

# Best available techniques (BAT) conclusions for waste treatment industries (August 2018)

## General BAT Conclusions

<p><b>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:</b></p>	
<p>1.i commitment of the management, including senior management;</p>	<p>The Site Management Team at Ecobat Solutions are committed to the implementation and maintenance of the EMS.</p>
<p>1.ii definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation;</p>	<p>Ecobat Solutions has an Environmental Policy in place which commits the site to legal compliance and continuous improvement.</p>
<p>1.iii planning and establishing the necessary procedures, objectives, and targets, in conjunction with financial planning and investment;</p>	<p>An EMS Manual is in place which sets out the approach to managing environmental impacts at the site, including procedures, objectives, and targets.</p>
<p>1.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 programs,            (h) emergency preparedness and response,            (i) safeguarding compliance with environmental legislation;</p>	<p>The EMS manual includes documented management procedures and arrangements covering:</p> <ul style="list-style-type: none"> <li>a. Roles and responsibilities.</li> <li>b. Competence, training, and awareness.</li> <li>c. Communications.</li> <li>d. See point (1.b)</li> <li>e. Documented Policy, Scope, Manual and procedures.</li> <li>f. Specific operational plans including Fire Prevention Plan, Spillage Procedures.</li> <li>g. The site operates a regular PPM system.</li> <li>h. An accident plan is present on site which includes any emergency procedures for environmental matters e.g., spillage.</li> <li>i. A legal register utilized to identify all compliance requirements and the controls required.</li> </ul>
<p>1.v checking performance and taking corrective action, paying particular attention to:            (a) monitoring and measurement            (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;</p>	<ul style="list-style-type: none"> <li>(a) EMS includes a manual and documented procedures setting out the monitoring and measurement program. KPI's including utilities and waste are tracked.</li> <li>(b) Corrective and preventive action procedures are in place as part of the EMS covering audits, incidents, and action reporting. Progress with close out of actions is tracked and reviewed by the site management team.</li> <li>(c) The EMS includes procedures for the identification, maintenance and retention of applicable records.</li> <li>(d) The EMS includes a manual and documented procedures setting out the internal/external audit process.</li> </ul>
<p>1.vi review, by senior management, of the EMS and its continuing suitability, adequacy, and effectiveness;</p>	<p>The EMS includes a manual and documented procedures setting out the management review process. The EMS is reviewed at least annually.</p>

1.vii following the development of cleaner technologies;	Ecobat is an active member of industry forums (for example, Battery Recycling Forum, European Battery Recycling Association) which help identify best practices which could be brought to the site. Ecobat also have sites in Germany and Arizona where developments are shared.
1.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 site has in place a generic closure plan which is periodically reviewed. New equipment goes through a capex process which includes siting and assessment of efficiency including energy, water use and would, where relevant, include decommissioning considerations.
1.ix application of sectoral benchmarking on a regular basis;	Ecobat is an active member of industry forums (for example, Battery Recycling Forum, European Battery Recycling Association) which help identify best practices which could be brought to the site & shared with others in the sector. Ecobat also have sites in Germany and Arizona where developments are shared.
1.x waste stream management (see BAT 2);	See BAT 2
1.xi an inventory of waste water and waste gas streams (see BAT 3);	See BAT 3
1.xii residues management plan (see description in Section 6.6.5)	Ecobat applies the waste hierarchy to all waste residues which is periodically reviewed as part of the EMS. Specific measures are in place to avoid the generation of waste and minimize the generation of residues arising from the treatment of waste.
1.xiii accident management plan (see description in Section 6.6.5);	The emergency plan is part of the site's EMS and has assessed the specific hazards posed by the plant and the associated risks and consequences. The plan identifies the control measures in place to address these risks and associated procedures to be followed in the event of an incident.
1.xiv odour management plan (see BAT 12);	See Bat 12
1.xv noise and vibration management plan (see BAT 17)	See Bat 17

The following applies to the waste treatment activity only at the installation.

<b>BAT 2. In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below</b>	
2.a Set up and implement waste characterization and pre-acceptance procedures	Pre-acceptance procedures in place including waste characterization, including a 5 step authorization prior to collection. Customer complete questionnaire providing photographs of material which follows the process of acceptance and approval.
2.b Set up and implement waste acceptance procedures.	Waste acceptance procedures in place include checking waste arriving against pre-acceptance descriptions, completion of relevant documentation and recording in site system, and visual inspections. Ecobat's pre-acceptance and acceptance procedure is within a 5 steps process.
2.c Set up and implement a waste tracking system and inventory	All waste arriving at and leaving the site is recorded electronically from receipt, storage to despatch. Ecobat are currently investing in an additional warehouse management system to make the current system more robust.
2.d Set up and implement an output quality management system	Wastes destined for recovery /recycling are transferred and processed at onward approved site where the appropriate quality management protocols are in place.

