the above BAT. No GAPS identified.			
Raw Materials	Covered in the above BAT. No GAPS identified.			
Water Use	Covered in the above BAT. No GAPS identified.			
Waste minimisation, recovery and disposal	Covered in the above BAT. No GAPS identified.			