



U M B R E L L A
ENVIRONMENTAL
PROTECTING YOUR BUSINESS

Best Available Technique Assessment

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CIWM

Affiliated Organisation 2022

Together, we stand for a world beyond waste

Site Address:

Vision Recycling U.K. Ltd

Park House Farm,
Lower Hordley,
Ellesmere,
Shropshire,
SY12 9BL



Registered Office

Offices At Park House Farm,
Lower Hordley,
Ellesmere,
Shropshire,
England,
SY12 9BL

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Title	Reference
Permit Boundary	010.1_09_001
Site Plan	010.1_09_004
Drainage Plan	010.1_09_009

1 INTRODUCTION

This Best Available Technique Assessment (BAT) accompanies the application for a bespoke waste installation EPR/CP3046QE at Park House Farm, Lower Hordley, Ellsmere, Shropshire, SY12 9BL. The site location is shown on plan 010.1_09_001.

The site was historically a farm with the previous residence utilising the industrial units and associated buildings as a livery. The site is now to be used as a waste treatment facility to recover, recycle and reduce the disposal of WEEE waste to landfill through a process of reverse manufacturing.

The only waste to be accepted on site is Waste Electrical and Electronic Equipment (WEEE) (televisions, batteries, etc.). The site receives waste via the main entrance located on the south eastern boundary. Waste will be brought in by approved local contractors (registered waste carriers), generally on articulated lorries. A 3.5 tonne box van is stored off-site and used on occasion.

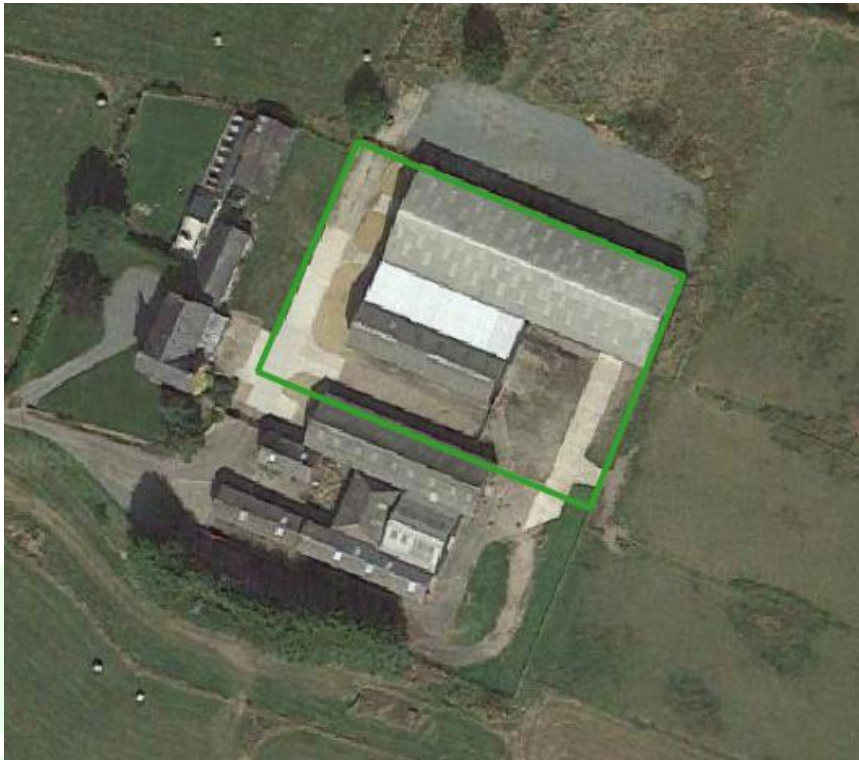
The waste activities on site are based on Standard rules SR2015 No15 Waste electrical and electronic equipment authorised treatment facility (ATF) excluding ozone-depleting substances. Certain activities on site are above the limits of this permit and raises the regulatory level of the site. The site will operate to 30 tonnes of hazardous waste to be shredded in a 24 hour period, 100 tonne of hazardous waste stored at any one time of which only up to 10 tonnes will go for disposal see Table 1 Permitted Activities.

The only waste to be accepted on site is Waste Electrical and Electronic Equipment (WEEE) (televisions, batteries, etc).

The site is approximately 2238 m² and is located at Park House Farm, Lower Hordley, Ellsmere, Shropshire, SY12 9BL.

The National Grid Reference (NGR) is SJ 40170 28568, Eastings and Northings 340170 , 328568 and What Three Words these.tuxedos.loaning.

Figure 1 Aerial view



1.1 Overview of Site Operations

Table 1 Permitted Activities

Activity Reference	Disposal and Recovery Codes
Section 5.4 A(1) (a)(v) and/or (b)(iv) - non-hazardous waste installation – treatment in shredders of metal waste, including WEEE and end of life vehicles and their components.	R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) R3: Recycling/reclamation of organic substances which are not used as solvents
Section 5.3 A(1)(a)(ii) -Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.	R4: Recycling/reclamation of metals and metal compounds
Section 5.6 (A)(1) - temporary or underground storage of hazardous waste.	R5: Recycling/reclamation of other inorganic materials D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)
Directly Associated Activity	Storage of non-hazardous waste (any amount) prior to treatment.

1.2 Summary of Site Operations

This BAT assessment summarises the BAT specific to **Vision Recycling U.K. Ltd** located at Park House Farm, Lower Hordley, Ellsmere, Shropshire, SY12 9BL.

Site accepts Waste Electrical and Electronic Equipment (WEEE). Site accepts, stores and processes WEEE for onwards transport pending further recovery or disposal activities.