2.e Ensure waste segregation	All material on Ecobat facilities is separated depending on the properties and risk level. Each storage area is signed, labelled and operatives trained in storage requirements. Storage audits complete on a weekly basis to ensure segregation.
2.f Ensure waste compatibility prior to mixing or blending of waste	Prior to accepting material on site, pre-acceptance procedure in place to reduce the risk of receiving incompatible waste. Waste acceptance procedure in place to identify potential incompatible waste. Following acceptance on to site, all material is manually sorted, visually inspected and/or dismantled prior to waste treatment process.
2.g Sort incoming solid waste	All material is manually sorted, visually inspected and/or dismantled prior to processing. Sorting is completed to prevent any unwanted material entering into treatment processes. Continual monitoring and feedback to customers if non-conforming material found.

**BAT 3. In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the following features:**

(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;	There are no waste gas streams as a result of the waste treatment processes. The water stream is water loop within the plant, periodically and when required the water can be drained to an acceptable level in to on site holding tanks to be transported from site (tankers) for onward treatment at an approved facility.  Run-off from the yard areas and building are captured in the site surface water drainage system which passes through onsite Effluent treatment plant to release to foul sewer under the Trade Effluent Discharge Consent for the site.
(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 (c) data on bioeliminability;	For run-off water, effluent treatment plant on site with discharge consent from Severn Trent Water where regular sampling is taken, including flow, pH & metal content. All samples are recorded and signed from Severn Trent. The waste treatment process applied for will have no direct impact on waste water from site as described above due to the treatment water loop system.
(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).	There are no waste gases produced as a result of waste treatment activities.

**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.**

4.a Optimized storage location	Installation of 3 additional storage buildings on site completed to optimize storage locations. Capex is currently inline for an additional fourth building to be implemented externally to the treatment process to store outputs from plant to optimize storage location. All identified storage locations are as far as practically possible from watercourses and any sensitives receptors. 'Lean' programme implemented on site to reduce material handling and not transported / moving unnecessarily.
4.b Adequate storage capacity	Ecobat has recently taken additional premises for storage purposes to allow expansion at its main facility. Permit approved by Environment Agency October 2023. Each storage area on site (including additional warehouse) have identified storage capacity that is audit as part of the IMS.
4.c Safe storage operation	All waste streams are stored away from roadways and vehicle movements to avoid risk of collision. Spill clean-up equipment and spill procedures are in place at the site and all staff trained in these Procedures. Weekly audit on storage locations. All storage location fitted with CCTV and fire detection that is linked to a 24 hour monitoring system. Material stored indoors and out of direct sunlight where practically possible, if outdoors, each container is fully sealed (drum/lid, bin with lid and sealed bag), with front facing containers if lithium covered in white shrink wrap to reduce heat exposure.
4.d Separate area for storage and handling of packaged hazardous waste	Additional storage building implemented on site (additional +500 pallet spaces) to ensure dedicated storage location for outputs / additional material on site, including hazardous waste. Quarantine areas in place on site for any additional hazardous waste found within material accepted.

**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.**

Handling and transfer procedures aim to ensure that wastes are safely handled and transferred to the respective storage or treatment.	All handling and transfer of materials / wastes on site are completed by competent staff. Staff are trained in spillage procedures, storage requirements, handling requirements and transfer requirements. This includes but is not limited to, dealing with spillages, recording of transfer / handling / storage (stock sheets, WTN, consignment notes, returns etc), and, identifying any potential incidents, accidents including environmental damage. Handling and transfer of materials is including the internal auditing schedule that forms part of the IMS.
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**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 pretreatment, at the inlet to the final treatment, at the point where the emission leaves the installation).**

Emissions to foul sewers via effluent treatment plant are only as a result of surface run-off and not as a result of waste treatment processes. Monitoring of the effluent is completed by Severn Trent Water on a regular basis (~4-6weeks) and the system is internally monitored by Ecobat (adjustment to pH). No further regular monitoring takes place and there have been no concerns raised by Severn Trent.

**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.**

Emissions to foul sewers via effluent treatment plant are only as a result of surface run-off and not as a result of waste treatment processes. Monitoring of the effluent is completed by Severn Trent Water on a regular basis (~4-6weeks) and the system is internally monitored by Ecobat (adjustment to pH). No further regular monitoring takes place and there have been no concerns raised by Severn Trent.

