Best Available Techniques (BAT) Assessment Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop, Tremorfa Works, Seawall Road, Cardiff, CF24 5TH

On behalf of:
Celsa Manufacturing (UK) Ltd

Project Reference:
021-1892

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BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

Project: 021-1892
Site: Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH
Permit Ref. EPR/TP3639BH
Source: https://www.gov.uk/guidance/treating-metal-waste-in-shredders-appropriate-measures-for-permitted-facilities

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
1. Mechanical treatment in shredders	1.3 Implementing appropriate measures at new and existing facilities	Complying with BAT AELs	Existing installations must comply with relevant BAT Associated Emission Levels (AELs) by August 2022, unless we approve a derogation. BAT AELs are set out in the published Waste Treatment BAT Conclusions document. New installations (including new or replacement plant at existing facilities or a substantial change to existing plant) must comply with any relevant BAT AELs from when operations begin, unless we approve a time limited derogation. Section 3.6 of our Environmental Permitting charges guidance explains what we mean by a substantial change.	In-line with current Guidance when you apply for an environmental permit you must state whether you're going to follow each BAT that applies to your activity, or propose an alternative. Celsa would propose to follow the BAT conclusions and meet the BAT-associated emissions level (for BAT that are contained in BAT conclusions) (Ref. COMMISSION IMPLEMENTING DECISION (EU) 2018/1147 of 10 August 2018, establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council). A standalone BAT-C assessment (waste treatment) has been provided in addition to the Appropriate Measures within the Treating metal waste in shredders: appropriate measures for permitted facilities (October 2021).	Meets BAT
1. Mechanical treatment in shredders	1.2 The different types of measures that apply		The standards in this technical guidance have been grouped into the following sections. All sections apply to regulated facilities with an environmental permit to mechanically treat metal waste in shredders. You also need an approved fire prevention plan that meets the requirements of our fire prevention plan guidance. Medium combustion plant (MCP) with a rated thermal input between 1 megawatt but less than 50 megawatts must comply with the relevant requirements of the Medium Combustion Plant Directive. Specified generator controls, unless excluded, apply to generators with a rated thermal input of up to 50 megawatts. See our guidance to find out if you need to meet the MCP or specified generator regulations.	The NRW Fire Prevention & Mitigation Plan Guidance – Waste Management Guidance Note 16 has been utilised in creation of the standalone Fire Prevention & Mitigation Plan (FPMP). This has been provided with the application. MCP is not applicable to this installation (variation).	Meets BAT
1. Mechanical treatment in shredders	1.4 Site design and suitability		You should consider the potential impacts of climate change when selecting a site, especially flood risk, drought, extreme temperatures, extreme weather events. You should have enough space on site to manage wastes and to make sure that you minimise potential pollution impacts on nearby receptors. For example, you should have enough space for appropriate fire breaks between stockpiles of combustible waste, and to allow access for fire-fighting. You must store and handle waste as far as technically and economically possible from sensitive receptors and watercourses. You must minimise unnecessary handling. You must have enough space on site to operate your plant and equipment safely, and to segregate waste to prevent cross-contamination. At the design stage you should consider how you will monitor emissions from your site the access to waste treatment processes so you can take representative samples.	The proposed shredder is located on the Rover Way site (an extensive area of reclaimed land) that has been utilised for the processing of metals and associated waste streams for many years. The area where the proposed shredder is to be installed historically contained an older shredder installation i.e. there is sufficient space for the processing equipment and for the storage of incoming/processed waste streams. The installation will be subject to planning approval. This includes a Flood Consequence Assessment (FCA).	Meets BAT
1. Mechanical treatment in shredders	1.1 When appropriate measures apply		There is a lot of overlap between best available techniques (BAT) for waste installation facilities and necessary measures for waste operation facilities. The Environment Agency uses the term 'appropriate measures' to cover both sets of requirements. Appropriate measures are the standards that operators should meet to comply with their environmental permit requirements. This guidance sets out what you must consider when you assess the appropriate measures for your site. It is not definitive, and it does not replace your obligation to assess appropriate measures fully. Where a measure is not suitable, an operator can propose alternative measures that achieve the same level of environmental protection. Or they can provide an explanation of why the specific measure is not appropriate.	This guidance (Treating metal waste in shredders: appropriate measures for permitted facilities, October 2021) has been considered as 'appropriate measures' directly applicable to the proposed installation. Where necessary, other guidance has been utilised (as stated within the supporting Main Installation Report Ref. 021-1892 Celsa Cardiff Variation - Installation Report REV02).	N/A

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1. Mechanical treatment in shredders	1.3 Implementing appropriate measures at new and existing facilities		The appropriate measures in this guidance apply to both new and existing facilities with a permit to mechanically treat metal waste in shredders. For new facilities the appropriate measures must be in place before operations start. For existing facilities, if the cost of complying with the appropriate measures is disproportionate to the environmental benefit, immediate compliance may not be reasonable. Where an operator is not using appropriate measures, we will expect them to provide improvement plans and timetables for implementing the relevant appropriate measures. We will review these proposals and set formal timescales for making the improvements needed. We will do this by varying the environmental permit to include improvement conditions. Improvements at existing facilities are likely to fall into 1 of the following 2 categories - Standard good practice and Larger, more capital-intensive improvements.	This is a new facility. Appropriate measures (as identified) have been designed and are being applied in-line with this BAT Guidance.	Meets BAT
1. Mechanical treatment in shredders			Mechanical treatment in shredders includes plant such as hammer mills, chain mills, rotary shears and other similar equipment designed to fragment metal into smaller pieces to separate metallic and non-metallic fractions. Mechanical treatment in shredders includes using the equipment to re-size metal into smaller fragments for logistical or transport reasons. It does not include shearers and guillotines which use a range of hydraulic machinery with hard steel blades to cut metals into manageable sizes.	Yes, the application relates to a new scrap metal shredder and downstream processing equipment.	N/A
2. General management appropriate measures	2.3 Accident management plan	Assessing the risks	4. In particular, you must identify any fire risks that may be caused, for example by: arson or vandalism self-combustion, for example within the finer fractions of the shredder residue or within swarf piles plant or equipment failure and electrical faults naked lights and discarded smoking materials hot works (for example welding or cutting), industrial heaters and hot exhausts reactions between incompatible materials neighbouring site activities sparks from loading buckets hot loads deposited at the site damaged Li-ion batteries in waste electronic and electrical equipment (WEEE) and light iron, heavy melting steel piles and waste from household waste recycling centres batteries left connected in ELVs which can short circuit batteries (storage, processing and handling) ELV depollution activities (if carried out on your site) deflagrations within the shredder and pre-shredders	A FPMP has been created that aligns to the current NRW Guidance.	Meets BAT
2. General management appropriate measures	2.6 Plant decommissioning		4. You should make sure that equipment taken out of use is decontaminated and removed from the site.	As stated above. A full decommissioning plan would be developed when required in-line with the process stated above.	Meets BAT
2. General management appropriate measures	2.6 Plant decommissioning		2. You must have, and maintain, a decommissioning plan to demonstrate that: plant will be decommissioned without causing pollution the site will be returned to a satisfactory condition	As stated above. A full decommissioning plan would be developed when required.	Meets BAT
2. General management appropriate measures	2.6 Plant decommissioning		3. Your decommissioning plan should include details on: whether you will remove or flush out pipelines and vessels (where appropriate) and how you will empty them of any potentially harmful contents site plans showing the location of all underground pipes and vessels how asbestos or other potentially harmful materials will be removed, unless we have agreed it is reasonable to leave such liabilities to future owners methods for dismantling buildings and other structures, and for protecting surface water and groundwater during construction or demolition at your site any soil testing needed to check for any pollution caused by the site activities, and information on any remediation needed to return the site to a satisfactory state when you cease activities, as defined by the initial site condition report the measures proposed, once activities have definitively stopped, to avoid any pollution risk and to return the site of operation to a satisfactory state (including, where appropriate, measures relating to the design and construction of the plant) clearing deposited residues, waste and any contamination resulting from the waste treatment activities	As stated above. A full decommissioning plan would be developed when required.	Meets BAT

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2. General management appropriate measures	2.5 Contingency plan and procedures		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.	End of waste material is not produced at the facility. Materials are moved either for recovery/recycling with the EAF, off-site for disposal or off-site for further recovery/recycling.	Meets BAT
2. General management appropriate measures			These are the appropriate measures for the environmental management of a regulated facility with an environmental permit to mechanically treat metal waste in shredders.	Please see below.	N/A
2. General management appropriate measures	2.6 Plant decommissioning		1. You must consider the decommissioning of the plant at the design stage and make suitable plans to minimise risks during later decommissioning. For existing plant, identify potential decommissioning risks and take steps to address these. You should make changes and design improvements as and when plant is upgraded, or when construction and development works are carried out at your site.	The application states that upon cessation of activities the following site closure process (plan) would be initiated: - disconnection of electrical supply and make safe; - drain down and empty any tanks or hydraulic systems; - remove all plant and equipment down to slab level; - remove and dispose of all remaining waste materials in-line with current regulatory requirements; and - undertake site surrender SCR monitoring (i.e. provide the evidence necessary to demonstrate to NRW that the site does not pose a pollution risk and is in a satisfactory state).	Meets BAT
2. General management appropriate measures	2.3 Accident management plan	Assessing the risks	7. You must also: establish how you will communicate with relevant authorities, emergency services and neighbours (as appropriate) both before, during and after an accident have appropriate emergency procedures, including for safe plant shutdown and site evacuation have post-accident procedures that include assessing the harm that may have been caused by an accident and the remediation actions you will take test the plan by carrying out emergency drills and exercises	The emergency plans, including the FPMP, outline key information regarding off-site contacts and sensitive receptors within 1-km. Tests and desk-top reviews are undertaken to review documented procedures. This is an inherent requirement of the ISO14001 EMS.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Fire prevention	12. There are 3 fire prevention objectives. You must minimise the likelihood of a fire happening, aim for a fire to be extinguished within 4 hours and minimise the spread of fire within the site and to neighbouring sites.	The facility has produced and updated the current FPMP to include the proposed shredder and associated activities.	Meets BAT
2. General management appropriate measures	2.5 Contingency plan and procedures		2. Your contingency plan must also contain provisions and procedures to make sure that you: do not exceed storage limits in your permit and you continue to apply appropriate measures for storing and handling waste stop accepting waste unless you have a clearly defined method of recovery or disposal and enough permitted storage capacity as far as possible, know in advance about any planned shutdowns at waste management facilities where you send waste	The FPMP clearly states the maximum storage limits, required pile dimensions and pile spacing requirements. The requirements with respect to maximum storage volumes will be included within all training materials to ensure all personnel are aware of the permitted restrictions.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures		15. You must: make sure all the measurement and control devices you would need in an emergency are easy to access and operate in an emergency situation maintain the plant so it is in a good state of repair through a preventive maintenance programme and a control and testing programme use techniques such as suitable barriers to prevent moving vehicles damaging equipment have procedures in place to avoid incidents due to poor communication between operating staff during shift changes, or following maintenance or other engineering work where relevant, use equipment and protective systems designed for use in potentially explosive atmospheres	The installation and associated equipment will be added to the existing Celsa PPM scheduling system in-line with manufacturers recommendations. The general workplace will be designed to comply with The Workplace (Health, Safety and Welfare) Regulations 1992 and associated ACOPs, this includes workplace transport. A risk assessment will be undertaken as required by The Dangerous Substances and Explosive Atmospheres Regulations 2002. Techniques to minimise the risk of explosion will be implemented (within the design) and as part of the safety management system.	Meets BAT
2. General management appropriate measures	2.5 Contingency plan and procedures		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.	The majority of the processed waste is for internal use within the EAF. The FPMP clearly states the maximum storage limits, required pile dimensions and pile spacing requirements. These will not be exceeded if off-site removal of residuals is not possible.	Meets BAT
2. General management appropriate measures	2.5 Contingency plan and procedures		5. You must consider whether the sites or companies you rely on in your contingency plan: can take the waste at short notice are authorised to do so in the quantities and types likely to be needed – in addition to carrying out their existing activities	The majority of the processed waste is for internal use within the EAF. The FPMP clearly states the maximum storage limits, required pile dimensions and pile spacing requirements. These will not be exceeded if off-site removal of residuals is not possible.	Meets BAT
2. General management appropriate measures	2.5 Contingency plan and procedures		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.	The majority of the processed waste is for internal use within the EAF. The FPMP clearly states the maximum storage limits, required pile dimensions and pile spacing requirements. These will not be exceeded if off-site removal of residuals is not possible.	Meets BAT
2. General management appropriate measures	2.5 Contingency plan and procedures		7. You must not include unauthorised capacity in your contingency plan. If your contingency plan includes using temporary storage for additional waste on your site, then you must: make sure your site is authorised for this storage have the appropriate infrastructure in place	The majority of the processed waste is for internal use within the EAF. The FPMP clearly states the maximum storage limits, required pile dimensions and pile spacing requirements. These will not be exceeded if off-site removal of residuals is not possible.	Meets BAT

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2. General management appropriate measures	2.3 Accident management plan	Assessing the risks	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.	The roles and responsibilities, during unplanned or emergency conditions, is clearly defined within current Celsa ISO14001 procedures.	Meets BAT
2. General management appropriate measures	2.3 Accident management plan	Assessing the risks	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.	The scrap operations manager is responsible for emergency co-ordination on the Rover way site in conjunction with the Environmental and Health and Safety Managers. All operators are made aware of the emergency plans and their responsibilities contained therein.	Meets BAT REV02
2. General management appropriate measures	2.4 Accident prevention measures	Other accident prevention measures	14. You must maintain plant control in an emergency using one or a combination of the following measures, alarms, process trips and interlocks or manual interventions.	The shredder is controlled via the main control room. Critical and safety controls are implemented via separate pushbuttons and switches, which are wired directly to the switchboards. The devices are mounted in the main control chair and used for Emergency stop's, Blocking CFR's and In-feed Conveyor and Reject door opening. A set of dedicated keyboards, directly wired to the PLC or connected via remote I/O units, are installed in the control room. These are used for on/off, start/stop, increase/decrease operations such as Main Drive Start, Infeed Start/Stop, CFR's Up/Down & Speed Selection and Auto /Maintenance. Acting as Human Machine Interface (HMI), the Operator Workstation (OWS) provides the graphical video pages and windows that interface the operator with the Equipment Control Functions running on the Level 1 PLC unit, this includes Shredder Equipment Mimics, Manual Commands, Set Points Update and Alarms Management. Full details will be outlined within the OEM manuals.	Meets BAT
2. General management appropriate measures	2.5 Contingency plan and procedures		8. Your management procedures and contingency plan must also: identify known or predictable malfunctions associated with your technology and the procedures, spare parts, tools and expertise needed to deal with them include a record of spare parts held, especially critical spares – or state where you can get them from and how long it would take to receive them have a defined procedure to identify, review and prioritise items of plant which need preventative maintenance include all equipment or plant whose failure could directly or indirectly affect the environment or human health identify 'non-productive' or redundant items such as tanks, pipework, retaining walls, bunds, reusable waste containers, ducts, filters and security systems make sure you have the spare parts, tools, and competent staff needed before you start maintenance	The shredder supplier will (typically) provide spare parts for commissioning and all consumables for commissioning works. Celsa will request a list of spare parts for the first year of production, consumables for the first year of production and a list of capital spares. This information will be recorded and (where necessary) Celsa will maintain spares to enable continues operation of the installation.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Preventing accidental emissions	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.	There is in sufficient space for the creation of emergency storage lagoons. Any generated fire water would be contained on the hardstanding slabs and within the sealed (isolated) drainage system.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Fire prevention	13. You must have a fire prevention plan that meets the requirements of our guidance.	Yes, a FPMP has been produced in-line with current guidance.	Meets BAT
2. General management appropriate measures	2.3 Accident management plan	Assessing the risks	3. You must assess the risk of accidents and their possible consequences. Risk is the combination of the likelihood that a hazard will occur and the severity of the impact resulting from that hazard. Having identified the hazards, you can assess the risks by addressing 6 questions: how likely is it that the accident will happen? what may be emitted and how much? where will the emission go – what are the pathways and receptors? what are the consequences? what is the overall significance of the risk? what can you do to prevent or reduce the risk?	Yes, a risk assessment, using the standard EA/NRW format has been established and will be maintained for the shear and shredder operations. This is included within the application package.	Meets BAT
2. General management appropriate measures	2.5 Contingency plan and procedures		1. You must have and implement a contingency plan and management procedures to make certain you comply with all your permit conditions and operating procedures during maintenance or shutdown at your site.	Yes, all maintenance and plant shut-downs will be undertaken in accordance with safety working procedures. The site operates a SMS that is compliant (certified) with ISO45001.	Meets BAT
2. General management appropriate measures	2.1 Management system		1. You must have and follow an up-to-date, written management system.	Yes, Celsa operates a fully compliant ISO14001 EMS and ISO45001 SMS integrated management system. All elements within the guidance are covered by these certified systems.	Meets BAT
2. General management appropriate measures	2.2 Staff competence		1. Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence.	Yes, Celsa's ISO 14001 EMS requires that personnel under the organisation's control are competent (i.e. posses the required skill, knowledge, qualification, or capacity). This process is applied to permanent staff, temporary staff and third party contractors.	Meets BAT
2. General management appropriate measures	2.2 Staff competence		4. Non-supervisory staff must be reliable and technically skilled. Their skills may be based on experience and relevant training.	Yes, Celsa's ISO 14001 EMS requires that personnel under the organisation's control are competent and that adequate training and awareness is provided to all operators.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Preventing accidental emissions	6. You can only discharge waste water from this buffer storage after you have taken appropriate measures, to control, treat or reuse the water.	Yes, in the event of a significant loss of containment or fire water generation no release to the environment (sewer) would occur until sampling and analysis of the stored water had occurred.	Meets BAT