- R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)
- R3: Recycling/reclamation of organic substances which are not used as solvents
- R4: Recycling/reclamation of metals and metal compounds
- R5: Recycling/reclamation of other inorganic materials
- D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)

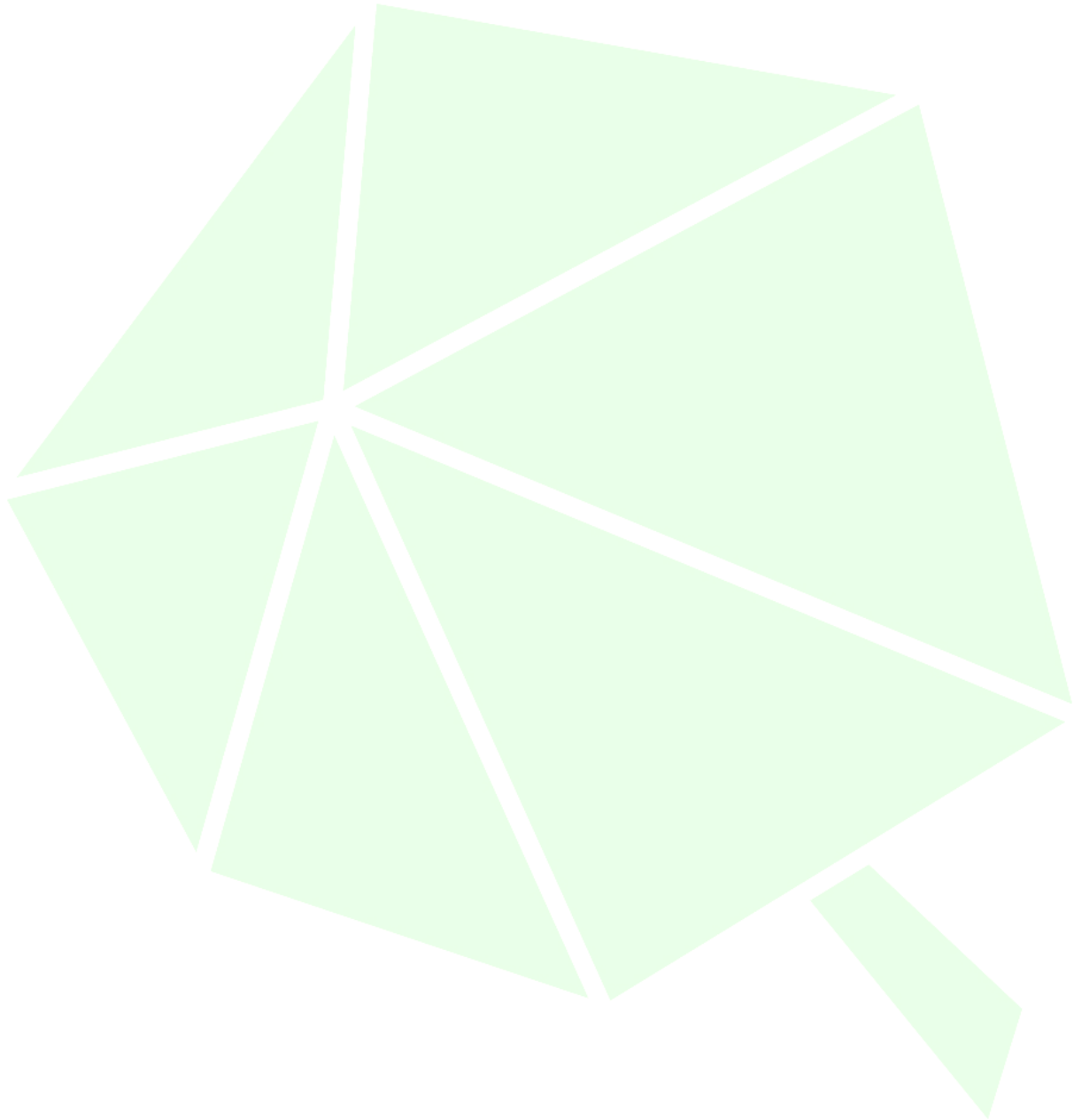
On site processing activities included manual dismantling and mechanical processing using a shredder, shaker deck and electromagnet. These processes allow the operator to reverse engineer waste electricals in to components either for reuse, recover and or disposal.

Equipment used on site.

- Shredder
- Over band Magnet
- Shaker X 3
- Hammer Mill
- Eddy Current
- Optical Sorter
- Fork Lift Truck (FLT) X 2

2 BAT TECHNIQUES

The purpose of this BAT assessment is to demonstrate that the infrastructure and operational procedures on site are suitable to accept Waste Electrical and Electronic Equipment (WEEE) and the process reflects where possible recovery of WEEE or fractions arising from the process.



3 PRE ACCEPTANCE OF WASTE

3.1 Procedures for the pre-acceptance of waste

Waste will be provided by a network of pre approved suppliers, Waste will be source segregated and only those listed on the permit will be accepted..

Upon arrival of a delivery vehicle, the FLT driver or designated Recycling Operative must approach the driver and request the Consignment Note and any supporting information for inspection.

If the waste does not match the description on the consignment note it is a non-conformance.

Where a non-conformance with the Consignment Note/Transfer Note has been identified the site manager/TCM will assess the action to be taken:

Where the Consignment Note/Transfer Note is incomplete – the load may be rejected and returned to the customer, however, wherever possible the site manager will attempt to complete the Consignment Note/Transfer Note through liaison with the producer to enable acceptance of the load.

Where the Consignment Note/Transfer Note is incorrect – the site manager/TCM will attempt to correct the Consignment Note/Transfer Note through liaison with the producer, their agreement to additional charges and have the corrections countersigned, where this is not possible the load/non-conforming wastes are to be rejected.

Where the waste is not permitted at the site – Reject the load, take photographs and reload. The site manager/TCM will assess whether it is safe for the load to go back on the road. If so, they will contact the waste producer to arrange to return the waste. Where this is not possible the waste is to be quarantined, Environment Agency (EA) and Directors informed, and arrangements made between the parties to remove the waste to a suitable licenced facility at the earliest opportunity.

The safety of personnel, road users and the site are the paramount concern.

4 WASTE ACCEPTANCE PROCEDURES

This procedure must be followed at all sites operated by Vision Recycling UK Ltd.

4.1 Objective

This procedure is to ensure the safe, efficient, accurate and compliant acceptance of waste at the sites. All wastes received at Vision Recycling sites are pre-booked.

We have a legal obligation under the 'Duty of Care' to know what wastes are being deposited at our site, that they are controlled correctly, and that there is sufficient written information accompanying the waste.