**BAT 8. BAT is to monitor channeled 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.**

Emissions to air frequency, at a minimum the below will be sampled. On commissioning a in-depth sample will be taken to test for all those substances listed in 4a Form C3 submitted with environmental application V008 to eliminate (if zero found) from onward testing.

Brominated flame retardants – No EN Standard - once per year – BAT 25

Dioxins like PCBs – EN1948-1, -2 and -4 - once per year – BAT 25

PCDD/F (2) – EN1948-1, -2 and -3 - once per year – BAT 25

TVOC – EN12619 – once every 6 months – BAT 25

**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.**

9.a Measurement	Not applicable to Ecobat's operations.
9.b Emissions factor	
9.c Mass Balance	

**BAT 10. BAT is to periodically monitor odour emissions**

<p>Odour emissions can be monitored using:  EN standards (e.g. dynamic olfactometry according to EN 13725 in order to determine the odour concentration or EN 16841-1 or -2 in order to determine the odour exposure);  when applying alternative methods for which no EN standards are available (e.g. estimation of odour impact), ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.  The monitoring frequency is determined in the odour management plan (see BAT 12).</p>	<p>Currently the risks of odour emissions are minimal for Ecobat's activities / operations on site.  It is not considered or envisaged that the proposed new process on the site will increase the risk of odour due to the enclosed processing plant, and similar plant in placed in Germany with no current odour issue.  As part of the Ecobat's IMS there is a complaints procedure in place to record and investigate any potential instances of odour from the site. BAT assessment will be completed on commissioning of plant and therefore periodically following to ensure BAT is met, improvements can be made.</p>
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**BAT 11. BAT is to periodically monitor 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.**

<p>Monitoring includes direct measurements, calculation or recording. The monitoring is broken down at the most appropriate level (e.g. at process or plant/installation level) and considers any significant changes in the plant/installation.</p>	<p>Use of energy and water and waste materials will be monitored as part of the EMS Objectives and Targets and regularly reviewed. Monitoring consists of meter readings, and invoices.</p>
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**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), that includes all of the following elements:**

<p>a protocol containing actions and timelines;  a protocol for conducting odour monitoring as set out in BAT 10;  a protocol for response to identified odour incidents, e.g. complaints;  an odour prevention and reduction programme designed to identify the source(s); to characterise the contributions of the sources; and to implement prevention and/or reduction measures</p>	<p>Please see BAT 10</p>
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**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.**

<p>13.a Minimising residence times</p>	<p>All waste treatment in reference to shredding is completed in a enclosed system in an enclosed building. Material storage will be within sealed containers in enclosed buildings. Waste storage is monitored with stock control for first in, first out process. When full loads available the material will be removed from site, restrictions potential for TFS approval and recycler acceptance. More than one recycler available to receive material and continual communication with the EA to prevent TFS approval delays.</p>
<p>13.b Using chemical treatment</p>	<p>Not applicable to Ecobat's operations.</p>
<p>13.c Optimising aerobic treatment</p>	<p>Not applicable to Ecobat's operations.</p>

**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.**

Current controls in place at Ecobat's site include:

- All waste treatment activities (shredding) completed inside enclosed building.
- Minimizing drops from conveyors / outlet feeds
- Regular site inspections and housekeeping (daily facility audit);
- Use of road sweepers
- Perimeter fencing
- Vehicle loads enclosed or sheeted as far as possible.
- Site speed limits
- Single entry and exit point on to the public highway.
- All roadways and yard areas of hard standing.  
Use of dust suppression, damping open yard area with water
- PPM in place for enclosed shredding plant
- Enclosed shredding facility linked to abatement system (baghouse for dust collection points)
- Agreed shut down periods to allow for cleaning (process equipment and internal work areas)

**BAT 15. BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns) by using both of the techniques given below.**

a. Correct plant design - This includes the provision of a gas recovery system with sufficient capacity and the use of high-integrity relief valves	Not applicable to Ecobat operations
b. Plant management - This includes balancing the gas system and using advanced process control.	