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2. General management appropriate measures	2.4 Accident prevention measures	Segregating waste	3. You must keep apart incompatible wastes. Examples could include but are not limited to: storing lead acid batteries separately to nickel metal hydride batteries segregating flammable gas cylinders in cages away from oxygen cylinders	Yes, incompatible wastes and materials are identified, removed from waste streams and stored accordingly via either segregation, separation or isolation. Where required Health and Safety Executive (HSE) recommendations will be applied.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Record keeping and procedures	16. You must: keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections carry out investigations into accidents, incidents, near misses and abnormal events and record the steps taken to prevent their reoccurrence maintain an inventory of substances, which are present (or likely to be) and which could have environmental consequences if they escape – many apparently innocuous substances (for example, AdBlu) can damage the environment if they escape have procedures for checking raw materials and wastes to make sure they are compatible with other substances they may accidentally come into contact with make sure that any documents that may be needed in the event of an incident are accessible	Yes, records will be maintained in-line with ISO14001 EMS requirements.	Meets BAT
2. General management appropriate measures	2.2 Staff competence		2. The design, installation and maintenance of infrastructure, plant and equipment must be carried out by competent people.	Yes, the design of the process has been led by Calm Recycling. They have, for over 25 years, assisted in the design and manufacture of a wide range of recycling and metals processing machinery for metal processing, metal smelting, scrap recycling and materials recycling around the world. James & Nicholas LLP has provided architecture and structural and civil engineering support. All equipment will be procured, by Celsa, from one of the leading (global) scrap metal shredder suppliers.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Preventing accidental emissions	5. You must be able to contain surges and storm water flows. You must provide enough buffer storage capacity to make sure you can achieve this. You can define this capacity using a risk-based approach, for example, by taking into account the: nature of the pollutants effects of downstream waste water treatment sensitivity of the receiving environment	Yes, the drainage from the shear and shredder pads has been designed to allow containment on the hardstanding and containment within a fully sealed drainage system that can be fully isolated (via penstocks) during emergency conditions.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Preventing accidental emissions	4. You must make sure you contain the following (where appropriate) or route to the effluent system (where necessary): process waters site drainage waters emergency firefighting water oil or chemical contaminated waters spillages of oils and chemicals	Yes, the drainage from the shear and shredder pads has been designed to allow containment on the hardstanding and containment within a fully sealed drainage system that can be fully isolated (via penstocks) during emergency conditions. Storage capacities have been designed to meet FPMP recommended volumes.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Security measures	10. You must have security measures in place to prevent entry by vandals and intruders, damage to equipment, theft fly-tipping and arson.	Yes, the facility has an external 2.4 m fence line that includes security controls (cameras, surveillance etc.). The shear and shredder are located within an internal compound that also includes a standalone fence line and entrance points.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Security measures	11. Facilities must use an appropriate combination of the following measures, security guards, total enclosure (usually with fences), controlled entry points, adequate lighting, warning signs and 24-hour surveillance, such as CCTV.	Yes, the facility has an external 2.4 m fence line that includes security controls (total enclosure, cameras, warning signs and surveillance etc.). The shear and shredder are located within an internal compound that also includes a standalone fence line with controlled entrance points.	Meets BAT
2. General management appropriate measures	2.5 Contingency plan and procedures		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.	Yes, the ISO14001 EMS includes a detailed audit programme that covers activities across the Rover Way site.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Preventing accidental emissions	9. You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from: overflows vents safety relief valves bursting discs If this is not advisable on safety grounds, you must focus on reducing the probability of the emission.	Yes, the possibility of deflagration has been considered from the initial waste acceptance to the design of the shredder plant. Typically, the duct run to the dust extraction cyclone is provided with venting panels, for the release of pressure resulting from an explosion inside the shredder, the panels are made of rubber conveyor belt to provide a good seal during operation.	Meets BAT
2. General management appropriate measures	2.2 Staff competence		3. You must have appropriately qualified managers for your waste activity who are either qualified under a technical competence scheme or operating under a government approved technical competence scheme.	Yes, the Rover Way operations are managed (overseen) by a technically competent person (Certificate of Technical Competence: Level 4 in Waste Management Operations – Managing Treatment Hazardous Waste (4TMH), Operator Competence Certificate: Level 4 in Waste Management Operations – Managing Treatment Hazardous Waste (4TMH) and Continuing Competence Certificate: TSH/TMH. Current details are provided within the application documentation.	Meets BAT
2. General management appropriate measures	2.3 Accident management plan		1. As part of your management system you must have a plan for dealing with any incidents or accidents that could result in pollution.	Yes, this is a standard procedure within the current ISO14001 certified management system. It applies to all areas covered by the environmental permit.	Meets BAT

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2. General management appropriate measures	2.4 Accident prevention measures	Preventing accidental emissions	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.	Yes, this is a standard procedure within the current ISO14001 certified management system. It applies to all areas covered by the environmental permit.	Meets BAT
2. General management appropriate measures	2.3 Accident management plan		2. The accident management plan must identify and assess the risks the facility poses to human health and the environment. Areas to consider may include: waste types and the risks that they pose robust waste acceptance procedures (see section 3) to avoid receiving unwanted items, such as gas cylinders, undepolluted end-of-life vehicles (ELVs) and radioactive items failure of abatement system failure of plant and equipment (for example over-pressure of vessels and pipework, blocked drains) failure of containment (for example, bund failure, or drainage sumps overfilling) damaged Li-ion batteries failure to contain firefighting water making the wrong connections in drains or other systems checking the composition of an effluent before emission vandalism and arson extreme weather conditions for example flooding or very high winds	Yes, this is a standard procedure within the current ISO14001 certified management system. It applies to all areas covered by the environmental permit. There is also area specific FPMPs for the Rover Way site, this includes the shear and shredder operations.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Waste acceptance and pre acceptance procedures	1. You must have clear and detailed procedures for pre-acceptance and acceptance of waste and for rejected and quarantined wastes.	Yes, waste acceptances procedures have been established and will be maintained as part of the ISO14001 EMS. The procedures cover pre-acceptance, acceptance and non-compliant load management.	Meets BAT
2. General management appropriate measures	2.4 Accident prevention measures	Waste acceptance and pre acceptance procedures	2. These should be produced and maintained as set out in the waste pre-acceptance, acceptance and tracking appropriate measures section.	Yes, waste acceptances procedures have been established and will be maintained as part of the ISO14001 EMS. The procedures cover pre-acceptance, acceptance and non-compliant load management.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Quarantine storage	18. You must establish quarantine areas for materials that are prohibited, awaiting full inspection, or awaiting testing or removal.	A suitably sized quarantine area has been designated in-line with FPMP requirements.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		3. You must get the following information in writing when you receive a customer query: details of the waste producer including organisation name, address and contact details the specific source of the waste – for example, ELV depollution site, general scrap metal transfer station, car manufacture, or metal from other types of manufacturing processes a description of the waste including its composition and quantity the List of Waste code (European Waste Classification, EWC, code) if the waste has an EWC code showing it is a non-hazardous mirror entry - you should request evidence of the assessment from the producer any hazardous properties or whether it contains any regulated chemicals, for example, POPs confirmation from the producer that ELVs have been depolluted to ELV directive requirements confirmation from the producer that drums will be accompanied by a certificate of cleanliness	Celsa has a documented customer assessment process from where input materials are sourced.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		9. In all cases you must reassess the information required at pre-acceptance annually. The information required and the assessment made at the pre-acceptance stage is to make sure you only accept wastes that are suitable for the site, avoid accumulating waste and have enough storage and treatment capacity.	Celsa has a documented customer assessment process from where input materials are sourced. This is subject to review and update especially if materials arriving at the installation are not according to the agreed specification.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		1. You must implement waste pre-acceptance procedures so that you know enough about a waste (including its composition) before it arrives at your facility. You need to do this to assess and confirm the waste is technically and legally suitable for your facility and processes.	Celsa has pre-acceptance waste procedures. These have been provided within the application package.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		2. Your procedures must follow a risk-based approach, considering the source and nature of the waste, its hazardous properties, potential risks to process safety, occupational safety and the environment (for example, from deflagrations and other emissions such as noise or particulates).	Celsa has pre-acceptance waste procedures. These have been provided within the application package.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		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.	Celsa has pre-acceptance waste procedures. These have been provided within the application package. Where required Celsa purchasing will contact suppliers and customers for further information. Where suppliers and customers do not meet the agreed standard they are removed from the approved supplier/customer list.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.3 Waste tracking		1. You must use a computerised tracking system to hold up-to-date information about the available capacity of the waste quarantine, reception, general and bulk storage areas of your facility. This must also include treatment residues and end-of-waste product materials.	Celsa makes use of an electronic system to track waste materials.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.3 Waste tracking		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.	Celsa makes use of an electronic system to track waste materials. All records will be maintained within the system and are fully auditable.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

Project: 021-1892
Site: Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH
Permit Ref. EPR/TP3639BH
Source: https://www.gov.uk/guidance/treating-metal-waste-in-shredders-appropriate-measures-for-permitted-facilities

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.3 Waste tracking		2. Your waste tracking system must hold all the information generated during pre-acceptance, acceptance, non-conformance or rejection, storage, repackaging, treatment, removal off site. You must make this information readily available	Celsa makes use of an electronic system to track waste materials. The information is available to NRW upon request.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.3 Waste tracking		4. The tracking system must be able to report: the total quantity of waste present on site at any one time a breakdown by type of the waste quantities you are storing pending treatment or transfer the quantity of waste on site compared with the limits authorised by your permit the length of time the waste has been on site the quantity of end-of-waste product materials on site at any one time, and where applicable, details of any non-conformances and rejections	Celsa makes use of an electronic system to track waste materials. This in combination with the installation layout can provide a real-time estimate on storage volumes on-site.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.3 Waste tracking		5. You must store back-up copies of computer records off site. Records must be readily accessible in an emergency.	Electronic records related to waste tracking are subject to bac-up protocols in-line with other Celsa systems.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Acceptance of drums and tanks	15. You must make sure you only receive and accept drums or tanks: that have a certificate of cleanliness, with prior notice and with hazard warning symbols obliterated.	If drums and/or tanks are received (within a waste stream) they shall be removed and subject to inspection and (as required) testing. If standalone drums and/or tanks are to be received Celsa will request (at the pre-acceptance stage) a certificate of cleanliness, with prior notice and with hazard warning symbols obliterated.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Quarantine storage	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.	Prohibited items will be removed and stored in an appropriate manner in-line with current HSE requirements.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Monitoring for radioactive substances	14. You must have clear procedures for responding to radiation detector alarms.	The existing Rover Way procedures will be applied to the installation.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Quarantine storage	21. Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.	The quarantine area is clearly marked on the provided plans and on the site. It has been sized to comply with FPMP requirements (50% of the largest pile).	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Monitoring for radioactive substances	12. The radiation detection equipment must include solid state scintillation detectors and have a sensitivity to gamma radiation that is consistent with the minimum performance recommended by the International Atomic Energy Agency. These are specified in Annex IV of 'Recommendations on Monitoring and Response Procedures for Radioactive Scrap Metal', UNECE, 2006.	The Rover Way site is fitted Radiation Portal Monitors (RPMs) to scan incoming waste streams.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Quarantine storage	20. You must have written procedures for dealing with wastes held in quarantine, and a maximum storage volume.	The use of the quarantine area is incorporated into the operational management plans, this includes maximum storage periods and volumes.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Quarantine storage	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.	The use of the quarantine area is incorporated into the operational management plans, this includes maximum storage periods. If required (in exceptional cases) NRW would be consulted in order to extend the storage period.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Acceptance of baled metal waste	16. You must produce and follow a detailed procedure for accepting and inspecting baled material before accepting bales for processing. For example, batch acceptance, inspection and upstream auditing.	The waste acceptance procedures will include procedures for dealing with and inspection of baled waste streams.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Acceptance of baled metal waste	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.	The waste acceptance procedures will include procedures for dealing with and inspection of baled waste streams.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		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.	This is considered as part of the customer assessment process. The Rover Way site incorporates Radiation Portal Monitors (RPM) specifically designed for the detection of very low radioactive contamination and orphan sources in scrap and waste loaded within trucks.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		8. You must reassess the information required at pre-acceptance if the waste changes, process giving rise to the waste changes or waste received does not conform to the pre-acceptance information.	Where waste does not meet the agreed standard the waste acceptance procedures shall be followed.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Storage areas	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.	Yes, a newly engineered hardstanding surface with sealed drainage system is proposed. The water is treated via bio-retention strips before discharge to sewer (under consent of Welsh Water).	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Storage areas	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.	Yes, a waste reception area is provided where waste acceptance procedures are implemented. All personnel are fully trained and assessed as competent.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Monitoring for radioactive substances	13. You must maintain, calibrate and test the radiation monitoring equipment in accordance with the manufacturer's specification.	Yes, all RPM equipment is subject to test, inspection and calibration as per the manufacturers recommended schedule.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Waste acceptance	8. You must weigh each load of waste on arrival to confirm the quantities against the accompanying paperwork, unless alternative reliable systems are available (for example, based upon volume). You must record the weight in the computerised waste tracking system.	Yes, all vehicles and loads are weighed and information is recorded.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

Project: 021-1892
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Permit Ref. EPR/TP3639BH
Source: https://www.gov.uk/guidance/treating-metal-waste-in-shredders-appropriate-measures-for-permitted-facilities