Main Objectives:

- To ensure compliance with legal requirements
- To ensure the identification on non-compliant waste
- To ensure correct completion of paperwork and therefore customer invoicing
- To ensure the identification of reuse items, and compliance with the Waste Hierarchy

4.2 Responsibility

- Fork Lift Truck Driver (FLT)
- Reuse Operator
- Recycling Operators

4.3 Vehicle Arrival

Upon arrival of a delivery vehicle, the FLT driver or designated recycling operative must approach the driver and request the Consignment Note and any supporting information for inspection.

4.4 Consignment/Transfer note

The consignment note must be inspected. Ensure all Parts (A-D) have been completed, and that the driver and waste producer have signed and dated Part C and D respectively.

Ensure that the date of consignment is the same date as the date upon which the load is received, or within one working day.

Check the written description of the waste, provided on the Consignment Note Recyclables Annex. Confirm with the driver that this is a true representation of the waste collected and undertaken an initial visual inspection of the waste within the vehicle.

Ensure that the correct box is completed to indicate whether hazardous or non-hazardous wastes are being received.

4.5 Unloading of Waste

The reuse operator must be present during the unloading of the vehicle to identify any items which are suitable for reuse.

Continue to observe the wastes as they are unloaded, check that the waste types match the number and type listed on the Consignment Note/Transfer Note. Only those wastes listed on the Consignment Note/Transfer Note Annexes are to be accepted at the site, these are the only wastes permitted for acceptance in accordance with the sites Environmental Permit.

Where any waste is identified which has not been noted on the Consignment Note/Transfer Note inform the site manager/TCM and place the waste within a quarantine area.

Where the load conforms with the accompanying Consignment Note, continue to Weigh and Categorise WEEE Inputs and record all net weights on the Consignment Note Annex.

Identify the treatment/recovery operations to which the waste is to be subjected, this is likely to be one of the following:

- Temporary Storage Pending Recovery Elsewhere
- Mechanical Reprocessing of WEEE
- Complete the information required within Part E and sign/date.

4.6 Non-Conformances

Where a non-conformance with the Consignment Note/Transfer Note has been identified the site manager/TCM will assess the action to be taken:

Where the Consignment Note/Transfer Note is incomplete – the load may be rejected and returned to the customer, however, wherever possible the site manager/TCM will attempt to complete the Consignment Note/Transfer Note through liaison with the producer to enable acceptance of the load.

Where the Consignment Note/Transfer Note is incorrect – the site manager/TCM will attempt to correct the Consignment Note/Transfer Note through liaison with the producer, their agreement to additional charges and have the corrections countersigned, where this is not possible the load/non-conforming wastes are to be rejected.

Where the waste is not permitted at the site – Reject the load, take photographs and reload. The site manager/TCM will assess whether it is safe for the load to go back on the road. If so, they will contact the waste producer to arrange to return the waste. Where this is not possible the waste is to be quarantined, EA and Directors informed, and arrangements made between the parties to remove the waste to a suitable licenced facility at the earliest opportunity.

The safety of personnel, road users and the site are the paramount concern.

4.7 Health & Safety

All visitors to the site will report to the site office. First time visitors to the site will be required to complete a visitor form and read the displayed notice board giving instructions on health and safety and site procedures. They will also be informed of any works ongoing on site that may impact them.

As a minimum during the unloading, weighing and categorisation and acceptance of waste at the site, all operators and drivers must wear PPE as detailed below:

- Gloves and wrist protection sleeves specified within EN388:2016 to at least the following specification:
 - Abrasion resistance 4
 - Blade cut resistance 5
 - Tear resistance 4
 - Puncture resistance 3
 - Safety boots including steel midsole.
 - Safety glasses to EN166.

4.8 Training

All recycling operatives will be trained in the waste acceptance procedure. This will ensure the correct identification of non-conforming wastes.

Training is provided during the site induction, which covers the key topics of this document.

5 WASTE STORAGE AND TREATMENT

5.1 Waste Storage

Under normal operational procedures storage limits and locations will be in accordance with the site plan 010.1_09_004.

All waste is stored internally on an impermeable site surface within a sealed drainage system, and under cover, further reducing the risk of rainwater ingress and contamination. Apart from container 6 which is containerised scrap metal with minimal risk of rain water ingress due to location within buildings and only being on site between 2 and 3 working days. The roof water run-off is segregated as a separate sealed system.

Limited external waste storage will provide containerised storage of scrap metal. Across all storage areas employees will be expected to remain vigilant for signs of heating and ignition. The Daily Site Inspection located in the Fire Prevention Plan (FPP) 010.1_05_011 includes monitoring all waste storage locations at the start and finish of each shift with the thermal imaging camera. All waste storage locations will be physically monitored by staff and the CCTV will be monitored with a clear view of the metal skip and WEEE storage locations

5.1.1 Storage Areas

Storage areas are shown on site plan 010.1_09_004 where waste is stored in IBC's there are fire resistant barriers rated to 120 mins.

5.2 Waste Treatment Summary

Under normal operating conditions WEEE will be stored on average for 5 days from arrival and processing, to removal from site.

The internal treatment area area is surfaced with impermeable reinforced concrete with provision of spillage collection facilities.

Waste will be managed on a 'First In, First Out' (FIFO) basis. WEEE is accepted at the site and fed into the north western end of the warehouse, placed in storage area 1 see site plan 010.1_09_004 feedstock material is taken from storage area 1 and processed in the CRT, LCD and automated monitor processing area in compliance with FIFO. Feed stock is placed in storage area 2 pending processing utilising shredders, shaker decks and hammer mill etc.. separated waste fractions are stored in mags located in storage area 3,4 and 5.

All fluids contained within any WEEE shall be removed prior to further treatment.

WEEE will be disassembled manually in 'pre-treatment' area then mechanically treated via shredding, screening into different components.

Residues from any shredding or granulating operation will be segregated to non-hazardous and hazardous waste.

Metal waste is produced from the treatment process. Metal waste is stored in the external 40 yd Ro-Ro skip and is replaced every 2-3 days.

All WEEE treatment activities, particularly shredding, will cease 30 minutes to 1 hour before the end of the day. Because shredding can increase the temperature of the waste, before the waste is emptied into the metal skip for storage, the waste will always be monitored with the Thermal Imaging Camera (TIC). Monitoring of the shredded waste with the TIC will be carried out before the waste is moved to the waste storage areas/metal skip.