**BAT 16. In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given below.**

a. Correct design of flaring devices - Optimisation of height and pressure, assistance by steam, air or gas, type of flare tips, etc.,	Not applicable to Ecobat Operations.
b. Monitoring and recording as part of flare management- This includes continuous monitoring of the quantity of gas sent to flaring. It may include estimations of other parameters (e.g. composition of gas flow, heat content, ratio of assistance, velocity, purge gas flow rate, pollutant emissions)	

**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), that includes all of the following elements:**

<p>I. a protocol containing appropriate actions and timelines;                  II. a protocol for conducting noise and vibration monitoring;                  III. a protocol for response to identified noise and vibration events, e.g. complaints;                  IV. a noise and vibration reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures.</p>	<p>PPM in place to inspect and maintain the plant and equipment to minimize noise.</p> <p>Waste segregation, processing and transfer activities are carried out within an enclosed building. Equipment is purchased with noise levels taken into account, and proprietary acoustic enclosing of pumps/motors etc. where supplied as such. For mobile plant, the site speed limit is in place, and minimization of vehicle movements on site. Heavy plant is fitted with appropriate noise mitigation. Daily maintenance inspections are carried out on all equipment.</p> <p>Noisie surveys completed on site following plant additions, change in site activities which shown no high level noise detected at sensitive receptors, this survey submitted with recent permit application to the EA.</p>
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**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.**

18.a Appropriate location of equipment and buildings	<p>As per BAT 17. Where a noise or vibration nuisance at a sensitive receptors is envisaged or been substantiated a review will be completed on BAT 18 with action implemented inline with Ecobats EMS.</p>
18.b Operational measures	
18.c Low-noise equipment	
18.d Noise and vibration control equipment	
18.e Noise attenuation	



## Emissions to Water

<b>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.</b>	
19.a Water management	Water use is metered and tracked and linked to EMS objectives/targets for potential reduction. Cleaning equipment has trigger control to prevent over usage.
19.b Water recirculation	Shredding systems have water loop to reduce volume used annually.
19.c Impermeable surface	Impermeable surface in place throughout the site.
19.d Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels	Bulk tanks on site are all equipped with overflow detectors, overflow redirectors connected to internal sealed drainage system with potential to utilize the weighbridge pit (30,000L) and additional storage tank on site (33,000L) where needed. Tanks stored externally (yard area) have a secondary containment, that are inspected annually. Valves on tanks allow Ecobat to control the flow and isolate where needed.
19.e Roofing of waste storage and treatment areas	Waste treatment (shredding) is completed in an enclosed building.
19.f Segregation of water streams	All surface water on site is linked to internal sealed drainage system to onsite effluent treatment plant, discharge to foul sewer. Water loop system on shredder is an enclosed system within a bunded enclosed building, when drainage required this will be done by tanker.
19.g Adequate drainage infrastructure	The waste treatment system is a closed loop. The site surface water is linked to the internal sealed drainage system leading to effluent treatment plant on site.
19.h Design and maintenance provisions to allow detection and repair of leaks	PPM in place for plant including water system. Drainage system on site regularly inspected and monitored.
19.i Appropriate buffer storage capacity	As described above potential to utilize the weighbridge pit (30,000L) and additional storage tank on site (33,000L), also flood zone area on site available which higher curbs, this is detailed within the site Fire Prevention Plan.

<b>BAT 20. In order to reduce emissions to water, BAT is to treat wastewater using an appropriate combination of the techniques</b>
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On site effluent treatment plant primary treatment is neutralization to a pH level between 6 – 10 with the use of acid and alkalis (Sulphuric Acid & Calcium Dihydroxide). The plant also completed solid removal. This is then discharged to foul sewer through discharge consent approved by Severn Trent Water.
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**Emissions from accidents and incidents**

<b>BAT 21. In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques given below, as part of the accident management plan (see BAT 1)</b>	
21.a Protection measures	The waste treatment plant (shredder) has in place controls to prevent unauthorized access into the control system.
21.b Management of incidental/accidental emissions	Site emergency plan established including environmental pollution control, handling emissions from accidents and incidents including spillage containment, firefighting water control (also in site Fire Prevention Plan). All control panels are linked to one main head with also a duplicate externally to the main processing building to allow for shut down, prevention of incidents with ease of access to controls.
21.c Incident/accident registration and assessment system	IMS procedures in place for incident / accident recording, investigations including findings along with any corrective or preventative measures. Management of change procedure in place to record any changes. Learning and actions from incidents / accidents are shared with Ecobat global sites along with industry forums for best practice and learnings.

**Material Efficiency**

<b>BAT 22. In order to use materials efficiently, BAT is to substitute materials with waste.</b>	
Waste is used instead of other materials for the treatment of wastes	Where possible waste acids and alkalis are used within the on-site effluent treatment plant for pH neutralization. EMS in place to evaluate and assess periodically where wastes can be used in onsite processes.