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Monitoring for radioactive substances	11. You must have fixed radiation detectors on weighbridges to monitor waste delivered to the site for any radioactive substances or materials. These detectors must have both a visual and audible alarm. You must also have a hand held detector to investigate alarms generated by the fixed radiation detectors.	Yes, fixed detectors are utilised across the site.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures		1. You must implement waste acceptance procedures to check that the characteristics of the waste received matches the information you obtained during waste pre-acceptance. This is to confirm that the waste is as expected and that you can accept it.	Yes, formal waste acceptance are in-place.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures		3. Procedures should be documented and auditable and must follow a risk-based approach, considering: the source, nature and age of the waste the waste's hazardous properties the waste's potential to contain POPs potential risks to process safety, occupational safety and the environment (for example, from odour and other emissions) knowledge about the previous waste holders Some facilities receive waste on an ad hoc basis, which may occur with loads of metal waste. In those instances you can still do pre-acceptance checks before you accept the waste. For example, by exchanging information at the weighbridge before accepting the waste on site.	Yes, formal waste acceptance are in-place.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Waste acceptance	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.	Yes, paperwork checks are part of the initial waste acceptance process.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		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.	Yes, records are kept for the required statutory periods.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.3 Waste tracking		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.	Yes, records are kept for the required statutory periods.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures		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.	Yes, the formal waste acceptance procedure includes a documented process for dealing with non-compliant loads (partial or full). An appropriately sized quarantine area (50% of the largest stockpile) has been designated.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.1 Waste pre-acceptance		5. You must consider whether specific wastes, from among those you are permitted to receive, have properties that can pose unacceptable risks to the site or process, for example, due to a risk of deflagration (for example, gas or aerosol canisters, baled ELVs or undepolluted ELVs), a risk of fire (for example, small mixed WEEE containing Li-ion batteries, or Li-ion batteries within metal loads from other sources).	Yes, the pre-acceptance procedures are very clear about the prohibited wastes.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Waste acceptance	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.	Yes, the waste acceptance procedure clearly states what constitutes a non-conforming load and the procedure that should be followed to deal with that load and to prevent re-occurrence.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures	Storage areas	5. All relevant storage areas (quarantine, reception and general) and treatment processes in your facility must have the physical capacity needed for the waste you receive. You must not receive wastes if this capacity is not available. The amount of waste you receive must also comply with storage limits in your permit.	Yes, the waste storage limits are clearly stated within the Rover Way operational procedures.	Meets BAT
3. Waste pre-acceptance, acceptance and tracking appropriate measures	3.2 Waste acceptance and tracking appropriate measures		4. You must assess the load to make sure it is technically (and legally) suitable for the plant. Your checks and assessment must be risk-based considering, for example, the: hazardous properties of the waste risks posed by the waste in terms of process safety, occupational safety and environmental impact	Yes, waste acceptance and load suitability checks are undertaken to ensure permit compliance.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.2 Storage duration and capacity		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.	All areas throughout the installation will be subject to regular (daily) inspection. Non-compliances will be recorded and corrective actions instigated in-line with the current EHS management systems.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.4 Battery storage		1. You must check for damage and the chemistry type of any batteries produced through depollution activities on site, accepted as discrete loads, You must do this before allocating them to the storage area.	All batteries identified and removed from incoming waste streams will be subject to inspection and assessment. If necessary suspect batteries will be quarantined and separated from other batteries and materials.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.4 Battery storage		2. You must isolate damaged batteries from other batteries.	All batteries identified and removed from incoming waste streams will be subject to inspection and assessment. If necessary suspect batteries will be quarantined and separated from other batteries and materials.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.2 Storage duration and capacity		7. You must not carry out activities that represent a clear fire risk within any storage area unless they are clear of waste. Examples include grinding and cutting repairs within the storage area welding or brazing of metalwork within the storage area, smoking, parking of normal road vehicles except while unloading or loading or recharging forklift truck or power tool batteries.	All sources of potential fire risk have been identified and are included within the FPMP.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

Project: 021-1892
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Permit Ref. EPR/TP3639BH
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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
4. Waste storage, segregation and handling appropriate measures	4.2 Storage duration and capacity		1. You must clearly establish the maximum storage capacity of the site and the designated storage areas. You must not exceed these maximum capacities.	All storage areas where waste is to be stored has a maximum storage limit (as stated within the application).	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.3 Dangerous Substances and Explosive Atmospheres Regulation 2002 (DSEAR)		1. You should assess areas of the site where explosive atmospheres could occur (for example, ELV depollution bays). Where appropriate, you must classify these into hazardous zones, following the Dangerous Substances and Explosive Atmospheres Regulation 2002 (DSEAR).	DSEAR assessments shall be undertaken and documented throughout the installation.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.2 Storage duration and capacity		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.	Pest and vermin are not generally an issue due to the nature of the material (scrap metal). A pest management plan has not been provided. A ECP59 - Tin Can Stockpile Management Procedure Rev3.0 has been developed.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.2 Storage duration and capacity		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.	Pile locations and sizes have been designed to allow for easy inspection from all four sites.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.2 Storage duration and capacity		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.	Pile sizes have been aligned to current FPMP requirements.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.4 Battery storage		5. You must not mix batteries of incompatible chemistries, for example lead acid batteries with Ni-MH batteries.	Removed batteries should be stored in appropriate labelled containers in an appropriate manner to manage inherent EHS risks.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.4 Battery storage		6. You must store Li-ion batteries from electric vehicles separately from other batteries. You must store them in a way that prevents them from coming into contact with any liquids, being damaged and being exposed to high temperatures.	Removed batteries should be stored in appropriate labelled containers in an appropriate manner to manage inherent EHS risks.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.4 Battery storage		3. You must store batteries in either appropriate weatherproof containers, or in appropriate containers within a building.	Removed batteries should be stored in appropriate labelled containers within a covered area.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.4 Battery storage		4. You must store lead acid batteries upright with terminals taped off or capped in acid proof containers to prevent leaks and short circuits, nickel metal hydride (Ni-MH) batteries in a way that will prevent them being damaged.	Removed batteries should be stored in appropriately labelled containers in an appropriately manner to manage inherent EHS risks.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.1 Storage locations		3. You must store shredder non-metallic fractions under cover.	The storage of non-metallic fractions recovered from the process will be stored in-line with the requirements of the Environmental Protection Act 1990, The Environmental Protection (Duty of Care) Regulations 2003 and associated Waste Duty of Care Code of Practice i.e. prevent the escape of waste.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.2 Storage duration and capacity		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.	There is no incentive for Celsa to maintain waste on-site. The installations primary purpose is to create a feedstock for the EAF installation. Waste will not be stored on-site for extended periods (and not in excess of 6 months).	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.1 Storage locations		5. You must store all waste within the security protected area of your facility to prevent unauthorised access and vandalism.	Yes, all materials are stored within a locked and secured fence line which is in itself within a larger site which is also fenced and secured.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.1 Storage locations		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).	Yes, no storage locations are adjacent to sensitive receptors.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.1 Storage locations		2. You should design and operate your facility in a way that minimises waste handling.	Yes, the shredder facility has been designed to allow for efficient handling and storage of input and output waste streams whilst ensuring yard safety and compliance with BAT requirements.	Meets BAT
4. Waste storage, segregation and handling appropriate measures	4.1 Storage locations		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.	Yes, wastes are stored in predesignated locations and handled by trained/competent personnel using appropriate waste handling equipment.	Meets BAT
5. Waste treatment appropriate measures			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.	All waste streams are subject to appropriate characterisation and classification in-line with current guidance. This is a standard process within the Celsa waste management system.	Meets BAT
5. Waste treatment appropriate measures			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.	All waste streams are subject to appropriate characterisation and classification in-line with current guidance. This is a standard process within the Celsa waste management system.	Meets BAT
5. Waste treatment appropriate measures	5.3 POPs		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.	All waste streams are subject to appropriate characterisation and classification in-line with current guidance. This is a standard process within the Celsa waste management system.	Meets BAT
5. Waste treatment appropriate measures	5.3 POPs	Separating POPs waste from non-POPs waste	5. You must fully characterise and classify the following (including for POPs) before deciding on suitable disposal options: process solutions and washings from density separation processes and solid fractions produced by any process.	All waste streams are subject to appropriate characterisation and classification in-line with current guidance. This is a standard process within the Celsa waste management system.	Meets BAT

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
5. Waste treatment appropriate measures	5.4 Antimony trioxide		1. Antimony trioxide has been widely used as a synergist with a range of BFRs. It is present in some plastics at concentrations which exceed the hazardous waste threshold. You must therefore consider antimony trioxide when you are classifying any plastic containing fraction.	Antimony is a technology critical element whose presence is ubiquitous in manufactured products, and in particular in plastics where it is used extensively as a flame retardant synergist for brominated compounds, as a catalyst for polyethylene terephthalate production, and as a pigment for colour. Celsa waste pre-acceptance procedures aim to minimise the risk that (no-processable) POP containing waste stream arrive at the facility. Where materials arrives separation at source is to be applied via the waste acceptance and waste characterisation and classification processes.	Meets BAT
5. Waste treatment appropriate measures	5.3 POPs		Some plastic components found in metal waste may contain flame retardants that are POPs. 1. You must assess fractions containing plastic (including process solutions and washings from density separation processes) for POPs.	Brominated flame retardants (BFRs) are organobromine compounds that have an inhibitory effect on combustion chemistry and tend to reduce the flammability of products containing them. They are present in plastics and textile applications like electronics, clothes and furniture. The installation will accept EWC 20 01 36 (household) and 16 0 2 14 (industrial) which is the code for large domestic appliances (LDA): white goods (washing machines, tumble driers, dishwashers and cookers). The current guidance states that components such as circuit boards, motors or any plastic parts may contain hazardous chemicals or POPs. Usually there is not enough for the item to be classified as hazardous or POPs waste. EWC 20 01 35* captures a wide range of things (household), these may contain hazardous chemicals or POPs. WEEE containing plastics that may contain brominated flame retardants (BFRs) (assumed to be all pre-2006 waste unless otherwise identified as non-BFR) will be separated with plastics assumed to be unsuitable for recycling.	Meets BAT
5. Waste treatment appropriate measures	5.5 Minimising diffuse emissions from the process		2. To track and control changes to processes, you must have a written procedure for proposing, considering and approving changes to both technical developments and procedural or quality changes to the plant and processes.	Celsa operates a documented change management process that is inherent within the current QEHS systems. No significant changes to processes or activities can be made without application of the process and determination of significant QEHS risks and associated mitigation.	Meets BAT
5. Waste treatment appropriate measures	5.3 POPs	Separating POPs waste from non-POPs waste	4. You can treat any plastic that is POPs waste to separate the POPs containing fraction from the non-POPs containing plastic. For example, you can use density separation to separate plastic containing all brominated flame retardants (BFR) from that which does not. You may then recycle the non-BFR plastic (provided it does not contain any other POP) but you must destroy or irreversibly transform the BFR plastic.	Celsa waste pre-acceptance procedures aim to minimise the risk that (no-processable) POP containing waste stream arrive at the facility. Where materials arrives separation at source is to be applied via the waste acceptance and waste characterisation and classification processes.	Meets BAT
5. Waste treatment appropriate measures	5.1 General waste treatment		7. You must not proceed with the treatment if your risk assessment or material flow analysis show that losses from a process will cause the breach of an environmental quality standard, the breach of a benchmark or a significant environmental impact.	No waste streams shall be treated (subject to processing) where any BAT-AEL could be breached.	Meets BAT
5. Waste treatment appropriate measures			6. You must also fully characterise and classify process solutions and washings from density separation processes before determining suitable disposal options.	Not applicable - no processing solutions of washings are to be produced.	N/A
5. Waste treatment appropriate measures	5.3 POPs		This means the treatment must make sure the POP content is destroyed, or irreversibly transformed. An example would be by incineration or similar thermal treatment. You must not recycle this plastic.	Potential POP streams are to be removed at source prior to processing, for example WEEE containing plastics that may contain brominated flame retardants (BFRs) (assumed to be all pre-2006 waste unless otherwise identified as non-BFR) will be separated with plastics assumed to be unsuitable for recycling.	Meets BAT
5. Waste treatment appropriate measures	5.6 Record keeping for all treatment residues		1. You must record in the computerised waste tracking system that a waste has been treated, what the treatment residues are and their weight and what end-of-waste products have been made and their weight.	The Celsa waste tracking system records all waste treatment activities and associated waste streams (input, processed and residuals).	Meets BAT
5. Waste treatment appropriate measures			2. The designs need to consider physical hazards and include an assessment of the environmental risks and emissions from the plant and processes. They also need to consider prevention and protective measures and process management, such as working instructions, staff training, appropriate process control measures, monitoring systems, alarms and interlocks, plant maintenance, checks, audits and emergency procedures. If you treat small mixed WEEE or large domestic appliances you must comply with the requirements of Waste Electrical and Electronic Equipment (WEEE) guidance. We are producing further guidance on appropriate measures for permitted WEEE facilities.	The plant has been designed to meet current safety standards and the management of the shredder has been integrated into the certified QEHS management system.	Meets BAT
5. Waste treatment appropriate measures	5.5 Minimising diffuse emissions from the process		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).	The process has been designed to minimise fugitive emissions (wherever possible).	Meets BAT
5. Waste treatment appropriate measures	5.1 General waste treatment		1. Waste treatment must have a clear and defined benefit. You must fully understand, monitor and optimise the waste treatment process to make sure you treat waste effectively and efficiently. You must not treat waste to deliberately dilute it.	The process is aimed at supplying recovered metals to the EAF for the production of steel.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

Project: 021-1892
Site: Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH
Permit Ref. EPR/TP3639BH
Source: https://www.gov.uk/guidance/treating-metal-waste-in-shredders-appropriate-measures-for-permitted-facilities