As a minimum, the substances, preparations and components specified in Table 4 below shall be removed from any separately collected WEEE.

Table 2 Substances, Preparations and Components to be Removed from Separately Collected WEEE

Substances, Preparations & Components to be Removed from Separately Collected WEEE
<ul style="list-style-type: none"> • Capacitors containing Polychlorinated biphenyls (PCB); • Mercury-containing components, such as switches or backlighting lamps; • Batteries; • Printed circuit boards of mobile phones generally, and of other devices if the surface of the printed circuit board is greater than 10 square centimetres; • Toner cartridges, liquid and paste, as well as colour toner; • Plastic containing brominated flame retardants; • Asbestos waste and components which contain asbestos; • Cathode Ray Tubes (CRTs); • Hydrofluorocarbons (HFC), or hydrocarbons (HC); • Gas discharge lamps; • Liquid Crystal Displays (LCDs) (together with their casing where appropriate) of a surface greater than 100 square centimetres and all those backlighted with gas discharge lamps; • External electric cables; • Components containing refractory ceramic fibres; • Components containing radioactive substances with the exception of components that are below the exemption thresholds set in Article 3 of and the Annex I to Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation; and • Electrolytic capacitors containing "substances of concern" (height > 25mm, diameter > 25 mm or proportionately similar volume).

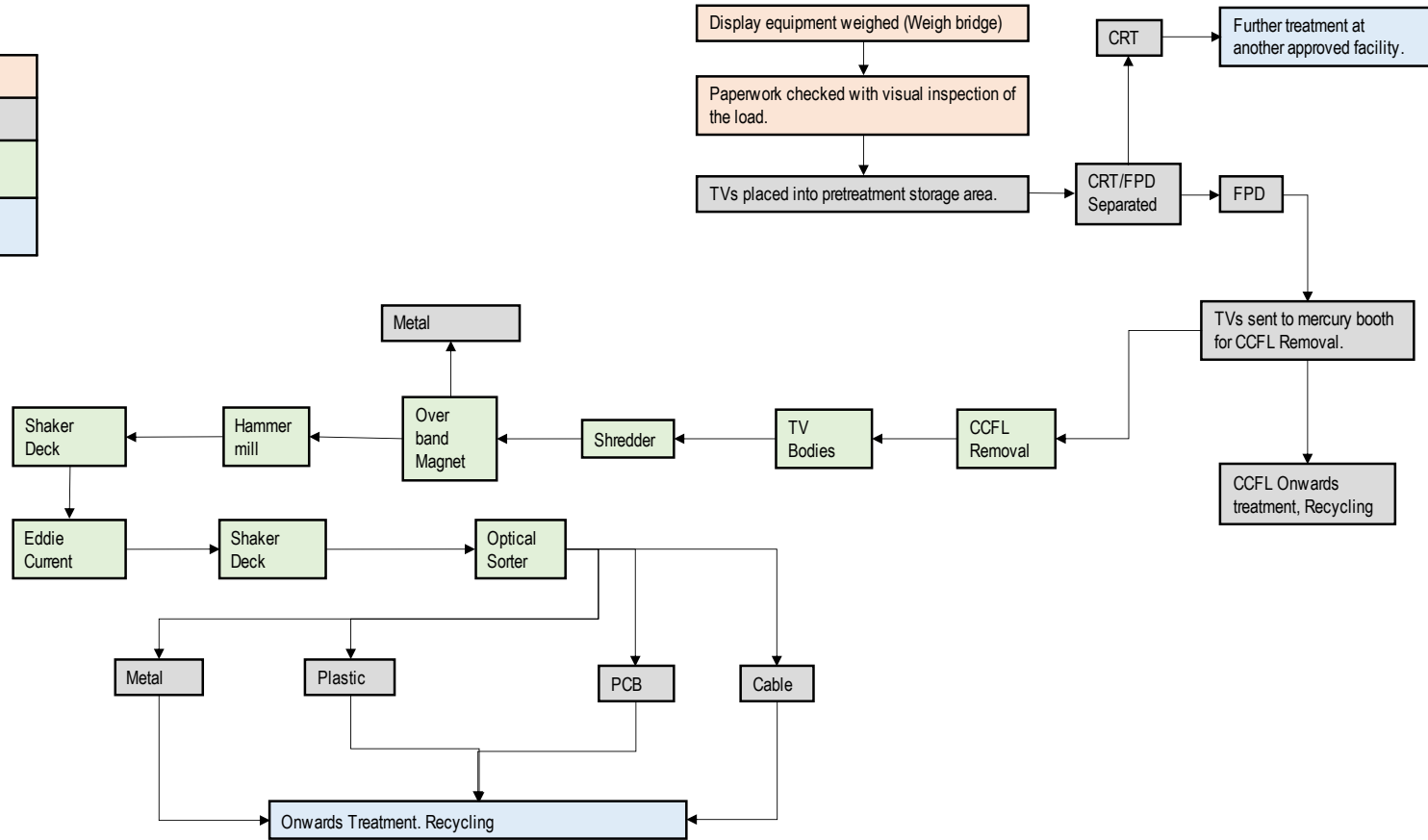
Table 3 Specified Treatment Methods for Separately Collected Components of WEEE

Component	Specified Treatment
CRTs	The fluorescent coating shall be removed.
Equipment containing hydrofluorocarbons (HFCs) or hydrocarbons such as refrigeration and cooling equipment	The gases must be properly extracted and properly treated
Gas discharge lamps	The mercury shall be removed.

The process flow in Figure 2 Process flowshows how the WEEE is to be treated and the production of the separately collected fractions.