**Energy Efficiency**

<b>BAT 23 In order to use energy efficiently, BAT is to use both of the techniques given below.</b>	
23.a Energy Efficiency Plan	All current energy and fuel used is recorded. Periodic reviews completed as part of the EMS to identify and implement energy efficiency plans as part of the EMS objectives and targets. Current initiatives on site to develop energy efficiency is develop a battery power system that charges during the night to be used during the day, along with discharging activities balancing energy usage on site (balance record). Ecobat global sustainability report in place with KPI's being set for 2024 for energy efficiency reduction.
23.b Energy Balance record	

**Reuse of Packaging**

<b>BAT 24 In order to reduce the quantity of waste sent for disposal, BAT is to maximize the reuse of packaging, as part of the residues management plan (see BAT 1).</b>	
Packaging (drums, containers, IBCs, pallets, etc.) is reused for containing waste, when it is in good condition and sufficiently clean, depending on a compatibility check between the substances contained (in consecutive uses). If necessary, packaging is sent for appropriate treatment prior to reuse (e.g., reconditioning, cleaning).	All containers on site (bins, drums, IBC, pallets, sacks) are reused where possible. Containers are cleaned onsite with process water being treated through onsite effluent treatment plant. When sending material out from site in containers the onward recyclers clean and return the containers for use at Ecobat.  Material stored within containers are not incompatible with each other therefore only cleaning required and no specific treatment needed.  When non-UN approved bins are damaged these are sent for repair for reuse on site.

## General BAT Conclusions for mechanical Treatment of Waste

### Emissions to Air

<b>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.</b>	
Cyclone Fabric Filter Wet Scrubbing Injection of water into the shredder Associated emission level of dust from shredder	Shredder process is enclosed system with nitrogen (fire suppression) with water (dust suppression). Cyclone in place on separation system. Abatement systems consists of, baghouse, wet scrubber and carbon filters.

### BAT Conclusions for the mechanical treatment in shredders of metal waste

<b>BAT 26. In order to improve 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:</b>	
(a) implementation of a detailed inspection procedure for baled waste before shredding;	Not applicable to Ecobat; no baled waste.
(b) removal of dangerous items from the waste input stream and their safe disposal (e.g. gas cylinders, non- depolluted EoLVs, non-depolluted WEEE, items contaminated with PCBs or mercury, radioactive items);	All input material is processed on site prior to being put into the shredding process. Processing on site includes manual sorting, dismantling and visual inspection.
(c) treatment of containers only when accompanied by a declaration of cleanliness.	Not applicable to Ecobat.

<b>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</b>	
(a) Deflagration management plan	Waste acceptance / sampling plan in place to remove any sources of ignition and reduce the risk of ignition by discharging battery modules. Please refer to BAT 26a & b.
(b) Pressure relief dampers	Pressure relief valves are installed on the plant to prevent any major damage or emission release in the event of high pressure build up (fire, explosion etc.).
(c) Pre-shredding	Primary shredder is reduced speed prior to main shred completed in secondary shredder.

<b>BAT 28. In order to use energy efficiently, BAT is to keep the shredder feed stable.</b>	
The shredder feed is equalized by avoiding disruption or overload of the waste feed which would lead to unwanted shutdowns and start-ups of the shredder.	

**BAT 29 & 30 BAT Conclusions for the mechanical treatment of WEEE containing VFCs and/or VHCs – Not applicable to Ecobat.**

**BAT 31 BAT Conclusions for the mechanical treatment of waste with calorific value – Not applicable to Ecobat.**

**BAT 32 BAT Conclusions for the mechanical treatment of WEEE containing mercury – Not applicable to Ecobat.**

**BAT 33 to 37 BAT Conclusions for the biological treatment of waste – Not applicable to Ecobat.**

**BAT 38 BAT Conclusions for the anaerobic treatment of waste – Not applicable to Ecobat.**

**BAT 39 BAT Conclusions for the mechanical biological treatment (MBT) of waste – Not applicable to Ecobat.**

**BAT 40 to 41 BAT Conclusions for the physio-chemical treatment of solid and/or pasty waste – Not applicable to Ecobat.**

**BAT 42 to 44 BAT Conclusions for the refining of waste oil – Not applicable to Ecobat.**

**BAT 45 BAT Conclusions for the physico-chemical treatment of waste with calorific value – Not applicable to Ecobat.**

**BAT 46 & 47 BAT Conclusions for the regeneration of spent solvents – Not applicable to Ecobat.**

**BAT 48 & 49 BAT Conclusions for thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil – Not applicable to Ecobat.**

**BAT 50 BAT Conclusions for the water washing of excavated contaminated soil – Not applicable to Ecobat.**

**BAT 51 BAT Conclusions for the decontamination of equipment containing PCBs– Not applicable to Ecobat.**

**BAT 52 & 53 BAT Conclusions for the treatment of water-based liquid waste – Not applicable to Ecobat.**