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
5. Waste treatment appropriate measures			3. You must process shredder non-metallic fractions under cover. You may use a range of separation technologies to further segregate and purify shredded fractions. Examples include air classification, all-metal separator, electromagnetic separation of non-ferrous metals, manual separation, magnetic separation, density separation, vibration tables either at the shredding facility or elsewhere.	The separation of non-metallic (lighter fractions) is key to ensuring a consistent output stream. The downstream installation includes a fully enclosed and abated extraction system with bag filter (which is considered BAT).	Meets BAT
5. Waste treatment appropriate measures	5.1 General waste treatment		5. You must have up-to-date written details of the measures you will take during abnormal operating conditions to make sure you continue to comply with permit conditions. Abnormal operating conditions include unexpected releases, start-up momentary stoppages, shut-down and deflagrations.	The shredder plant operational procedures will be developed from the OEM information and modified to include relevant EHS risk assessments and controls. All systems will be integrated into the Celsa QEHS certified management systems.	Meets BAT
5. Waste treatment appropriate measures	5.5 Minimising diffuse emissions from the process		1. You must minimise the release of diffuse emissions to air from activities which may create them, for example shredding or granulating. You must do this by: carrying out the activity using enclosed equipment or in a closed building maintaining the enclosed equipment or building under an appropriate pressure collecting and directing the emission to an appropriate abatement system using a shredder system with water or foam injection into the mill	The shredder system is fitted with a water injection system to minimise fugitive dust emissions during the shredding process. The process is PLC controlled to ensure that water use is minimised and applied in an optimum manner during the processing cycle.	Meets BAT
5. Waste treatment appropriate measures	5.1 General waste treatment		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.	The waste streams and residuals from the plant have been assessed based on the input characteristics.	Meets BAT
5. Waste treatment appropriate measures	5.1 General waste treatment		2. The treated output material must meet your expectations and be suitable for its intended disposal or recovery route.	Yes, the output fully meets the required input criteria for the EAF.	Meets BAT
5. Waste treatment appropriate measures	5.1 General waste treatment		3. You must identify and characterise emissions from the process and take appropriate measures to control them at source.	Yes, the shredder is purpose designed and located within an enclosure in order to minimise emissions whilst meeting BAT.	Meets BAT
5. Waste treatment appropriate measures	5.1 General waste treatment		4. You must have up-to-date written details of your treatment activities, and the abatement and control equipment you are using.	Yes, this is a new plant. Full details are available from the manufacturer and are maintained within the Celsa management system.	Meets BAT
5. Waste treatment appropriate measures	5.2 Metal shredding plant and downstream processes		1. The metal shredding plant and downstream plant and processes must be specifically designed, commissioned and operated to be fit for purpose.	Yes, this is a purpose designed and built plant. It has been designed based on the Celsa requirements.	Meets BAT
5. Waste treatment appropriate measures	5.3 POPs		2. You must treat any POPs waste as required by article 7 of Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on POPs.	Appropriate measures will be employed to identify and remove potential POP streams from the processing activities.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Deflagration Management	30. To prevent deflagrations and to reduce emissions where deflagrations have occurred, we may require a deflagration management plan. This should include: a deflagration reduction programme designed to identify the source, and to implement measures to prevent deflagrations, for example, inspecting waste input and removing dangerous items such as gas cylinders and undepolluted ELVs, a review of historical deflagration incidents and remedies and sharing deflagration knowledge, a protocol for responding to deflagration incidents.	A deflagration management plan has been created.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water	Designing and maintaining surfacing and subsurface structures	17. For subsurface structures, you must: establish and record the routing of all site drains and subsurface pipework identify all sub-surface sumps and storage vessels, engineer systems to minimise leakages from pipes and make sure they are detected quickly if they do occur, particularly where hazardous substances are involved, see the list of hazardous substances, provide secondary containment or leakage detection for sub-surface pipework, sumps and storage vessels, establish an inspection and maintenance programme for all subsurface structures, for example, pressure tests, leak tests, material thickness checks or CCTV.	A formal drainage plan will establish and record the routing of all site drains, subsurface pipework and related infrastructure. The plan will be maintained within Celsa's CAD system.	Meets BAT
6. Emissions control appropriate measures	6.3 Emissions of noise and vibration		3. Where you expect noise or vibration pollution at sensitive receptors, or it has been substantiated, you must create, use and regularly review a noise and vibration management plan. This must be part of your environmental management system, and must include: actions and timelines to address any issues identified, a procedure for conducting noise and vibration monitoring, a procedure for responding to identified noise and vibration events, for example, complaints.	A noise and vibration management plan has been established for the Rover Way site. This has been amended and updated to incorporate this variation.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)		5. You must use your waste pre-acceptance, waste acceptance and site inspection checks and procedures to identify and manage wastes that could cause, or are causing, fugitive emissions to air. Examples could include gas cylinders, items concealed in baled waste, or poorly depolluted ELVs. When you identify any of these wastes you must: take appropriate, risk assessed measures to prevent and control emissions and prioritise their treatment or transfer.	A pre-acceptance waste procedure has been developed for wastes entering the shredder process.	Meets BAT
6. Emissions control appropriate measures	6.1 Point Source Emissions to Air		3. You must assess the fate and impact of the substances emitted to air, following the Environment Agency's air emissions risk assessment methodology.	A standalone air impact assessment has been undertaken in accordance with the Environment Agency's air emissions risk assessment methodology.	Meets BAT
6. Emissions control appropriate measures	6.1 Point Source Emissions to Air		5. You must assess and design vent and stack locations and heights to make sure dispersion capability is adequate.	A standalone air impact assessment has been undertaken in accordance with the Environment Agency's air emissions risk assessment methodology. This has also considered and assessed stack height.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)		1. You must use appropriate measures to prevent emissions of dust, mud and litter and odour. See our guidance on suggested appropriate measures to control dust, mud and litter and to control odour.	All primary containment surfaces have been upgraded as part of the installation process. Regular planned dust suppression and clean-up techniques are employed to minimise dust emissions from the Rover Way site. Odour is not seen as a significant issue for the installation (based on the materials being processed).	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		19. You must have an inspection and maintenance programme for impermeable surfaces and containment facilities.	All surface will be subject to routine inspection and, where required, maintenance.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water	Designing and maintaining surfacing and subsurface structures	18. For surfacing, you must design appropriate surfacing and containment or drainage facilities for all operational areas, taking into account: collection capacities surface thicknesses, strength and reinforcement, falls, construction materials, permeability, resistance to chemical attack, inspection and maintenance procedures.	All surfacing has been designed for the handling, storage and processing of scrap metal. The design of the drainage system has considered likely sources, pathways and receptors, appropriate treatment solutions (abatement) and the requirements of SuDS (SAB). The design of the system is outlined in the Drainage Strategy.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		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.	All systems that form part of the drainage network will be subject to regularly monitoring, inspecting and repair. Key systems will be included within the PPM scheduling for the Rover Way site.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	14. Where ambient dust monitoring is required it must be carried out by MCERTS qualified staff.	Ambient dust monitoring is not proposed during normal operations.	N/A
6. Emissions control appropriate measures	6.4 Point source emissions to water and sewer		1. You must identify the main chemical constituents of the site's point source emissions to water and sewer as part of the site's inventory of emissions.	Based on previous activities and other similar installations a suite of monitoring requirements has been devised (this is also aligned to the BAT requirements for the sector).	Meets BAT
6. Emissions control appropriate measures	6.1 Point Source Emissions to Air		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.	Celsa has ensured that the installation includes an adequate (safe) sampling platform and sampling ports that meet the required standard.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Deflagration Management	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.	Strict waste pre-acceptance procedures are to be employed including a Deflagration Management Plan in-line with the BAT-C requirements.	N/A
6. Emissions control appropriate measures	6.1 Point Source Emissions to Air		7. Your procedures must make sure you correctly install, operate, monitor and maintain abatement equipment. For example, this includes monitoring and maintaining appropriate flow and chemical concentration of scrubber liquor and the handling and disposal or regeneration of spent scrubber or filter medium.	Celsa operates a formal ISO14001 EMS. This includes establishing and maintaining operational and maintenance procedures for all aspects of the permitted installation.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	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.	Emissions monitoring will be undertaken by organisations accredited to ISO/IEC 17025 for MCERTS (UKAS registered). Monitoring staff shall hold all relevant MCERTS qualifications.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	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.	N/A - the process is not fully enclosed within a building. The shredder is within a noise abatement enclosure. All downstream processing is subject to contained extraction and abatement.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Maintenance and cleaning	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.	No drum or IBC washing is proposed.	N/A
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		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.	No new oil storage or plant/equipment refuelling stations are included within the installation. Existing facilities will be utilised.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Odorous wastes	23. You must have procedures to minimise the amount of time odorous wastes spend in your storage and handling systems (for example, pipes, conveyors, hoppers, tanks). In particular, you must have provisions to manage waste during periods of peak volume.	No odorous waste streams identified.	N/A
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Odorous wastes	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.	No odorous waste streams identified.	N/A
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Odorous wastes	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.	No odorous waste streams identified.	N/A
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Odorous wastes	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.	No odorous waste streams identified.	N/A
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Odorous wastes	27. Where you expect odour pollution at sensitive receptors, or it has been substantiated, you must periodically monitor odour emissions using European (EN) standards, for example either: dynamic olfactometry according to EN 13725 to determine the odour concentration or EN 16841-1 or -2 to determine the odour exposure. If you use methods that are not covered by EN standards (for example, estimating odour impact), you should use ISO, national or other international standards to make sure you use data of an equivalent scientific quality. You must set out the monitoring frequency in the odour management plan.	No odorous waste streams identified.	N/A

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Odorous wastes	28. Where you expect odour pollution at sensitive receptors, or it has been substantiated, you must also set up, implement and regularly review an odour management plan. It must be part of your management system and include all the following elements: actions and timelines to address any issues identified, a procedure for conducting odour monitoring, a procedure for responding to identified odour incidents, for example, complaints, an odour prevention and reduction programme designed to identify the sources, to characterise the contributions of the sources and to implement prevention and reduction measures.	No odorous waste streams identified.	N/A
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Odorous wastes	29. Where an odour management plan is required, you must develop and implement it following our odour management guidance.	No odorous waste streams identified.	N/A
6. Emissions control appropriate measures	6.4 Point source emissions to water and sewer		4. To reduce emissions to water and sewer, if you need to treat waste water before discharge or disposal, you must use an appropriate combination of treatment techniques, including one or more of the following: preliminary or primary treatment – for example, physical separation, physico-chemical treatment – for example, adsorption, precipitation, chemical oxidation or reduction, solids removal – for example, coagulation, sedimentation, filtration or flotation.	No treatment of wastewater is required.	N/A
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		9. You must have appropriate measures in place to monitor, treat and reuse the water held in the buffer storage before discharging.	No water would be released to the environment (via the sewer) if slab retention is used (during emergency conditions) without prior sampling and analysis. As this is an unlikely (serious) event Celsa would anticipate involvement and consultation with Welsh Water/NRW before any should release would occur.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	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.	Process interlocks are provided to ensure compliance with the Provision and Use of Work Equipment Regulations 1998. The shredder water dedust system is PLC linked so it would not be possible to operate the shredder without dust control systems operational.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)		3. You must minimise the number of potential diffuse dust and particulates emission sources, using a combination of the following: limiting the drop height of material, using wind barriers, covering conveyor belts, including enclosure of transfer points, fitting spray nozzles or rubber flaps to the inlet and outlet of the shredder mill using misting systems and wind barriers in areas with significant dust formation, venting pipe work and ducting to an appropriate abatement system to prevent fugitive emissions.	See above.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	6. Where necessary, to prevent fugitive emissions to air from storing and handling odorous or dusty wastes, you should use a combination of the following measures (7 to 13).	See below.	N/A
6. Emissions control appropriate measures	6.3 Emissions of noise and vibration		2. You must use appropriate measures to control noise, including for example: adequately maintaining plant or equipment parts which may become more noisy as they deteriorate – for example, bearings, air handling plant, building fabric, and specific noise attenuation kit associated with plant or machinery, closing doors and windows of enclosed areas and buildings, avoiding noisy activities at night or early in the morning, minimising drop heights and the movement of waste and containers, using broadband (white noise) reversing alarms and enforcing the on-site speed limit, using low-noise equipment, for example, drive motors, fans, compressors and pumps, adequately training and supervising staff, where possible, providing additional noise and vibration control equipment for specific noise sources – for example, noise reducers or attenuators, insulation, or sound-proof enclosures, including pressure relief control on shredder plant enclosures to take account of possible deflagration incidents.	Sound enclosures will be fitted to the shredder, cascade air system/drum magnet, vibrating screen 1 and vibrating screen 2. The design has been fully assessed using a noise model.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water	Spill response plan	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.	Spill kits and sand bags are available as stated within the application. A penstock is fitted to the drainage so as to prevent uncontrolled discharges to ground (during emergency conditions).	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water	Spill response plan	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.	Spill kits are located in easily accessible areas and are signed. All personnel are made aware of their location and are training in there appropriate use. Audits and inspections include verifying stock levels.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Deflagration Management	31. You must also have one or both of the following: pressure relief dampers, to relieve pressure waves from deflagrations that may otherwise cause damage and subsequent emissions or pre-shredding – a low speed shredder installed upstream of the main shredder.	The access doors on the cyclone are capable of venting the pressure build up resulting from an explosion inside the processing equipment. The duct run to the dust extraction cyclone is also provided with 10 venting panels, for the release of pressure resulting from an explosion, the panels are made of rubber conveyor belt to provide a good seal in service.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water	Spill response plan	12. You must produce and implement a spillage response plan and train staff to follow it and test it.	The Celsa emergency actions plan (ECP34) covers a wide variety of scenarios this includes chemical spill/solid release action plan. All operators are trained on how to respond during emergency conditions.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water	Spill response plan	13. Your procedures and associated training must make sure you deal with spillages immediately.	The Celsa emergency actions plan (ECP34) covers a wide variety of scenarios this includes chemical spill/solid release action plan. All operators are trained on how to respond during emergency conditions. The importance of the speed of response is included within the training.	Meets BAT

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water	Designing and maintaining surfacing and subsurface structures	16. You must make sure your spillage response plan includes information about how to recover, handle and correctly dispose of waste produced from a spillage.	The Celsa emergency actions plan (ECP34) covers a wide variety of scenarios this includes chemical spill/solid release action plan. Clean-up and waste disposal are included within the plan.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		8. You should provide appropriate buffer storage capacity at your facility to store waste waters, taking into account: potential abnormal operating scenarios and incidents, the nature of any polluting substances and their impact on the downstream waste water treatment plant and receiving environment.	The constraints on the site prevent the creation of storage lagoons. In the event of an abnormal event (e.g. discharge of large volumes of fire water) the slab has been designed to act as a temporary retention area.	Meets BAT
6. Emissions control appropriate measures	6.4 Point source emissions to water and sewer		2. You must assess the fate and impact of the substances emitted to water and sewer following the Environment Agency's risk assessment guidance.	The impact assessment has considered the nature and range of the constituents and the potential impacts. A H1 assessment has been undertaken for the release to sewer.	Meets BAT
6. Emissions control appropriate measures	6.4 Point source emissions to water and sewer		3. Discharges to water or sewer must comply with the conditions of an environmental permit or trade effluent consent. Relevant sources of waste water include (but are not limited to): water or condensate collected from treatment processes, vehicle washing, vehicle oil and fuel leaks, washing of containers, spills and leaks in waste storage areas, loading and unloading areas, uncovered storage areas.	The discharge to sewer would comply with BAT-AEL requirements and the associated Welsh Water consent limits.	Meets BAT
6. Emissions control appropriate measures	6.1 Point Source Emissions to Air		1. You must contain the waste treatment plant (including shredders) to make sure you collect, extract and direct all process emissions to an appropriate abatement system for treatment before release.	The installation is to be fitted with a bag filter collection system prior to emission to air. The design specification (shredder light fraction) is 5 mg/m3.	Meets BAT
6. Emissions control appropriate measures	6.1 Point Source Emissions to Air		4. To reduce point source emissions to air (for example, dust, VOCs and odour) from waste treatment, you must use an appropriate combination of abatement techniques, including one or more of the following systems, cyclonic filtration, fabric filters, wet scrubbing or high efficiency particulate (HEPA) filter.	The installation is to be fitted with a bag filter collection system prior to emission to air. The design specification (shredder light fraction) is 5 mg/m3.	Meets BAT
6. Emissions control appropriate measures	6.1 Point Source Emissions to Air		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.	The main elements associated with the shredder have been identified. VOCs are anticipated (based on the incoming waste streams).	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		1. You must use appropriate measures to control potential fugitive emissions and make sure that they do not cause pollution. See the guidance on emissions to water and leaks from containers.	The potential for fugitive emissions to land or water (from the processing area) have been minimised through the design of the slab and the drainage systems. The only part where fugitive emissions could occur is via run-off from the internal transfer roads. Even these areas are provided with bio-retention strips that would provide a certain level of mitigation. Note: the roadways are considered a lower risk area compared to the processing areas (which drain to sewer). All leaks/spills would be dealt with in-line with ECP34 Emergency Action Plans.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	11. You must fully enclose and contain pre- and post-treatment shredder plant to prevent emissions.	The process has been designed to minimise fugitive emissions (wherever possible). Odour is not seen as a significant issue for the proposed waste streams (EWCs). Please refer to ECP59 - Tin Can Stockpile Management Procedure Rev3.0.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		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.	The processing is to take place on a newly engineered slab that includes a new (fully sealed) drainage system. The only time water would build up on the slab would be during a fire where the Local Fire Authority used water as a suppression technique.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		6. Depending on the pollutant content, you must either: recirculate what you have collected, discharge it in accordance with an environmental permit or trade discharge consent send it for further treatment.	The proposal is to collect the surface water, treated it and discharge to sewer under the consent of Welsh Water.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	10. You should: use fast-acting or 'airlock' doors that default closed or dampen potential sources of diffuse dust emissions (such as the shredder inlet and outlet, traffic areas and open handling processes) with water or fog.	The shredder features a high pressure injection system to enable shredder dedusting. External areas will be subject to cleaning and damping using road sweepers.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	13. You must contain and extract dust emissions from the shredder plant to an appropriate abatement system, for example HEPA air filtration.	The shredder is fitted with a PLC controlled water-based dust suppression system. The Shredded material is dropped into the top of the Cascade where it falls under gravity to the bottom. The airflow runs upwards which takes the light fraction and dust upward and into the Cyclone thereby cleaning the scrap as it drops through the Cascade. Light fraction and fines are then separated out by way of the Cyclone. The system is a closed loop with adjustable balance line vented to atmosphere by way of standalone filter unit (bag filters). This is considered BAT.	Meets BAT
6. Emissions control appropriate measures	6.3 Emissions of noise and vibration		1. You should design the layout of the facility to locate potential sources of noise (including building exits and entrances) away from sensitive receptors and boundaries. You should locate buildings, walls, and embankments so they act as noise screens.	The shredder is located on the Rover Way site. A full noise BAT assessment has been undertaken.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)		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).	The shredder plant will be designed and supplied by a leading manufacturer. All new plant will conform to all relevant EHS standards.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	16. Where a dust management plan is required, you must develop and implement it following our guidance.	The site has established and maintains a Dust Management Plan. This has been updated to incorporate the shredder installation.	Meets BAT