Figure 2 Process flow

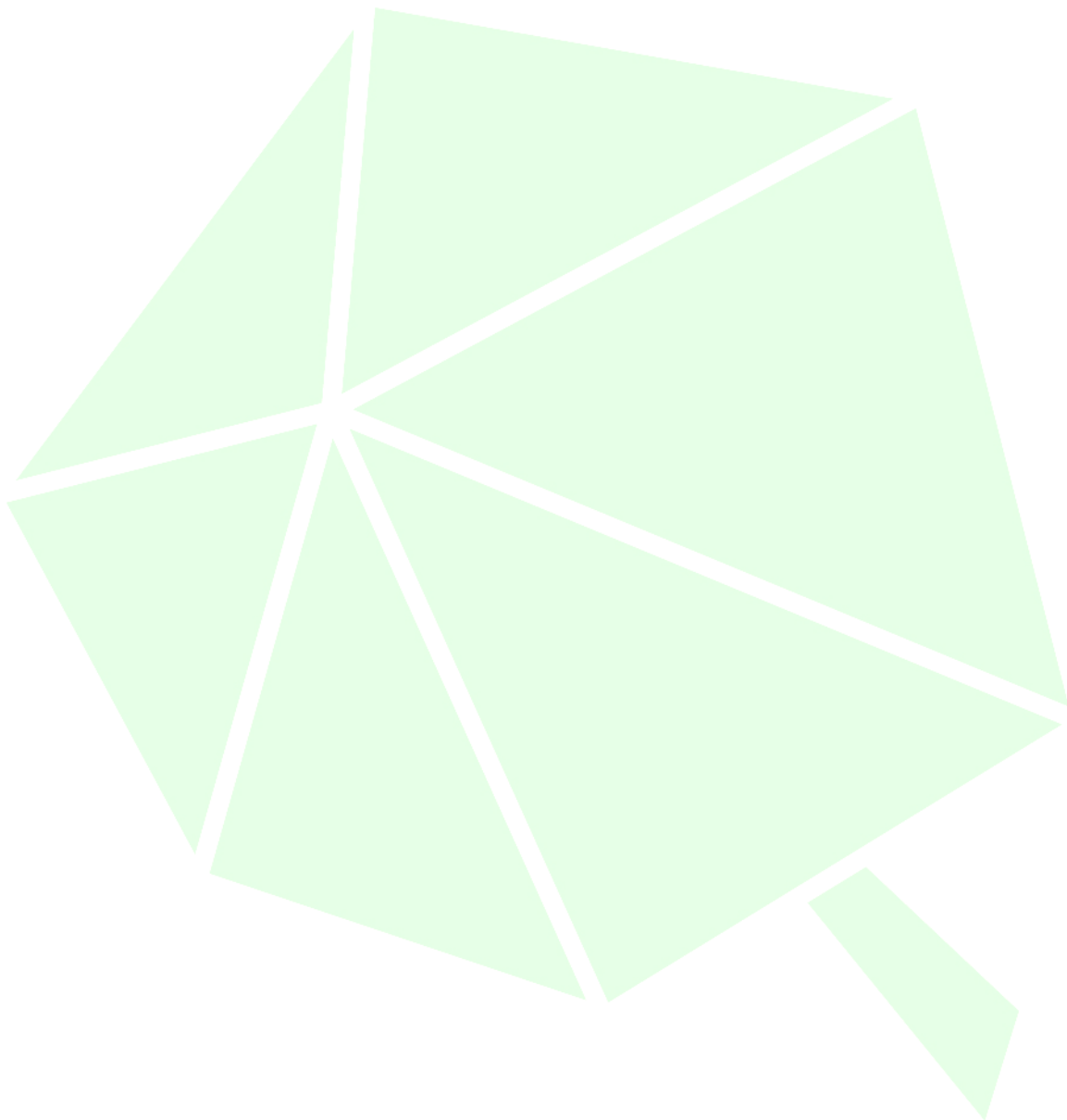
Key	
Checks	
Storage	
Process	
Transferred	



6 DRAINAGE

There is no internal drainage to the site. Roof water is segregated from the foul lines see site drainage plan 010.1_09_009

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7 TRAINING FOR SITE STAFF

7.1 Training Needs Assessment

All new and existing site staff are subject to a specific training regime based on their responsibilities at the site to ensure all operations are carried out without harm to the environment or amenity of the surrounding area. Training in all aspects of the site and waste operations at the site with regard to the individual responsibilities of the site staff will help to prevent incidents occurring which may have an adverse impact on the environment and/or the employees and their co-workers.

7.2 Emergency Procedures Training

In addition to normal operating conditions as specified in the site rules, employees must also be trained in dealing with eventualities which may occur outside the scope of normal operating conditions, so they are aware of how to deal with these situations in advance of an occurrence.

7.3 Recognition of Waste Types Training

All employees will be given induction training and subsequent training to identify waste types which are permitted for acceptance at the site under the site's Environmental Permit (EP) and those wastes which are not. This will include specific training to identify those common wastes which may be found following deposit and are not permitted at the site and will also include more obscure wastes and how to handle these wastes safely. All employees will be advised that they will refer any unrecognisable or unknown wastes to site manager/TCM, who will, in turn, follow procedures outlined in the EMS and/or contact the EA to agree a suitable method for removal.

This training will be provided to all site users who handle waste on site and those in charge of administration and reporting. In-depth training will also be provided to drivers responsible for collecting wastes from the site of production. They will be trained to identify any wastes not covered by the EP for the site and inform the producer that an alternative facility must be sought for any non-compliant wastes.

Staff will also be trained in BAT procedures ensuring **only** the following EWC codes are accepted on site.

Table 4 List of wastes

Exclusions	
Wastes having any of the following characteristics shall not be accepted: Consisting solely or mainly of dusts, powders or loose fibres.	
Waste Code	Description
09	WASTES FROM THE PHOTOGRAPHIC INDUSTRY
09 01	wastes from the photographic industry
09 01 11*	single-use cameras containing batteries included in 16 06 01, 16 06 02 or 16 06 03
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 06	mixed packaging
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST

16 02	wastes from electrical and electronic equipment
16 02 09*	transformers and capacitors containing PCBs
16 02 10*	discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09
16 02 11*	discarded equipment containing chlorofluorocarbons, hydrochlorofluorocarbons and hydrofluorocarbons
16 02 12*	discarded equipment containing free asbestos
16 02 13*	discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 1
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02.13
16 02 15*	hazardous components removed from discarded equipment
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 1
16 06	batteries and accumulator
16 06 01*	lead batteries
16 06 02*	Ni-Cad batteries
16 06 03*	mercury-containing batteries
16 06 04	alkaline batteries (except 16 06 03)
16 06 05	other batteries and accumulators
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 21*	fluorescent tubes and other mercury-containing waste
20 01 23*	discarded equipment containing chlorofluorocarbons
20 01 33*	Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries.
20 01 34	Batteries and accumulators other than those mentioned in 20 01 33
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35

7.4 Plant and Equipment Preventative Maintenance Training

This training is provided specifically for the vehicle and plant operators in order to ensure that all plant and machinery is checked regularly to prevent any occurrences which may lead to any adverse impacts on the environment or human.