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
6. Emissions control appropriate measures	6.3 Emissions of noise and vibration		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:	The site has established and maintains a Noise and Vibration Management Plan. This has been updated to incorporate the shredder installation.	Meets BAT
6. Emissions control appropriate measures	6.3 Emissions of noise and vibration		4. The noise and vibration management plan should also include a noise and vibration reduction programme designed to: identify the source(s) of noise and vibration, measure or estimate noise and vibration exposure, characterise the contributions of the sources implement prevention and reduction measures.	The site has established and maintains a Noise and Vibration Management Plan. This has been updated to incorporate the shredder installation.	Meets BAT
6. Emissions control appropriate measures	6.3 Emissions of noise and vibration		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.	The site has established and maintains a Noise and Vibration Management Plan. This has been updated to incorporate the shredder installation.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Maintenance and cleaning	17. You must set up a leak detection and repair programme and use it to promptly identify and mitigate any fugitive emissions from treatment plant and associated infrastructure (for example, pipework, conveyors, tanks).	The site operates a formal maintenance management system. The shredder and related infrastructure will be integrated into the current Planned Preventive Maintenance (PPM) programme.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Maintenance and cleaning	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.	The site operates a formal maintenance management system. The shredder and related infrastructure will be integrated into the current Planned Preventive Maintenance (PPM) programme.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Maintenance and cleaning	19. Your maintenance and cleaning schedules must make sure that tanks and plant are regularly cleaned to avoid large-scale decontamination activities.	The site operates a formal maintenance management system. The shredder and related infrastructure will be integrated into the current Planned Preventive Maintenance (PPM) programme.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Maintenance and cleaning	20. You must take measures to prevent the corrosion of plant and equipment (for example, conveyors or pipes). This includes selecting and using appropriate construction materials, lining or coating equipment with corrosion inhibitors and regularly inspecting and maintaining plant.	The site operates a formal maintenance management system. The shredder and related infrastructure will be integrated into the current Planned Preventive Maintenance (PPM) programme.	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Maintenance and cleaning	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.	The site operates a formal maintenance management system. The shredder and related infrastructure will be integrated into the current Planned Preventive Maintenance (PPM) programme.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		10. You must take measures to prevent emissions from washing and cleaning activities, including: directing liquid effluent and wash waters to foul sewer or collecting them in a sealed system for off-site disposal – you must not discharge them to surface or storm drains, where possible, using biodegradable and non-corrosive washing and cleaning products, storing all detergents, emulsifiers and other cleaning agents in suitable bunded or containment facilities, within a locked storage area, or in a building away from any surface water drains, preparing cleaning or disinfection solutions in contained areas of the site and never in areas that drain to the surface water system.	Any plant or vehicle cleaning would only be undertaken in authorised locations (outside the area of this proposed variation).	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)		2. You must design, operate and maintain storage and treatment plant in a way that prevents fugitive emissions to air, including dust, organic compounds and odour. Where that is not possible, you must minimise these emissions. Storage and treatment plant includes associated equipment and infrastructure such as shredders, conveyors, skips or containers, building fabric, including doors and windows and pipework and ducting.	The waste and fluff transfer conveyors will be provided with removable covers on its full length. There are no covers on the scrap metal conveyors (as there is a reduced dust potential). In addition, it is not practical to install covers on the infeed conveyor as it would cause issues identifying feed problems. The loading and unloading to stockpiles will be undertaken using methods to minimise dust lift off, including drop height minimisation, minimising stock pile heights and employee training/awareness.	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water	Tanks and bunding	20. You must bund all above-ground tanks containing liquids whose spillage could be harmful to the environment. Bunds must: be impermeable and resistant to the stored materials, have no outlet (that is, no drains or taps) and drain to a blind collection point, have pipework routed within bunded areas with no penetration of contained surfaces, be designed to catch leaks from tanks or fittings, have a capacity greater than 110% of the largest tank or 25% of the total tankage, whichever is the larger, have regular visual inspections – any contents must be pumped out or otherwise removed under manual control after checking for contamination, be fitted with a high-level probe and an alarm (as appropriate) if not frequently inspected, have tanker connection points within the bund (where possible), otherwise provide adequate containment, have programmed engineering inspections – normally visual, but extending to water testing if structural integrity is in doubt, be emptied of rainwater regularly to maintain their containment capacity.	There are no standalone above ground storage tanks (ASTs) associated with the shear or shredder installation (e.g. fuel storage ASTs). There is an internal 8,000 litre hydraulic oil tank associated with the shear. The volume of the shear hydraulic circuit totals 12,600 litres. All hydraulic tanks are part of the equipment as supplied from the manufacturer. ASTs are associated with the ELV processing station. The tanks will be provided with adequate secondary containment (once purchasing source has been selected).	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		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.	There is no process water generated by the process. Surface water run-off from the slabs is collected (sealed system) and treated prior to discharge to sewer (under consent from Welsh Water).	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	7. You should store and handle the waste within an enclosed building including: light fractions of the shredder residue, dust derived from sweeping the waste treatment and storage areas and dust derived from the abatement equipment.	Waste is initially handled outside of the shredder but is loaded on to infeed conveyors where all processing is partially enclosed. All processing is undertaken within an enclosure and downstream processes are abated.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

Project: 021-1892
Site: Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH
Permit Ref. EPR/TP3639BH
Source: https://www.gov.uk/guidance/treating-metal-waste-in-shredders-appropriate-measures-for-permitted-facilities

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		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.	Yes, all drainage is collected and filtered through a bioretention system before discharge to sewer (under consent of Welsh Water).	Meets BAT
6. Emissions control appropriate measures	6.5 Fugitive emissions to land and water		2. You must have the following in all operational areas of the facility: an impermeable surface spill containment kerbs, sealed construction joints and a sealed drainage system.	Yes, the surface water handling system has been designed with impermeable surfacing, a suitably sized containment kerb and a sealed drainage system. Full details are provided within the application documentation (Drainage Strategy).	Meets BAT
6. Emissions control appropriate measures	6.2 Fugitive emissions to air (including odour)	Storage of odorous or dusty wastes	8. You should use fully enclosed material transfer and storage systems and equipment, for example: conveyors, hoppers, containers and tanks and skips.	No dusty materials proposed within the installation.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer		4. In addition to any other parameters specified by your permit, you must monitor the following emissions to water:	See BAT7 Tab.	N/A
7. Emission limits, monitoring and appropriate measures			1. Where you are required to monitor emissions to comply with the requirements of your environmental permit you must follow our monitoring your emissions guidance.	All ELVs and monitoring requirements set within the final permit will be added to the regular Celsa environmental monitoring programme. All results will be provided to NRW in-line with the permit reporting requirements.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements		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.	All ELVs and monitoring requirements set within the final permit will be added to the regular Celsa environmental monitoring programme. All results will be provided to NRW in-line with the permit reporting requirements.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Other point source emissions to air	5. You must apply the following emission limits and monitoring requirements for point source emissions to air where they are relevant, based on your facility's emissions inventory and environmental risk assessment.	All ELVs and monitoring requirements set within the final permit will be added to the regular Celsa environmental monitoring programme. All results will be provided to NRW in-line with the permit reporting requirements.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Other point source emissions to air	6. You must also comply with any other emission limits or monitoring requirements set in your environmental permit.	All ELVs and monitoring requirements set within the final permit will be added to the regular Celsa environmental monitoring programme. All results will be provided to NRW in-line with the permit reporting requirements.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer		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.	All ELVs and monitoring requirements set within the final permit will be added to the regular Celsa environmental monitoring programme. All results will be provided to NRW in-line with the permit reporting requirements.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer	Hydrocarbon Oil Index (HOI)	You must comply with the following monthly monitoring following EN ISO-9377-2, the emission limit for metal 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.	All surface water run-off from the waste processing pad passes though a SUDs approved bioretention system (including filter medium and geotextile transition layer) before discharging to sewer (under consent of Welsh Water). Monitoring of the discharge will be undertaken to assess compliance with the Welsh Water discharge consent. HOI has been included as per BAT-7.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer	TOC	You must comply with the following monthly monitoring following EN1484, an emission limit of 60mg/l.	All surface water run-off from the waste processing pad passes though a SUDs approved bioretention system (including filter medium and geotextile transition layer) before discharging to sewer (under consent of Welsh Water). Monitoring of the discharge will be undertaken to assess compliance with the Welsh Water discharge consent. TOC has been included as per BAT-7.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer	COD	You must comply with the following monthly monitoring and an emission limit of 80 mg/l.	All surface water run-off from the waste processing pad passes though a SUDs approved bioretention system (including filter medium and geotextile transition layer) before discharging to sewer (under consent of Welsh Water). Monitoring of the discharge will be undertaken to assess compliance with the Welsh Water discharge consent. COD monitoring has not been included (as per BAT-7).	N/A
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer	Total suspended solids (TSS)	If you discharge directly to a water body you must monitor TSS monthly in accordance with EN 872 and the emission limit is 60 mg/l.	All surface water run-off from the waste processing pad passes though a SUDs approved bioretention system (including filter medium and geotextile transition layer) before discharging to sewer (under consent of Welsh Water). Monitoring of the discharge will be undertaken to assess compliance with the Welsh Water discharge consent. TSS has been included as per BAT-7.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Brominated flame retardants (BFRs)	You should do annual monitoring, report results as the average value of 3 consecutive representative measurements of at least 30 minutes each.	BFRs have been added to the monitoring schedule for air emission point A11. The monitoring would only apply when the substance concerned is identified as relevant in the waste gas stream based on the inventory.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Dioxin-like polychlorinated biphenyls	Where these are identified in your inventory of point source emissions to air you should do annual monitoring following standard EN1948-4 and report results from one sampling period of at least 6-8 hours.	Dioxin-like PCBs has been added to the monitoring schedule for air emission point A11. The monitoring would only apply when the substance concerned is identified as relevant in the waste gas stream based on the inventory.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Dust emissions	3. You must make sure dust monitoring is done every 6 months using method BS EN 13284-1. The emission limits are as follows. When using: fabric filters – 5 mg/m3, other abatement techniques – a higher emission limit of 10 mg/m3 may be appropriate.	Dust monitoring as per the BAT requirement is proposed. A 5 mg/m3 ELV is suggested. The manufacturer states that <2 mg/m3 is a more likely performance figure. A 5 mg/m3 limit has been applied for.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements		1. You must apply the following emission limits and monitoring requirements for point source emissions to air.	ELVs applied in-line with BAT Guidance.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

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Site: Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH
Permit Ref. EPR/TP3639BH
Source: https://www.gov.uk/guidance/treating-metal-waste-in-shredders-appropriate-measures-for-permitted-facilities

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Metals and metalloids except mercury	Where these are identified in your inventory of point source emissions to air you should do annual monitoring following standard EN14385, report results as the average value of 3 consecutive representative measurements of at least 30 minutes each.	Metalloids (As, Cd, Co, Cr, Cu, Mn, Pb, Sb, Se, Ti and V) have been added to the monitoring schedule for air emission point A11. The monitoring would only apply when the substance concerned is identified as relevant in the waste gas stream based on the inventory.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer		2. For relevant emissions to water or sewer identified by the emissions inventory, you must monitor key process parameters (for example, waste water flow, pH, temperature, conductivity, or BOD) at key locations. For example, these could be at one of the following, the: inlet or outlet (or both) of the pre-treatment, inlet to the final treatment and point where the emission leaves the facility boundary.	Monitoring of the discharge to sewer to be aligned with the Welsh Water Consent. The sampling and monitoring arrangements are outlined in the Drainage Strategy.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Polychlorinated dibenzo-p-dioxin/furan(s)	Where these are identified in your inventory of point source emissions to air you should do annual monitoring following standard EN1948-1 Parts1, 2 and 3, report results from one sampling period of at least 6-8 hours.	PCDD/F has been added to the monitoring schedule for air emission point A11. The monitoring would only apply when the substance concerned is identified as relevant in the waste gas stream based on the inventory.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer	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.	Perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are members of a group of chemicals known as perfluorinated chemicals (PFCs). The requirement to monitor has been included within the application (in-line with BAT-7).	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.1 Emissions to air		1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to air, such as the: average values and variability of flow and temperature average concentration and load values of relevant substances and their variability, flammability, lower and higher explosive limits and reactivity, presence of other substances that may affect the waste gas treatment system or plant safety – for example, oxygen, nitrogen, water vapour, dust.	The application has included an assessment of the likely emission characteristics to air. This has been aligned to other (similar) shredder operations. Where required shredder specific BAT requirements (outlined below) have also been incorporated.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer		1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to water or sewer, such as average values and variability of flow, pH, temperature, and conductivity, average concentration and load values of relevant substances and their variability – for example, chemical oxygen demand (COD) and total organic carbon (TOC), nitrogen species, phosphorus, metals, priority substances or micro pollutants, data on bio-eliminability – for example, biological oxygen demand (BOD), BOD to COD ratio, Zahn-Wellens test, biological inhibition potential, for example, inhibition of activated sludge.	The application has included an assessment of the potential Contaminants of Concern within the proposed discharge to ground (via soakaway). This has been aligned to other (similar) discharges and associated ELVs associated with the Rover Way operations. Where required shredder specific BAT requirements (outlined below) have also been incorporated.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.1 Emissions to air		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.	The monitoring location provided on emission point A11 will meet the requirements outlined within Environment Agency's M1 – Guidance on sampling requirements for monitoring stack emissions.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Dust emissions	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.	The monitoring scheduling states that the average value of 3 consecutive measurements of at least 30 minutes each should be utilised during the dust monitoring.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.3 Emissions to water or sewer	Metals and metalloids	5. If your waste water emissions inventory identified the following parameters are relevant, then you must monitor for them. You should monitor them monthly. There are various standards available for these parameters (for example, EN ISO 11885, EN ISO 17294-2, EN ISO 15586). These emission limits apply whether the discharge is to a water body or to the sewer: arsenic (As) – emission limit 0.05 mg/l cadmium (Cd) – emission limit 0.05 mg/l chromium (Cr) – emission limit 0.15 mg/l copper (Cu) – emission limit 0.5 mg/l nickel (Ni) – emission limit 0.5 mg/l lead (Pb) – emission limit 0.3 mg/l zinc (Zn) – emission limit 2 mg/l mercury (Hg) – emission limit is 5 ug/l (SORT microgram) and the relevant standards are EN ISO 17852, EN ISO 12846)	The monitoring requirements have been aligned to BAT-7 requirements.	Meets BAT
7. Emission limits, monitoring and appropriate measures	7.2 Emissions limits and monitoring requirements	Total VOCs	You should do 6-monthly monitoring following standard BS EN 12619 report results as the average value of 3 consecutive representative measurements of at least 30 minutes each.	TVOCs has been added to the monitoring schedule for air emission point A11.	Meets BAT
7. Emission limits, monitoring and appropriate measures			2. You must create and maintain an inventory (emissions inventory) of point source emissions to air and water (including emissions to sewer) for your facility.	Yes, the application includes a full list of point source emissions.	Meets BAT
8. Process efficiency appropriate measures	8.1 Energy efficiency (installations only)		1. You must create and implement an energy efficiency plan at your facility. This must: define and calculate the specific energy consumption of the activity (or activities) you carry out and the waste streams you treat, set annual key performance indicators – for example, specific energy consumption (expressed in kWh/tonne of waste processed), plan regular improvement targets and related actions.	Celsa operates a formal ISO14001 EMS. This includes monitoring and tracking the consumption of raw materials and energy throughout the installation. A formal energy efficiency plan (for this part of the installation) is not proposed due to the existing ISO14001 systems. A key performance indicator will be created for the shredder plant based on kWh per tonne of processed scrap metal.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

Project: 021-1892
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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
8. Process efficiency appropriate measures	8.1 Energy efficiency (installations only)		2. You must regularly review and update your energy efficiency plan as part of your facility's management system.	Celsa operates a formal ISO14001 EMS. This includes monitoring and tracking the consumption of raw materials and energy throughout the installation. All systems part of the ISO14001 EMS are subject to review and update.	Meets BAT
8. Process efficiency appropriate measures			1. For your facility, you must monitor and review the annual quantity of water, energy and raw materials used, residues and waste water produced. You must do this at least once every year.	Celsa operates a formal ISO14001 EMS. This includes the monitoring and tracking the consumption of raw materials and energy throughout the installation.	Meets BAT
8. Process efficiency appropriate measures	8.2 Raw materials (installations only)		1. You must maintain a list of the raw materials used at your facility and their properties. This includes auxiliary materials and other substances that could have an environmental impact.	Given the nature of the activity this is not considered applicable.	N/A
8. Process efficiency appropriate measures	8.2 Raw materials (installations only)		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.	Given the nature of the activity this is not considered applicable.	N/A
8. Process efficiency appropriate measures	8.2 Raw materials (installations only)		3. You must justify the continued use of any substance for which there is a less hazardous alternative.	Given the nature of the activity this is not considered applicable.	N/A
8. Process efficiency appropriate measures	8.2 Raw materials (installations only)		4. You must have quality assurance procedures in place to control the content of raw materials.	Given the nature of the activity this is not considered applicable.	N/A
8. Process efficiency appropriate measures	8.3 Water use (installations only)		2. You must regularly review your water use (a water efficiency audit), at least every 4 years.	Given the PLC controlled water injection system there is limited opportunity for further water efficiency improvements (i.e. it only injects when it needs to) There will always be a balance between water use and fugitive dust suppression and the prevailing need to minimise off-site impact. Active fugitive dust controls (involving water) will only be applied when required and in-line with prevailing weather conditions.	N/A
8. Process efficiency appropriate measures	8.4 Waste minimisation, recovery and disposal		1. You must have and implement a residues management plan that: minimises the generation of residues arising from waste treatment optimises the reuse, regeneration, recycling or energy recovery of residues, including packaging makes sure you properly dispose of residues where recovery is technically or economically impractical	It is important to note that the plant will undertake R13 (storage of waste pending any of the operations numbered R1 to R12) and R4 (recycling/reclamation of metals and metal compounds) activities. The whole purpose of the plant is the recovery of scrap metals thus limiting the generation of residuals. The majority of the material will be processed and recycled within the EAF. Where Zorba scrap is generated this will be sold. Where residuals are produced they shall be managed and disposed of off-site in-line with the current ISO14001 EMS procedures. A new standalone Residues Management Plan is not considered appropriate (given the type, nature and scale of the plant).	Meets BAT
8. Process efficiency appropriate measures	8.1 Energy efficiency (installations only)		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.	Not considered applicable to this part of the installation.	N/A
8. Process efficiency appropriate measures	8.1 Energy efficiency (installations only)		4. You must regularly review and update your energy balance record as part of your facility's management system, alongside the energy efficiency plan.	Not considered applicable to this part of the installation.	N/A
8. Process efficiency appropriate measures	8.3 Water use (installations only)		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.	Not considered applicable to this part of the installation.	N/A
8. Process efficiency appropriate measures	8.3 Water use (installations only)		1. You must make sure you optimise water consumption to: reduce the volume of waste water generated prevent or, where that is not practicable, reduce emissions to soil and water You must take these measures: implement a water saving plan (involving establishing water efficiency objectives, flow diagrams and water mass balances) optimise the use of washing water (for example, dry cleaning instead of hosing down, using trigger control on all washing equipment) recirculate and reuse water streams within the plant or facility, if necessary after treatment reduce the use of water for vacuum generation (for example, using liquid ring pumps with high boiling point liquids) where relevant reuse in a closed circuit water injected into the mill collect run off water and damping water for dust suppression	The main use of water within the shredder installation is for dust suppression (controlled by PLC). Air containing metallic and non-metallic particulates is dampened down with an automatic water injection system into the shredding chamber. The system only injects water when it is required by reading the load of the shredder, thus minimising the water usage. The water from the injection process is lost to atmosphere as steam. Water is also used across the installation for general cleaning, portable use and for fugitive dust suppression purposes.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
8. Process efficiency appropriate measures	8.3 Water use (installations only)		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.	The main use of water within the shredder installation is for dust suppression (controlled by PLC). Air containing metallic and non-metallic particulates is dampened down with an automatic water injection system into the shredding chamber. The suppression system is able to utilise 'dirty water' i.e. rainwater run off collected on site in a receptacle or lagoon or other similar storage facility. However, given the space constraints there is limited opportunity to store water on-site. Celsa will keep the potential for water re-use under review.	Meets BAT
8. Process efficiency appropriate measures	8.3 Water use (installations only)		4. To reduce water use and associated emissions to water, you should apply these general principles in sequence: use water efficient techniques at source where possible reuse water within the process, by treating it first if necessary – if not practicable, use it in another part of the process or facility that has a lower water quality requirement	The main water use in the installation is the automatic water injection system into the shredding chamber. The system only injects water when it is required by reading the load of the shredder, thus minimising the water usage. The water from the injection process is lost to atmosphere as steam. Fugitive emission controls are only employed when required and as dictated by prevailing weather conditions.	Meets BAT
8. Process efficiency appropriate measures	8.3 Water use (installations only)		8. You must minimise the volume of water you use for cleaning and washing down by: vacuuming, scraping or mopping rather than hosing down reusing wash water (or recycled water) where practicable using trigger controls on all hoses, hand lances and washing equipment	The management of fugitive emissions from the Rover Way site is important for the installation in-line with the procedures outlined within the Dust Management Plan(s). Water is only used where required and as dictated by the prevailing environmental conditions.	Meets BAT
8. Process efficiency appropriate measures	8.1 Energy efficiency (installations only)		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.	The process will be subject to review and audit as per the general ISO14001 EMS processes. If improved energy efficient options arise these may be considered (for installation) during the lifetime of the plant.	Meets BAT
8. Process efficiency appropriate measures	8.3 Water use (installations only)		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.	The re-use of water has been considered but there are limitations with regards to storage space. The main water use in the installation is the automatic water injection system into the shredding chamber. The system only injects water when it is required by reading the load of the shredder, thus minimising the water usage. The water from the injection process is lost to atmosphere as steam. Celsa will keep the potential for water re-use under review.	Meets BAT
8. Process efficiency appropriate measures	8.1 Energy efficiency (installations only)		6. You must have measures in place to avoid gross energy inefficiencies. These should include, for example: keeping the shredder infeed stable insulation containment methods (such as seals and self-closing doors) avoiding unnecessary discharge of heated water or air (for example, by fitting simple control systems such as timers and sensors)	The shear and shredder are new installations constructed to current standards.	Meets BAT
8. Process efficiency appropriate measures	8.4 Waste minimisation, recovery and disposal		2. Where you must dispose of waste, you must do a detailed assessment identifying the best environmental options for waste disposal.	The site operates a certified ISO14001 EMS. The EMS covers the disposal of all residuals from all parts of the permitted installation. The waste disposal hierarchy is considered during all waste management processes.	Meets BAT
8. Process efficiency appropriate measures	8.4 Waste minimisation, recovery and disposal		3. You must regularly review your options for recovering and disposing of waste produced at the facility. You must do this as part of the management system to make sure you are still using the best environmental options and promoting the recovery of waste.	The site operates a certified ISO14001 EMS. The EMS covers the disposal of all residuals from all parts of the permitted installation. The waste disposal hierarchy is considered during all waste management processes.	Meets BAT
8. Process efficiency appropriate measures	8.1 Energy efficiency (installations only)		5. You must have operating, maintenance and housekeeping measures in place in relevant areas, for example, for: air conditioning, process refrigeration and cooling systems (leaks, seals, temperature control, evaporator or condenser maintenance) operating motors and drives compressed gas systems (leaks, procedures for use) steam distribution systems (leaks, traps, insulation) space heating and hot water systems lubrication to avoid high friction losses boiler operation and maintenance, for example, optimising excess air other maintenance relevant to the activities within the facility	The site will establish and will maintain a Planned Preventative Maintenance (PPM) schedule for the new operations in-line with manufacturer's recommendations. This will identify all critical environmental equipment that is used to mitigate or prevent environmental impacts. All records associated with these activities will be maintained on-site and controlled as part of the ISO14001 management system. Any breakdown or malfunction of plant or equipment that could result in abnormal emissions of dust or odours and/or increased energy consumption are dealt with promptly and process operations adjusted until normal operations can resume. Any such events are recorded in the site diary and on the company ProSafety system.	Meets BAT
8. Process efficiency appropriate measures	8.3 Water use (installations only)		9. You must directly measure fresh water consumption and record it regularly at every significant usage point, ideally on a daily basis.	The use of water within the shredder dust suppression system will be monitored via the PLC. It is important to note that the system only injects water when it is required by reading the load of the shredder, thus minimising the water usage. The water from the injection process is lost to atmosphere as steam.	Meets BAT

BAT Assessment - Treating metal waste in shredders: appropriate measures for permitted facilities

Project: 021-1892
Site: Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH
Permit Ref. EPR/TP3639BH
Source: https://www.gov.uk/guidance/treating-metal-waste-in-shredders-appropriate-measures-for-permitted-facilities

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
8. Process efficiency appropriate measures	8.3 Water use (installations only)		3. You must also: produce flow diagrams and water mass balances for your activities establish water efficiency objectives and identify constraints on reducing water use beyond a certain level (usually this will be site specific) identify the opportunities for maximising reuse and minimising use of water have a timetabled improvement plan for implementing additional water reduction measures	This is not considered relevant to this part of the permitted installation due to the volumes of water used and the lack of opportunities to change the process i.e. the main water use in the installation is the automatic water injection system into the shredding chamber. The system only injects water when it is required by reading the load of the shredder, thus minimising the water usage.	N/A

BAT Assessment - Establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU

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Site: Celsa Manufacturing (UK) Ltd, Tremorfa New Melt Shop. Tremorfa Works, Seawall Road, Cardiff, CF24 5TH
Permit Ref. EPR/TP3639BH
Source: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32018D1147&from=EN

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
1. General Bat Conclusions	1.1. Overall environmental performance		BAT 1. In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the following features - (I) to (XIV).	Yes, an ISO14001 EMS has been deployed at the installation. The Site has operated a certified ISO14001 environmental management system since July 2005 and has therefore been through multiple surveillance and recertification cycles.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		I. commitment of the management, including senior management;	This is an inherent requirement of the ISO14001 EMS (Clause 5.1) that has been certified since July 2005. The senior commitment to the EMS is reflected in the environmental policy that is signed by the senior management team including the managing director. It is also available to the public via https://www.celsauk.com/Pdf/Celsa_UK_Environmental_Policy.pdf	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		II. definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation;	The environmental policy has been in-place since 2005. It has been subject to revision and update as the business requirements changed and when the ISO14001 standard was subject to change in 2015. The policy was last reviewed in February 2023. The policy includes a commitment to continuous improvement of the entire site operations (permitted and non-permitted) within the scope of the ISO14001 certificate.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		III. planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment;	The environmental policy commits Celsa to establishing and maintaining environmental objectives and targets on an annual basis. The targets are subject to regular review. Progress against objectives and targets is discussed within the documented management review process. All objectives and targets are linked to Celsa's significant aspects and impacts. As these are discussed managed by the senior management team all discussions will (by default) also include consideration of financial planning and investment cycles.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		IV. implementation of procedures paying particular attention to: (a) structure and responsibility, (b) recruitment, training, awareness and competence, (c) communication, (d) employee involvement, (e) documentation, (f) effective process control, (g) maintenance programmes, (h) emergency preparedness and response, (i) safeguarding compliance with environmental legislation;	The BAT requirements identified within part IV all form part of the ISO14001 EMS that applies to the permitted area. The various systems and functions are described with the EMS Manual (CPA002).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		V. checking performance and taking corrective action, paying particular attention to: (a) monitoring and measurement (see also the JRC Reference Report on Monitoring of emissions to air and water from IED installations – ROM), (b) corrective and preventive action, (c) maintenance of records, (d) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained;	The BAT requirements identified within part V all form part of the ISO14001 EMS that applies to the permitted area. The various systems and functions are described with the EMS Manual (CPA002). The EMS is certified and is subjective to regular external audits by a UKAS approved certifier.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		VI. review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness;	The BAT requirements identified within part VI form part of the ISO14001 EMS that applies to the permitted area. The various systems and functions are described with the EMS Manual (CPA002).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		VII. following the development of cleaner technologies;	The term 'following cleaner technologies' is not defined within the BATC Guidance but is generally used to mean the avoidance of environmental damage through use of materials, processes, or practices to eliminate or reduce the creation of pollutants or wastes. It is important to remember that the installation is a scrap metal shredder designed to recover metals for processing and recycling within the adjacent Electric Arc Furnace (EAF). This is inherently a cleaner technology than the standard Blast Furnace-Basic Oxygen Furnace approach. Celsa Steel UK's long-term goals and commitments to the circular economy are outlined within the provided Sustainability Statement 2023. Cleaner technology and improvement are a core company objective.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		VIII. consideration for the environmental impacts from the eventual decommissioning of the plant at the stage of designing a new plant, and throughout its operating life;	The original IPPC application included outline procedures for the eventual permit decommissioning process and permit surrender. A full site closure plan and associated method statements would be developed during the surrender process.	Meets BAT

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
1. General Bat Conclusions	1.1. Overall environmental performance		IX. application of sectoral benchmarking on a regular basis;	Celsa has successfully been awarded the EUROFER Sustainability for Steel Construction Products MARK (Suststeel). EUROFER is the European Steel Association, founded in 1976, and located in Brussels. Its members are steel companies and national steel federations throughout the European Union. On of the key components of the certification process is the development of Key Performance Indicators (KPIs) against specific economic, environmental and social indicators. There are currently 26 certified centres across the EU. Key KPIs and performance are outlined within the annual sustainability statement.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		X. waste stream management (see BAT 2);	The management of waste streams is outlined within a ECP14 Waste Management (Rev9, April 2023).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		XI. an inventory of wastewater and waste gas streams (see BAT 3);	The facility operates a certified ISO14001 EMS that includes a Environmental Manual (CP/A002, Rev21, April 2023) that includes Figure 3 - EMS Overview. This provides and overview of inputs and emissions. This is subject to further detailed assessment within the Aspects Register 2023 (Rev18, March 2023).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		XII. residues management plan (see description in Section 6.5);	The BATC guidance defines a residues management plan as a set of measures aiming to (1) minimise the generation of residues arising from the treatment of waste; (2) optimise the reuse, regeneration, recycling and/or recovery of energy of the residues, and (3) ensure the proper disposal of residues. The management of residues from the processing of waste are outlined within a ECP14 Waste Management (Rev9, April 2023).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		XIII. accident management plan (see description in Section 6.5);	The BATC guidance defines the accident management plan as identifying hazards posed by the plant and the associated risks whilst defining measures to address these risks. It considers the inventory of pollutants present or likely to be present which could have environmental consequences if they escape. The Celsa emergency action plans are outlined within ECP34 Emergency Action Plans (Rev5, April 2023) and the Emergency Plan (CP/B032. April 2023).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		XIV. odour management plan (see BAT 12);	This is not considered a requirement given the nature of the waste handled/processed on-site.	N/A
1. General Bat Conclusions	1.1. Overall environmental performance		XV. noise and vibration management plan (see BAT 17).	A standalone noise and vibration management plan was provided within the application submission (Ref. ECP Shredder and Shear - Noise and Vibration Management Plan - Rev 0). As this is a document within the EMS it is subject to regular review and update (as required).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		BAT 2. In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below.	Yes, full pre-acceptance, waste acceptance, tracking, waste processing and waste system procedures have been established and will be maintained.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		a. Set up and implement waste characterisation and pre-acceptance procedures	The pre-acceptance processes are embedded within the purchasing system (i.e. pre-supplier approval). This involves application of a standardised supplier assessment via checklist. The requested information includes VAT Certificate, Scrap Metal Dealers Licence and Waste Carriers license etc. Once this has been approved all purchases are done in-line with the our company specifications which are almost identical to the BMRA UK Specifications for Metals Recycling for Ferrous Raw Materials used in the Manufacture of Iron and Steel (3rd Edition, February 2023), with only a few tweaks on certain grades to accommodate specific Melt Shop requirements.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		b. Set up and implement waste acceptance procedures	Waste acceptance procedures are outlined within CRUK-SWP-OPS-002-01 Scrap Inspection Rev1 alongside CRUK-SWP-OPS-001-01 Unloading of materials Rev1 and CRUK-SWP-OPS-003-01 Loading of materials Rev1. As with the pre-acceptance process Celsa systems are aligned to the current BMRA Guidance on acceptance criteria for bulk ferrous scrap.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		c. Set up and implement a waste tracking system and inventory	Waste acceptance procedures are outlined within CRUK-SWP-OPS-002-01 Scrap Inspection Rev1. This includes electronic waste tracking systems linked to the weighbridge operation.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		d. Set up and implement an output quality management system	The quality of the processed waste streams is paramount to the successful operation of the EAF (the main destiny for on-site processed materials). All operations are covered by the certified Quality Management System (ISO9001:2015, Certificate no, 1100, expiry 17/05/2024).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		e. Ensure waste segregation	Waste acceptance procedures are outlined within CRUK-SWP-OPS-002-01 Scrap Inspection Rev1. The management of waste streams (including segregation requirements) is outlined within a ECP14 Waste Management (Rev9, April 2023).	Meets BAT