The same training will be provided to senior management enabling a dual-level maintenance programme.

7.5 Duty of Care Training

All employees dealing with consignments of waste will be trained in the completion of Duty of Care Waste Transfer Notes and Consignment Notes .

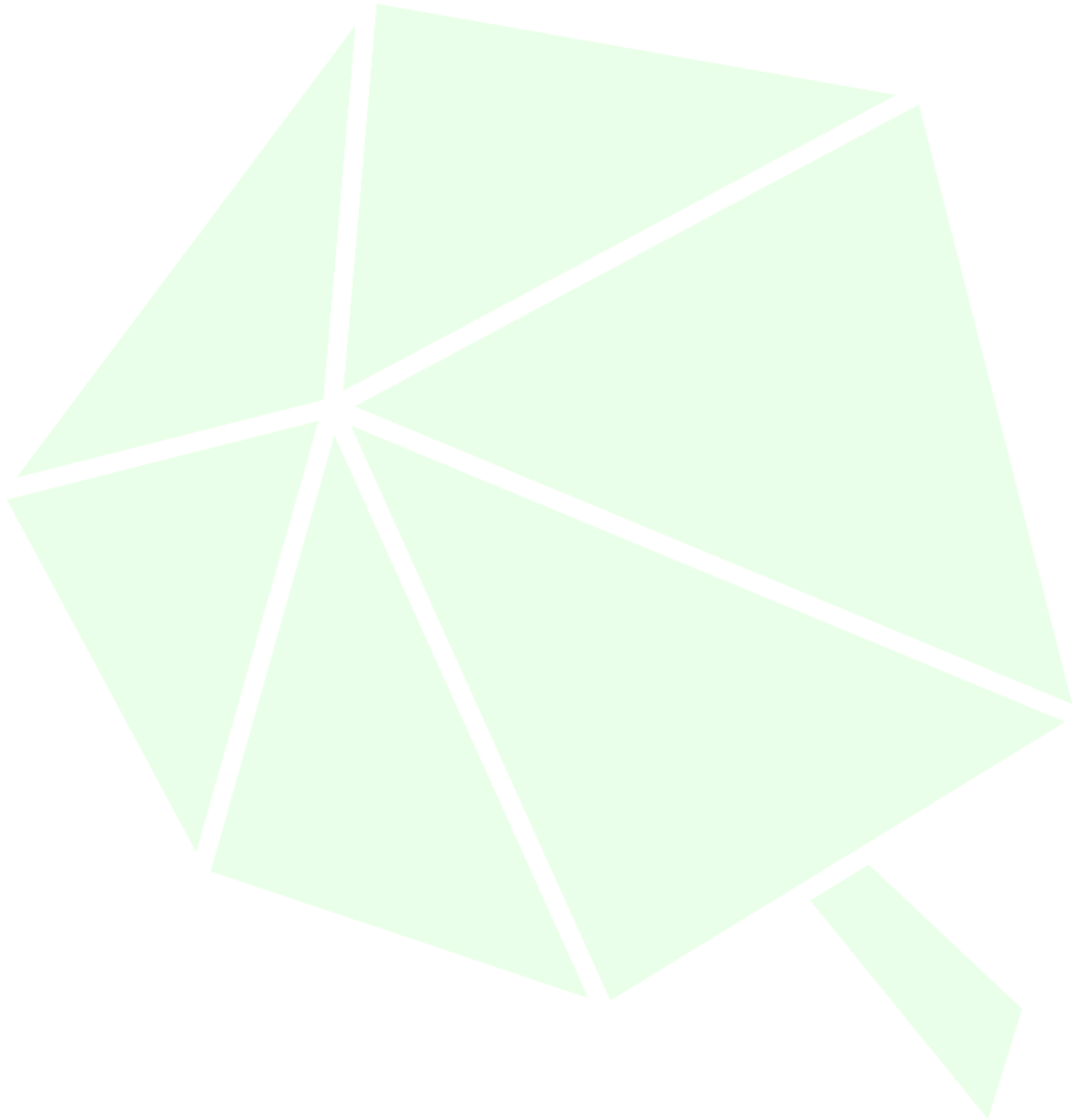
7.6 Plant Operation Training

Any employees who are required to operate loading or treatment plant for the movement or processing of waste will be required to undertake the necessary qualifications for the operation of the specific item of plant in question. This will be required prior to operating the plant and will be obtained through necessary external certification programmes.

Regardless of general plant operation certification, all operatives will be fully inducted in the operation of the specific make and/or model of plant used on site.

7.7 Permit and EMS Training

All employees will be inducted into the operating conditions as prescribed in the EP for the site. Whilst much of the above training will provide specific guidance on many aspects of these documents, all employees will be made aware of the location of the EP in the site office. All managerial positions will be made fully aware of the sites operating conditions.



8 MONITORING

8.1 General Management

The company have detailed written procedures and recording systems covering all aspects of site and company operations.

8.2 Plant and Equipment, Preventative Maintenance

Site management will undertake or delegate additional preventative maintenance checks on a daily basis to ensure, where possible, the machinery is mechanically sound, as described in the section below.

Fuels and combustible liquids from site vehicles (forklift trucks etc.) will be controlled by ensuring each vehicle has undergone the relevant preventative maintenance checks.

Any spillages of fuel will be cleared immediately by depositing sand or absorbents on the affected area and removed to the quarantine area or to a dedicated skip to await removal to a suitably permitted facility.

All items of plant and equipment (and any additional items of plant which may be hired in to cover busier periods) are subject to preventative maintenance checks to ensure their safe operation and to prevent any potential situations which may give rise to faults or malfunction. A preventative maintenance and fire used in the FPP.

Much of the plant and equipment on site and all vehicles in the fleet are subject to annual manufacturer maintenance to ensure proper working order in the form of service contracts. site manager/TCM will undertake or delegate additional preventative maintenance checks on a more frequent basis to ensure i.e. daily, before, during and at the end of each working day to ensure (where possible) the machinery is mechanically sound. These checks will be carried out using the preventative maintenance checklist shown in Appendix K of the FPP and any results which are flagged as needing attention will also be recorded in the site event log.

8.3 Accidents and Incidents

The system for the identification of potential accidents, incidents and emergency situations is through risk assessments which are routinely undertaken in accordance with the operator's health and safety policy.

In order to prevent or reduce potential accidents, incidents and emergency situations at the site, BAT is using the techniques given below:

- At introduction of new contract/working practices, procedures are established to deal with potential accidents/incidents from specific hazards, identified from experience.
- Risks are assessed on an ongoing basis and as work proceeds.
- **Vision Recycling U.K. Ltd** uses its expertise to provide method statements that include recognised emergency procedures which are then briefed to all site staff and any subcontractors.

- If an accident, incident or near-miss occurs, the accident reporting procedure is used to investigate and remedy the cause. Any accident or incident that falls into the RIDDOR category shall be reported accordingly and submitted to HSE within 10 days of the occurrence.
- Site management meet regularly to review the causes of any accident/ incident and corrective and preventative actions implemented to address them. This may lead to changes in working practices, training and staff information briefings to ensure that the root cause is understood and addressed.
- Investigations are undertaken by company Management.
- Meeting the requirements of S5.06 Section 2.8.

The manner in which the facility is managed is a critical element in ensuring emissions from the site operations are minimised. Therefore, the management of the facility ensures:

- Staff are competent to manage and operate the facility i.e. fit and proper persons
- Strict waste pre-acceptance and acceptance are procedures are in place
- Procedures and control techniques in place to minimise potential emissions to air, land and water
- Operational procedures as detailed in the EMS are in place to minimise the risk of emissions having regard to the waste types being accepted and the waste processing activities at the facility
- Operational procedures are in place to minimise the risk of odours having regard to the waste types being accepted and the waste processing activities at the facility
- Appropriate storage and handling procedures are in place
- Waste despatch procedures are in place
- Provision of a impermeable surface with appropriate kerbing to prevent escape to adjacent permeable areas
- Containment bays provided on site for the secure storage of the waste
- Wastewater management procedures in place
- There is an EMS in place for **Vision Recycling U.K. Ltd** to ensure standards are maintained, including incidents and complaints management procedures,
- Techniques in place for prevention and minimisation of resource consumption e.g. Energy efficiency, use of raw materials

8.4 Monitoring

If required all monitoring is carried out by trained personnel and recorded on suitable forms or on digital media which is available to site managers for checking and reviewing site operations. Information is readily available to regulators on request.

Monitoring could be a result of complaint or request by the EA for dust, noise and vibration.

8.5 Air Extraction

Aire extraction is placed over the main processing areas see site plan 010.1_09_004. Air extraction is provided to remove potentially harmful elements from the process under Control of Substances Hazardous to Health (COSHH) regulations 2202

8.6 Monitoring

Monitoring is carried out upstream down downstream of the mitigation using a 'Jerome 405 Mercury Vapour Analyser' see appendix F.

The legal allowance according to Health and Safety Executive (HSE) guidance for safe exposure is 20 ug M3.

Table 5 Air extraction limits

Substances	Alarm 1 (Pre-warning)	Comment	Alarm 2 (levels exceeded)	Comment
Mercury	5 ug M3	Extraction may not be working.	8 ug	part of operation will be stopped and will not operate again until levels have dropped back down and the route cause found
<ul style="list-style-type: none"> • Processing booth monitoring every 5 minutes, whilst operational. • Warehouse extraction points, 3 times per day. 				

8.7 Exception Monitoring

The exception to Table 5 Air extraction limits is during hot days 25°C. Where pre alarm at 7 ug M3 and full alarm at 10 ug M3 due to the impact of heat on mercury vapours.

8.8 Emergency Planning

The EMS, FPP and Noise and Vibration and Management Plan (NVMP) will have detailed Emergency plans these plans are reviewed at least every two years or sooner following any incident.

Drills are undertaken regularly at least every 6 months to test emergency procedures and ensure staff are confident of the actions to take in the event of an emergency. All drills are documented and any problems highlighted are used to review the procedures if necessary.