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
1. General Bat Conclusions	1.1. Overall environmental performance		f. Ensure waste compatibility prior to mixing or blending of waste	Waste acceptance procedures are outlined within CRUK-SWP-OPS-002-01 Scrap Inspection Rev1. The management of waste streams is outlined within a ECP14 Waste Management (Rev9, April 2023).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		g. Sort incoming solid waste	Waste acceptance procedures are outlined within CRUK-SWP-OPS-002-01 Scrap Inspection Rev1. The management of waste streams is outlined within a ECP14 Waste Management (Rev9, April 2023).	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		BAT 3. In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1).	Yes, the EMS includes a documented aspects and impacts assessment that identifies and considers all emissions and associated environmental impacts.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		(i) information about the characteristics of the waste to be treated and the waste treatment processes, including: (a) simplified process flow sheets that show the origin of the emissions; (b) descriptions of process-integrated techniques and waste water/waste gas treatment at source including their performances;	The permit variation includes a full description of the process flows (inputs and outputs) and associated process emission related treatments/technologies. Where required the variation has demonstrated compliance with BAT.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		(ii) information about the characteristics of the waste water streams, such as: (a) average values and variability of flow, pH, temperature, and conductivity; (b) average concentration and load values of relevant substances and their variability (e.g. COD/TOC, nitrogen species, phosphorus, metals, priority substances/micropollutants); (c) data on bioeliminability (e.g. BOD, BOD to COD ratio, Zahn-Wellens test, biological inhibition potential (e.g. inhibition of activated sludge)) (see BAT 52);	The main water-based emission is surface water from the newly installed engineered pad. This is a new installation - it is therefore not possible to provide site-specific information about the characteristics of the surface water from the engineered pad. Emission characteristics have been aligned to the BAT requirements outlined in BATC Table 6.1.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		(iii) information about the characteristics of the waste gas streams, such as: (a) average values and variability of flow and temperature; (b) average concentration and load values of relevant substances and their variability (e.g. organic compounds, POPs such as PCBs); (c) flammability, lower and higher explosive limits, reactivity; (d) presence of other substances that may affect the waste gas treatment system or plant safety (e.g. oxygen, nitrogen, water vapour, dust).	Information on the point source emission characteristics have been provided within variation application. A revised screening assessment based on BAT8 (Emissions to Air) requirements has been provided.	Meets BAT
1. General Bat Conclusions	1.1. Overall environmental performance		BAT 4. In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below.	The storage of waste has been optimised based on available space, relationship to the processing equipment and the ability to separated and segregated (where required).	Meets BAT
			a. Optimised storage location	The storage of waste has been optimised based on available space, relationship to the processing equipment and the ability to separate and segregated (where required).	Meets BAT
			b. Adequate storage capacity	Adequate storage capacity has been provided to balance production throughout and residual management whilst minimising storage volumes in-line with the pile size requirements outlined in the Fire Prevention & Mitigation Plan (FPMP) guidance. The permit application has clearly stated the maximum waste storage capacities and residence times.	Meets BAT
			c. Safe storage operation	Where required storage bays and storage areas shall be appropriately labelled.	Meets BAT
			d. Separate area for storage and handling of packaged hazardous waste	Packaged hazardous waste is not part of the proposed operations.	N/A
1. General Bat Conclusions	1.1. Overall environmental performance		BAT 5. In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures.	Yes, the management plans include handling and transfer procedures to minimise environmental risk and to reduce fugitive emissions.	Meets BAT
1. General Bat Conclusions	1.2. Monitoring		BAT 6. For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).	Samples of surface water from the process slab are to be subject to monitoring as per the stated BAT and Welsh Water consent requirements. All collected samples would be transferred from the collection vessel to approved laboratory supplied glassware before analysis at an appropriate IS17025/MCERTS laboratory with the analytical suite aligned to the BATC requirements.	Meets BAT
1. General Bat Conclusions	1.2. Monitoring		BAT 7. BAT is to monitor emissions to water with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.	Proposed monitoring frequency has been aligned to the stated BAT-7 requirements.	Meets BAT
1. General Bat Conclusions	1.2. Monitoring		BAT 8. BAT is to monitor channelled emissions to air with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.	There is a point source emission to air. Key monitoring requirements aligned to BAT-AELs have been identified (including required monitoring frequencies).	Meets BAT

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
1. General Bat Conclusions	1.2. Monitoring		BAT 9. BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques given below.	Not considered relevant. No solvents are processed in the installation.	N/A
1. General Bat Conclusions	1.2. Monitoring		Measurement	Not considered relevant. No solvents are processed in the installation.	N/A
1. General Bat Conclusions	1.2. Monitoring		Emissions factors	Not considered relevant. No solvents are processed in the installation.	N/A
1. General Bat Conclusions	1.2. Monitoring		Mass balance	Not considered relevant. No solvents are processed in the installation.	N/A
1. General Bat Conclusions	1.2. Monitoring		BAT 10. BAT is to periodically monitor odour emissions.	Odour is not seen as a significant issue for this installation and will not be monitored.	N/A
1. General Bat Conclusions	1.2. Monitoring		BAT 11. BAT is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year.	With respect to energy use Celsa is committed to managing and reducing the environmental impact of its operations (wherever possible). Energy reduction programmes are established and maintained throughout the business. The shredder operations will be included within these programmes. CELSA currently operates under a Climate Change Levy Agreement (CCLA) within the UK Steel Association sector. UKSA/CELSA/N/00001. The raw material use associated with the shredder operations are minimal apart from when routine maintenance is required. The on-board systems make use of cooling water, compressed air, electricity, hydraulics (oils), and greased lubrication. Volumes used (per annum) will be recorded in the purchasing systems. Water use will be monitored as part of the fugitive dust abatement process. The PLC system will be utilised.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		BAT 12. In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1).	Odour is not seen as a significant issue for this installation.	N/A
1. General Bat Conclusions	1.3. Emissions to air		BAT 13. In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques given below.	Odour is not seen as a significant issue for this installation.	N/A
1. General Bat Conclusions	1.3. Emissions to air		BAT 14. In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given below. Depending on the risk posed by the waste in terms of diffuse emissions to air, BAT 14d is especially relevant.	A fugitive dust impact assessment has been undertaken that includes identification of appropriate measures. These have been incorporated into the dust management plan.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		a. Minimising the number of potential diffuse emission sources	The number of waste piles cannot be reduced as segregation must be applied (i.e. for duty of care and for process efficiency). A fugitive dust impact assessment has been undertaken and there is a dust management plan that introduces various controls including limiting the drop height of materials and traffic speeds on-site.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		b. Selection and use of high integrity equipment	The installation is new and will be constructed of appropriate materials with appropriate seals so as to prevent fugitive emissions. The machine is to be provided by Lindemann Germany GmbH.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		c. Corrosion prevention	The installation is new and will be constructed of appropriate materials with appropriate linings and coatings so as to prevent corrosion. The supplied information states the thickness of paint coat as 90 µm.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		d. Containment, collection and treatment of diffuse emissions	The ability to sort and treat waste (associated with the shredder) within a building is not possible due to the volumes involved. Fugitive air emissions (from the process) are collected and treated using a BAT abatement system prior to point source discharge.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		e. Dampening	A fugitive dust impact assessment has been undertaken and there is a dust management plan that introduces various controls including the use of water to dampen down potential fugitive dust sources.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		f. Maintenance	All equipment shall be subject to regular planned preventative maintenance and inspection (in-line with manufacturers recommendations). Any and all potential leakages shall be identified and repaired.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		g. Cleaning of waste treatment and storage areas	A fugitive dust impact assessment has been undertaken and there is a dust management plan that introduces various controls including the cleaning of areas that could act as potential fugitive dust sources.	Meets BAT
1. General Bat Conclusions	1.3. Emissions to air		h. Leak detection and repair (LDAR) programme	Not applicable to the installation.	N/A

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
1. General Bat Conclusions	1.3. Emissions to air		BAT 15. BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns) by using both of the techniques given below. - Correct plant design - Plant management	Not applicable to the installation.	N/A
1. General Bat Conclusions	1.3. Emissions to air		BAT 16. In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given below. Correct design of flaring devices Monitoring and recording as part of flare management	Not applicable to the installation.	N/A
1. General Bat Conclusions	1.4. Noise and vibrations		BAT 17. In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan, as part of the environmental management system (see BAT 1).	A noise and vibration management plan has been established and will be maintained.	Meets BAT
1. General Bat Conclusions	1.4. Noise and vibrations		BAT 18. In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques given below. Appropriate location of equipment and buildings Operational measures Low-noise equipment Noise and vibration control equipment Noise attenuation	The shredder is fitted with noise attenuation enclosures.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		BAT 19. In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques given below.	Water is primarily consumed within the fugitive dust suppression system and as part of the general site-wide dust suppression activities	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		a. Water management	Water is primarily consumed within the fugitive dust suppression system. The application is controlled via PLC to ensure efficient and controlled use.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		b. Water recirculation	The dust suppression system only injects water when it is required by reading the load of the shredder, thus minimising the water usage. The water from the injection process is lost to atmosphere as steam. Recirculation of the water is not possible.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		c. Impermeable surface	The entire permitted area is to be upgraded to a fully impermeable surface. At the current time the installation (Rover Way) is mostly unsurfaced ground with direct infiltration.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		d. Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels	There are no significant process fluid containing tanks or vessels associated with the installation.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		e. Roofing of waste storage and treatment areas	Given the nature of the processes and the associated materials (high volume wastes) it is not possible to provide covered waste storage and/or treatment areas. The shredder is provided with a fully engineered noise enclosure. This is compliant with the BATC Guidance for shredders.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		f. Segregation of water streams	Given the lack of roofed buildings and structures the collection and segregation of rainwater is not possible. The main wastewater stream will be surface water run-off from the main impermeable pad.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		g. Adequate drainage infrastructure	The waste treatment area is connected to drainage infrastructure with a final release to sewer. Rainwater falling on the treatment and storage areas is collected in the drainage infrastructure and subject to treatment. The drainage and treatment system has been designed to meet CIRIA, BATC guidance and the requirements of the SAB approval process. The system is not designed to treat leaks, spills or fire water. All sources shall be addressed at source (cleaned-up) and firewater shall be subject to full containment (isolation) from the drainage system.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		h. Design and maintenance provisions to allow detection and repair of leaks	There are no underground tanks or structures associated with the installation. All equipment shall be subject to regular planned preventative maintenance and inspection (in-line with manufacturers recommendations). Any and all potential leakages shall be identified and repaired.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		i. Appropriate buffer storage capacity	Buffer storage during fire water events has been incorporated into the design in-line with FPMP Guidance requirements.	Meets BAT
1. General Bat Conclusions	1.5. Emissions to water		BAT 20. In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques. Preliminary and primary treatment, Physico-chemical treatment, Biological treatment, Nitrogen removal, Solids removal.	The only waste water from the process will come from surface water run-off generated from the processing pad. This will be subject to filtration using bio-retention strips using the Aqua-Xchange engineered filter media. BAT-EAL assessment (relevance) is provided on separate sheets.	Meets BAT
1. General Bat Conclusions	1.6. Emissions from accidents and incidents		BAT 21. In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques given below, as part of the accident management plan.	Yes, this is a standard procedure within the current ISO14001 certified management system. It applies to all areas covered by the environmental permit.	Meets BAT

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Permit Ref. EPR/TP3639BH
Source: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32018D1147&from=EN

Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
1. General Bat Conclusions	1.6. Emissions from accidents and incidents		a. Protection measures	The wider Rover Way site itself is surrounded by a 2.4-metre-high palisade fence. All access on to the wider site is controlled. No unauthorised access is permitted. The shredder compound itself will also feature boundary controls i.e. a 3 metre high retaining wall (along southern boundary) and 1 metre concrete panel wall fence around the rest of the perimeter. All access into the shredder compound will be controlled. No unauthorised access will be permitted. The fire and deflagration management controls are detailed within the ECP Shredder and Shear - Deflagration Management Plan - Rev 0 and ECP Shredder and Shear - Fire Prevention Management Plan - Rev 0.	Meets BAT
1. General Bat Conclusions	1.6. Emissions from accidents and incidents		b. Management of incidental/accidental emissions	The site has established and maintains an Emergency Plan (CPB032 Emergency Plan) and supporting action plans (ECP34 Emergency Action Plans) which are subject to regular review and update and is controlled via the EMS. The plan details site drainage, site services, location of hazardous materials (e.g. fuels and oils), emergency response equipment, pollution control points etc. Where required the emergency plan will be revised to take in to account any identified deficiencies. Appropriate spill kits and absorbents will be available throughout the site. These will be subject to regular inspection to ensure stock levels are maintained. All operatives will be trained in their use. Celsa Manufacturing (UK) Ltd has also established and will maintain a stand-alone Fire Prevention and Mitigation Plan (FPMP) in-line with NRW Guidance.	Meets BAT
1. General Bat Conclusions	1.6. Emissions from accidents and incidents		c. Incident/accident registration and assessment system	Accidents, Incidents, complaints, and non-conformances are to be handled through the existing processes that form part of the ISO 14001 EMS. These processes are detailed within various SWPs and the EMS Manual (Ref. CPA002).	Meets BAT
1. General Bat Conclusions	1.7. Material efficiency		BAT 22. In order to use materials efficiently, BAT is to substitute materials with waste.	Not considered applicable.	N/A
1. General Bat Conclusions	1.8. Energy efficiency		BAT 23. In order to use energy efficiently, BAT is to use both of the techniques given below. Energy efficiency plan Energy balance record	Yes, energy efficiency is an important part of the installation as it is estimated at between 3,500 - 400 kWh. Where possible energy efficiency measures will be identified and implemented.	Meets BAT
1. General Bat Conclusions	1.9. Reuse of packaging		BAT 24. In order to reduce the quantity of waste sent for disposal, BAT is to maximise the reuse of packaging, as part of the residues management plan (see BAT 1).	Packaging is not considered a relevant part of the incoming EWCs.	N/A
2. Bat Conclusions For The Mechanical Treatment Of Waste	2.1. General BAT conclusions for the mechanical treatment of waste	2.1.1. Emissions to air	BAT 25. In order to reduce emissions to air of dust, and of particulate-bound metals, PCDD/F and dioxin-like PCBs, BAT is to apply BAT 14d and to use one or a combination of the techniques given below. Cyclone Fabric filter Wet scrubbing Water injection into the shredder	Yes, the proposed shredder installation includes a cyclone and a shredder water injection system. The dust BAT-AEL is 2-5 mg/Nm3. The shredder has been designed to meet 2 mg/Nm3. The proposed ELV is 5 mg/m3.	Meets BAT
2. Bat Conclusions For The Mechanical Treatment Of Waste	2.2. BAT conclusions for the mechanical treatment in shredders of metal waste	2.2.1. Overall environmental performance	BAT 26. In order to improve the overall environmental performance, and to prevent emissions due to accidents and incidents, BAT is to use BAT 14g and all of the techniques given below:	Yes, Celsa operates a strict system of waste pre-acceptance and waste acceptance procedures prior to processing. The systems aim to reduce the likelihood of unacceptable materials entering the processing stream.	Meets BAT
			(a) implementation of a detailed inspection procedure for baled waste before shredding;	Safe Working Procedures are used for Scrap Inspection (Ref. CRUK-SWP-002-01). All wastes are subject to inspection in order to assess presence/absence of prohibited materials.	Meets BAT
			(b) removal of dangerous items from the waste input stream and their safe disposal (e.g. gas cylinders, nondepolluted EoLVs, non-depolluted WEEE, items contaminated with PCBs or mercury, radioactive items);	Safe Working Procedures are used for Scrap Inspection (Ref. CRUK-SWP-002-01). All wastes are subject to inspection in order to assess presence/absence of prohibited materials. Where required these are removed and quarantined.	Meets BAT
			(c) treatment of containers only when accompanied by a declaration of cleanliness.	Safe Working Procedures are used for Scrap Inspection (Ref. CRUK-SWP-002-01). All materials shall be de-polluted before entrance on to the site. This means emptied and cleaned of contaminants. This includes oils, lubes, paints, fuels, glues and gasses. All wastes are subject to inspection in order to assess presence/absence of prohibited materials. Where required these are removed and quarantined (i.e. not processed).	Meets BAT
2. Bat Conclusions For The Mechanical Treatment Of Waste	2.2. BAT conclusions for the mechanical treatment in shredders of metal waste	2.2.2. Deflagrations	BAT 27. In order to prevent deflagrations and to reduce emissions when deflagrations occur, BAT is to use technique a. and one or both of the techniques b. and c. given below. (a) Deflagration management plan (b) Pressure relief dampers (c) Pre-shredding	Yes, a deflagration management plan has been produced for the proposed installation. The duct run from the shredder to the dust extraction cyclone is provided with venting panels, for the release of pressure resulting from an explosion inside the shredder, the panels are made of rubber conveyor belt to provide a good seal in service.	Meets BAT
2. Bat Conclusions For The Mechanical Treatment Of Waste	2.2. BAT conclusions for the mechanical treatment in shredders of metal waste	2.2.3. Energy efficiency	BAT 28. In order to use energy efficiently, BAT is to keep the shredder feed stable.	Yes, the shredder feedstock will be controlled (as much as possible) to ensure waste fractions are minimised. The plant is designed as a feed to the adjacent EAF rather than as a general purpose shredder.	Meets BAT

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
2. Bat Conclusions For The Mechanical Treatment Of Waste	2.3. BAT conclusions for the treatment of WEEE containing VFCs and/or VHCs	2.3.1. Emissions to air	BAT 29. In order to prevent or, where that is not practicable, to reduce emissions of organic compounds to air, BAT is to apply BAT 14d, BAT 14h and to use technique a. and one or both of the techniques b. and c. given below. (a) Optimised removal and capture of refrigerants and oils (b) Cryogenic condensation (c) Adsorption	Not applicable to the installation.	N/A
2. Bat Conclusions For The Mechanical Treatment Of Waste	2.3. BAT conclusions for the treatment of WEEE containing VFCs and/or VHCs	2.3.2. Explosions	BAT 30. In order to prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs, BAT is to use either of the techniques given below. Inert atmosphere Forced ventilation	Not applicable to the installation.	N/A
2. Bat Conclusions For The Mechanical Treatment Of Waste	2.4. BAT conclusions for the mechanical treatment of waste with calorific value	2.4.1. Emissions to air	BAT 31. In order to reduce emissions to air of organic compounds, BAT is to apply BAT 14d and to use one or a combination of the techniques given below. Adsorption Biofilter Thermal oxidation Wet scrubbing	Not applicable to the installation.	N/A
2. Bat Conclusions For The Mechanical Treatment Of Waste	2.5. BAT conclusions for the mechanical treatment of WEEE containing mercury	2.5.1. Emissions to air	BAT 32. In order to reduce mercury emissions to air, BAT is to collect mercury emissions at source, to send them to abatement and to carry out adequate monitoring.	Not applicable to the installation.	N/A
3. Bat Conclusions For The Biological Treatment Of Waste	3.1. General BAT conclusions for the biological treatment of waste	3.1.1. Overall environmental performance	BAT 33. In order to reduce odour emissions and to improve the overall environmental performance, BAT is to select the waste input.	Not applicable to the installation.	N/A
3. Bat Conclusions For The Biological Treatment Of Waste		3.1.2. Emissions to air	BAT 34. In order to reduce channelled emissions to air of dust, organic compounds and odorous compounds, including H2S and NH3, BAT is to use one or a combination of the techniques given below. Adsorption Biofilter Fabric filter Thermal oxidation Wet scrubbing	Not applicable to the installation.	N/A
3. Bat Conclusions For The Biological Treatment Of Waste		3.1.3. Emissions to water and water usage	BAT 35. In order to reduce the generation of waste water and to reduce water usage, BAT is to use all of the techniques given below. Segregation of water streams Water recirculation Minimisation of the generation of leachate	Not applicable to the installation.	N/A
3. Bat Conclusions For The Biological Treatment Of Waste	3.2. BAT conclusions for the aerobic treatment of waste	3.2.1. Overall environmental performance	BAT 36. In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.	Not applicable to the installation.	N/A
3. Bat Conclusions For The Biological Treatment Of Waste		3.2.2. Odour and diffuse emissions to air	BAT 37. In order to reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps, BAT is to use one or both of the techniques given below. Use of semipermeable membrane covers Adaptation of operations to the meteorological conditions	Not applicable to the installation.	N/A
3. Bat Conclusions For The Biological Treatment Of Waste	3.3. BAT conclusions for the anaerobic treatment of waste	3.3.1. Emissions to air	BAT 38. In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.	Not applicable to the installation.	N/A
3. Bat Conclusions For The Biological Treatment Of Waste	3.4. BAT conclusions for the mechanical biological treatment (MBT) of waste		Unless otherwise stated, the BAT conclusions presented in this section apply to MBT, and in addition to the general BAT conclusions for the biological treatment of waste in Section 3.1. The BAT conclusions for the aerobic treatment (Section 3.2) and anaerobic treatment (Section 3.3) of waste apply, when relevant, to the mechanical biological treatment of waste.	Not applicable to the installation.	N/A
3. Bat Conclusions For The Biological Treatment Of Waste	3.4. BAT conclusions for the mechanical biological treatment (MBT) of waste	3.4.1. Emissions to air	BAT 39. In order to reduce emissions to air, BAT is to use both of the techniques given below. Segregation of the waste gas streams Recirculation of waste gas	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.1. BAT conclusions for the physico-chemical treatment of solid and/or pasty waste	4.1.1. Overall environmental performance	BAT 40. In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.1. BAT conclusions for the physico-chemical treatment of solid and/or pasty waste	4.1.2. Emissions to air	BAT 41. In order to reduce emissions of dust, organic compounds and NH3 to air, BAT is to apply BAT 14d and to use one or a combination of the techniques given below. Adsorption Biofilter Fabric filter Wet scrubbing	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.2. BAT conclusions for the re-refining of waste oil	4.2.1. Overall environmental performance	BAT 42. In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste			BAT 43. In order to reduce the quantity of waste sent for disposal, BAT is to use one or both of the techniques given below. Material recovery Energy recovery	Not applicable to the installation.	N/A

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Section Ref.	Heading	Sub-Heading	BAT Requirement	Description and Assessment	BAT Assessment
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste		4.2.2. Emissions to air	BAT 44. In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the techniques given below. Thermal oxidation Wet scrubbing	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.3. BAT conclusions for the physico-chemical treatment of waste with calorific value	4.3.1. Emissions to air	BAT 45. In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the techniques given below. Adsorption Cryogenic condensation Thermal oxidation Wet scrubbing	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.4. BAT conclusions for the regeneration of spent solvents	4.4.1. Overall environmental performance	BAT 46. In order to improve the overall environmental performance of the regeneration of spent solvents, BAT is to use one or both of the techniques given below. Material recovery Energy recovery	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste		4.4.2. Emissions to air	BAT 47. In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use a combination of the techniques given below. Recirculation of process off-gases in a steam boiler Adsorption Thermal oxidation Condensation or cryogenic condensation Wet scrubbing	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.5. BAT-AEL for emissions of organic compounds to air from the re-refining of waste oil, the physico-chemical treatment of waste with calorific value and the regeneration of spent solvents		BAT-associated emission level (BAT-AEL) for channelled emissions of TVOC to air from the re-refining of waste oil, the physico-chemical treatment of waste with calorific value and the regeneration of spent solvents.	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.6. BAT conclusions for the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil	4.6.1. Overall environmental performance	BAT 48. In order to improve the overall environmental performance of the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil, BAT is to use all of the techniques given below. Heat recovery from the furnace off-gas Indirectly fired furnace Process-integrated techniques to reduce emissions to air	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste		4.6.2. Emissions to air	BAT 49. In order to reduce emissions of HCl, HF, dust and organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the techniques given below. Cyclone Electrostatic precipitator (ESP) Fabric filter Wet scrubbing Adsorption Condensation Thermal oxidation	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.7. BAT conclusions for the water washing of excavated contaminated soil	4.7.1. Emissions to air	BAT 50. In order to reduce emissions of dust and organic compounds to air from the storage, handling, and washing steps, BAT is to apply BAT 14d and to use one or a combination of the techniques given below. Adsorption Fabric filter Wet scrubbing	Not applicable to the installation.	N/A
4. Bat Conclusions For The Physico-Chemical Treatment Of Waste	4.8. BAT conclusions for the decontamination of equipment containing PCBs	4.8.1. Overall environmental performance	BAT 51. In order to improve the overall environmental performance and to reduce channelled emissions of PCBs and organic compounds to air, BAT is to use all of the techniques given below. Coating of the storage and treatment areas Implementation of staff access rules to prevent dispersion of contamination Optimised equipment cleaning and drainage Control and monitoring of emissions to air Disposal of waste treatment residues Recovery of solvent when solvent washing is used	Not applicable to the installation.	N/A
5. Bat Conclusions For The Treatment Of Water-Based Liquid Waste	5.1. Overall environmental performance		BAT 52. In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).	Not applicable to the installation.	N/A
5. Bat Conclusions For The Treatment Of Water-Based Liquid Waste	5.2. Emissions to air		BAT 53. In order to reduce emissions of HCl, NH3 and organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the techniques given below. Adsorption Biofilter Thermal oxidation Wet scrubbing	Not applicable to the installation.	N/A

BAT-associated monitoring - emissions to water

Source: BAT-7 COMMISSION IMPLEMENTING DECISION (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council

Substance/Parameter	Frequency	Waste treatment process	BATC Notes	Process Applicability
Hydrocarbon oil index (HOI) (4)	Monthly	Mechanical treatment in shredders of metal waste	EN ISO 9377-2	Yes
Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Nickel (Ni), Lead (Pb), Zinc (Zn) (3) (4)	Monthly	Mechanical treatment in shredders of metal waste	EN ISO 11885, EN ISO 17294-2, EN	Yes
Mercury (Hg) (3) (4)	Monthly	Mechanical treatment in shredders of metal waste	EN ISO 17852, EN ISO 12846	Yes
PFOA (3)	Six Months	All waste treatments	None	Yes
PFOS (3)	Six Months	All waste treatments	None	Yes

Notes:

(1) Monitoring frequencies may be reduced if the emission levels are proven to be sufficiently stable.
(2) In the case of batch discharge less frequent than the minimum monitoring frequency, monitoring is carried out once per batch.
(3) The monitoring only applies when the substance concerned is identified as relevant in the waste water inventory mentioned in BAT 3.
(4) In the case of an indirect discharge to a receiving water body, the monitoring frequency may be reduced if the downstream waste water treatment plant abates the pollutants concerned.
(5) Either TOC or COD is monitored. TOC is the preferred option, because its monitoring does not rely on the use of very toxic compounds.
(6) The monitoring applies only in the case of a direct discharge to a receiving water body.

BAT-associated monitoring - emissions to air

Source: BAT-8 COMMISSION IMPLEMENTING DECISION (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council

Substance/Parameter	Frequency	Waste treatment process	BATC Notes	Process Applicability
Brominated flame retardants (2)	Annual	Mechanical treatment in shredders of metal waste	BAT 25	Yes
Dioxin-like PCBs	Annual	Mechanical treatment in shredders of metal waste (2)	BAT 25	Yes
Dust	Six months	Mechanical treatment of waste	BAT 25	Yes
Metals and metalloids except mercury (e.g. As, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V) (2)	Annual	Mechanical treatment in shredders of metal waste	BAT 25	Yes
PCDD/F (2)	Annual	Mechanical treatment in shredders of metal waste	BAT 25	Yes
TVOC	Six months	Mechanical treatment in shredders of metal waste	BAT 25	Yes

Notes:

(1) Monitoring frequencies may be reduced if the emission levels are proven to be sufficiently stable.
(2) The monitoring only applies when the substance concerned is identified as relevant in the waste gas stream based on the inventory mentioned in BAT 3.
(3) Instead of EN 1948-1, sampling may also be carried out according to CEN/TS 1948-5.
(4) The odour concentration may be monitored instead.
(5) The monitoring of NH3 and H2S can be used as an alternative to the monitoring of the odour concentration.
(6) The monitoring only applies when solvent is used for cleaning the contaminated equipment.

BAT- Wastewater Treatment Techniques

Source: COMMISSION IMPLEMENTING DECISION (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council

Type	Technique	Typical Pollutants targeted	Applicability	Process Applicability
Physico-chemical Treatment	d. Adsorption	Adsorbable dissolved non-biodegradable or inhibitory pollutants, e.g. hydrocarbons, mercury, AOX	Generally applicable	Yes
Solids Removal	q. Filtration (e.g. sand filtration, microfiltration, ultrafiltration)	Suspended solids and particulate-bound metals	Generally applicable	Yes

Notes:

BAT-associated emission levels (BAT-AELs) for direct discharges to a receiving water body

Source: Table 6.1 - COMMISSION IMPLEMENTING DECISION (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council

Substance/Parameter	BAT-AEL [1]	Waste treatment process to which the BAT-AEL applies	BATC Notes	Process Applicability
Total organic carbon (TOC) [2]	10-60 mg/l	— All waste treatments except treatment of water-based liquid waste	Either the BAT-AEL for COD or the BAT-AEL for TOC applies. TOC monitoring is the preferred option because it does not rely on the use of very toxic compounds.	No
Total organic carbon (TOC) [2]	10-100 mg/l [3] [4]	— Treatment of water-based liquid waste		No
Chemical oxygen demand (COD) [2]	30-180 mg/l	— All waste treatments except treatment of water-based liquid waste	Either the BAT-AEL for COD or the BAT-AEL for TOC applies. TOC monitoring is the preferred option because it does not rely on the use of very toxic compounds.	No
Chemical oxygen demand (COD) [2]	30-300 mg/l [3] [4]	— Treatment of water-based liquid waste		No
Total suspended solids (TSS)	5-60 mg/l	— All waste treatments		No
Hydrocarbon oil index (HOI)	0.5-10 mg/l	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Water washing of excavated contaminated soil — Treatment of water-based liquid waste		No
Total nitrogen (Total N)	1-25 mg/l [5] [6]	— Biological treatment of waste — Re-refining of waste oil		No
Total nitrogen (Total N)	10-60 mg/l [5] [6] [7]	— Treatment of water-based liquid waste		No
Total phosphorus (Total P)	0.3-2 mg/l	— Biological treatment of waste		No
Total phosphorus (Total P)	1-3 mg/l [4]	— Treatment of water-based liquid waste		No
Phenol index	0.05-0.2 mg/l	— Re-refining of waste oil — Physico-chemical treatment of waste with calorific value		No
Phenol index	0.05-0.3 mg/l	— Treatment of water-based liquid waste		No
Free cyanide (CN^-) [8]	0.02-0,1 mg/l	— Treatment of water-based liquid waste		No
Adsorbable organically bound halogens (AOX) [8]	0.2-1 mg/l	— Treatment of water-based liquid waste		No
Arsenic (expressed as As)	0.01-0.05 mg/l	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Mechanical biological treatment of waste — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Physico-chemical treatment of solid and/or pasty waste — Regeneration of spent solvents — Water washing of excavated contaminated soil		No
Cadmium (expressed as Cd)	0.01-0.05 mg/l	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Mechanical biological treatment of waste — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Physico-chemical treatment of solid and/or pasty waste — Regeneration of spent solvents — Water washing of excavated contaminated soil		No
Chromium (expressed as Cr)	0.01-0.15 mg/l	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Mechanical biological treatment of waste — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Physico-chemical treatment of solid and/or pasty waste — Regeneration of spent solvents — Water washing of excavated contaminated soil		No
Copper (expressed as Cu)	0.05-0.5 mg/l	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Mechanical biological treatment of waste — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Physico-chemical treatment of solid and/or pasty waste — Regeneration of spent solvents — Water washing of excavated contaminated soil		No
Lead (expressed as Pb)	0.05-0.1 mg/l [9]	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Mechanical biological treatment of waste — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Physico-chemical treatment of solid and/or pasty waste — Regeneration of spent solvents — Water washing of excavated contaminated soil	The upper end of the range is 0.3 mg/l for mechanical treatment in shredders of metal waste	No
Nickel (expressed as Ni)	0.05-0.5 mg/l	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Mechanical biological treatment of waste — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Physico-chemical treatment of solid and/or pasty waste — Regeneration of spent solvents — Water washing of excavated contaminated soil		No
Mercury (expressed as Hg)	0.5-5 µg/l	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Mechanical biological treatment of waste — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Physico-chemical treatment of solid and/or pasty waste — Regeneration of spent solvents — Water washing of excavated contaminated soil		No
Zinc (expressed as Zn)	0.1-1 mg/l [10]	— Mechanical treatment in shredders of metal waste — Treatment of WEEE containing VFCs and/or VHCs — Mechanical biological treatment of waste — Re-refining of waste oil — Physico-chemical treatment of waste with calorific value — Physico-chemical treatment of solid and/or pasty waste — Regeneration of spent solvents — Water washing of excavated contaminated soil	The upper end of the range is 2 mg/l for mechanical treatment in shredders of metal waste.	No
Arsenic (expressed as As)	0.01-0.1 mg/l	— Treatment of water-based liquid waste		No
Cadmium (expressed as Cd)	0.01-0.1 mg/l	— Treatment of water-based liquid waste		No