9 RAW MATERIALS AND JUSTIFICATIONS

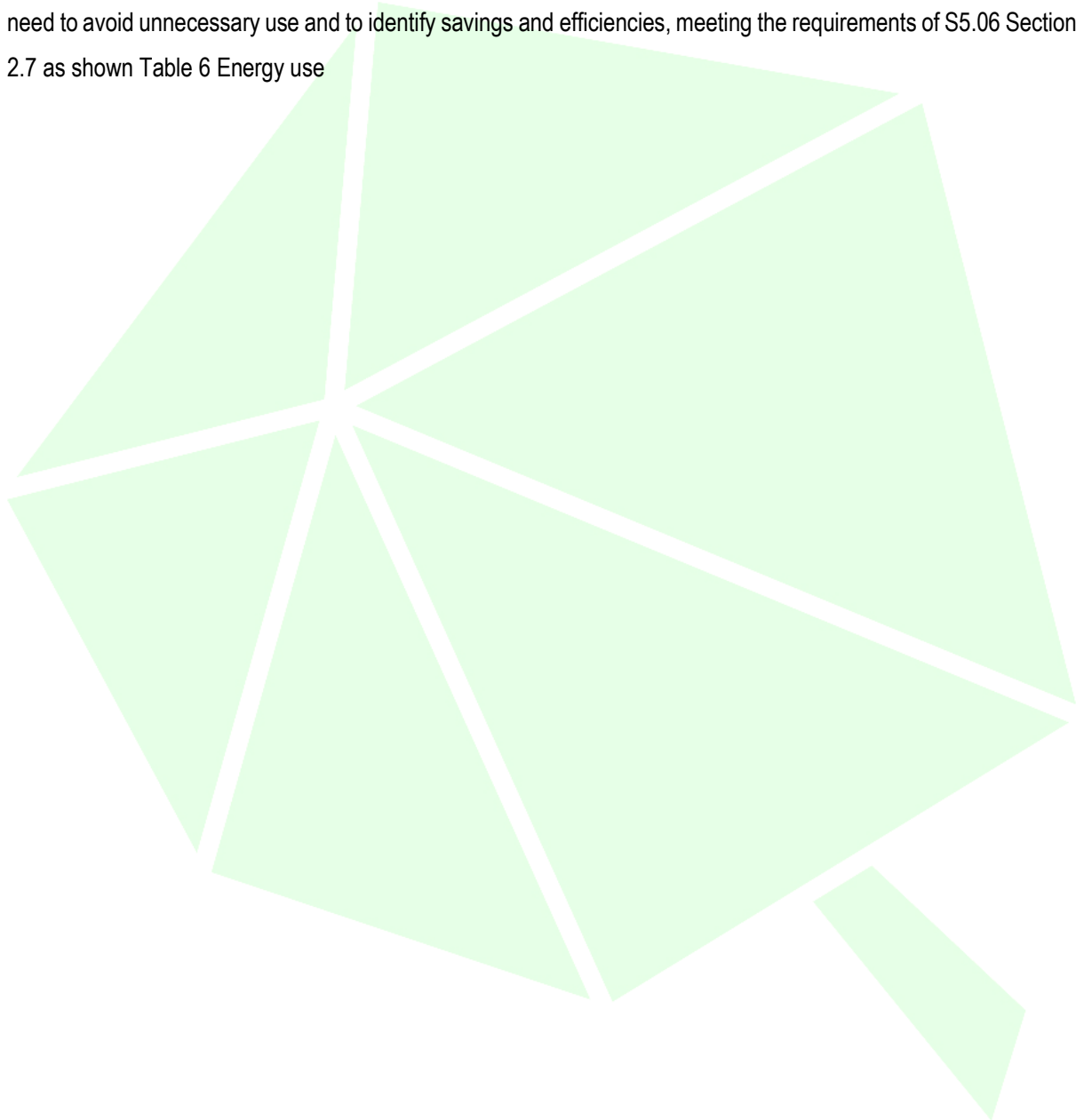
Table 6 Energy use

Schedule 1 activity	Description of raw material and composition of raw material	Maximum amount daily	Annual throughput	Description of how raw material is used including main hazards	Justification for use (Form B3 Q6d)	Reducing waste arising from raw materials
Section 5.4 A(1) (a)(v) and/or (b)(iv) – Shredder, Overband magnet, shaker deck, hammer mill shaker deck, eddy current, shaker deck and optical sorter.	Electricity	Unknown as new site will be monitored for first year to identify.	Unknown as new site will be monitored for first year to identify.	No hazards associated other than slips, trips, falls etc.	Treating waste for further recovery to reduce waste to landfill. Segregation of hazardous and non-hazardous waste	N/A
Section 5.3 A(1)(a)(ii) CRT, LCD and automated processing line	Electricity	Unknown as new site will be monitored for first year to identify.	Unknown as new site will be monitored for first year to identify.	No hazards associated other than slips, trips, falls etc.	Treating waste for further recovery to reduce waste to landfill. Segregation of hazardous and non-hazardous waste	N/A
Section 5.6 (A)(1) Storage	N/A	N/A	N/A	N/A	N/A	N/A

10 WASTE RECOVERY OR DISPOSAL

Vision Recycling U.K. Ltd are committed to pushing the wastes they handle and produce as far up the waste hierarchy as possible and the specialisation in low volumes of difficult to handle wastes has given a particular emphasis to this ethos. They reverse engineer WEEE, Ensuring they meet the requirements of S5.06 section 2.6.

The company record and analyse all energy use and have policies and procedures in place which emphasise the need to avoid unnecessary use and to identify savings and efficiencies, meeting the requirements of S5.06 Section 2.7 as shown Table 6 Energy use



11 CLOSURE AND DECOMMISSIONING

11.1 Site Condition Report

A Site Condition Report (SCR) has been produced as part of this application, site condition report 010.1_05_007.

11.2 Decommissioning Plan

A Decommissioning Plan has been prepared meeting S5.06 section 2.11 and is shown below. The plan follows the general principles as detailed below:

- If the site is to be dismantled all equipment, buildings etc. will be disposed of having full regard to the waste hierarchy.
- Buildings and pipe work will be checked and any infrastructure likely to contain asbestos material will be inspected and removed only using suitably authorised contractors.
- The dismantling and re-use of the majority of the equipment through sale to interested third parties the remainder to be scrapped; and
- The scrapping of the majority of the equipment probably through a single contractor with only a small proportion salvaged for re-use at some point in the overall process.

11.3 Sequence of Decommissioning

Final use, after the final consignment of waste has been despatched from the site, electrical systems will be isolated and locked off leaving only lighting and what circuits are considered necessary for on-going inspection and maintenance in place. All systems will be double checked and labelled to ensure there are no unmarked live systems on the site.

The drainage system and water supply will remain intact.

Dismantling - In line with the waste hierarchy efforts will be made to seek a buyer for all the plant and equipment, forklift trucks etc. Either as a whole or in suitable lots.

Scrapping - If no suitable parties are found to purchase the plant it will be scrapped, again either as a whole or in suitable lots.

After plant has been removed - The whole internal area will be subject to a thorough inspection testing remaining electrical circuits labelling testing.

Deep cleaning the building, floors and removing all residues off-site to a suitably permitted facility.

11.4 Monitoring

Throughout the period of decommissioning the plant and building will be checked at least weekly when dismantling work is not being undertaken and daily when it is. Checks will ensure the integrity of the site surface is being maintained and the risk of spillage or pollution is being kept to a minimum. Contractors will be required to make

their own checks and make these available during such checks. Once plant has been removed periodic checking will be carried out giving regard to the risk if any the use of the area may pose.

11.5 Permit Surrender

If the permit is to be surrendered a scheme of sampling and analysis of the soil beneath the site maybe undertaken if during communications with the EA it is deemed required.

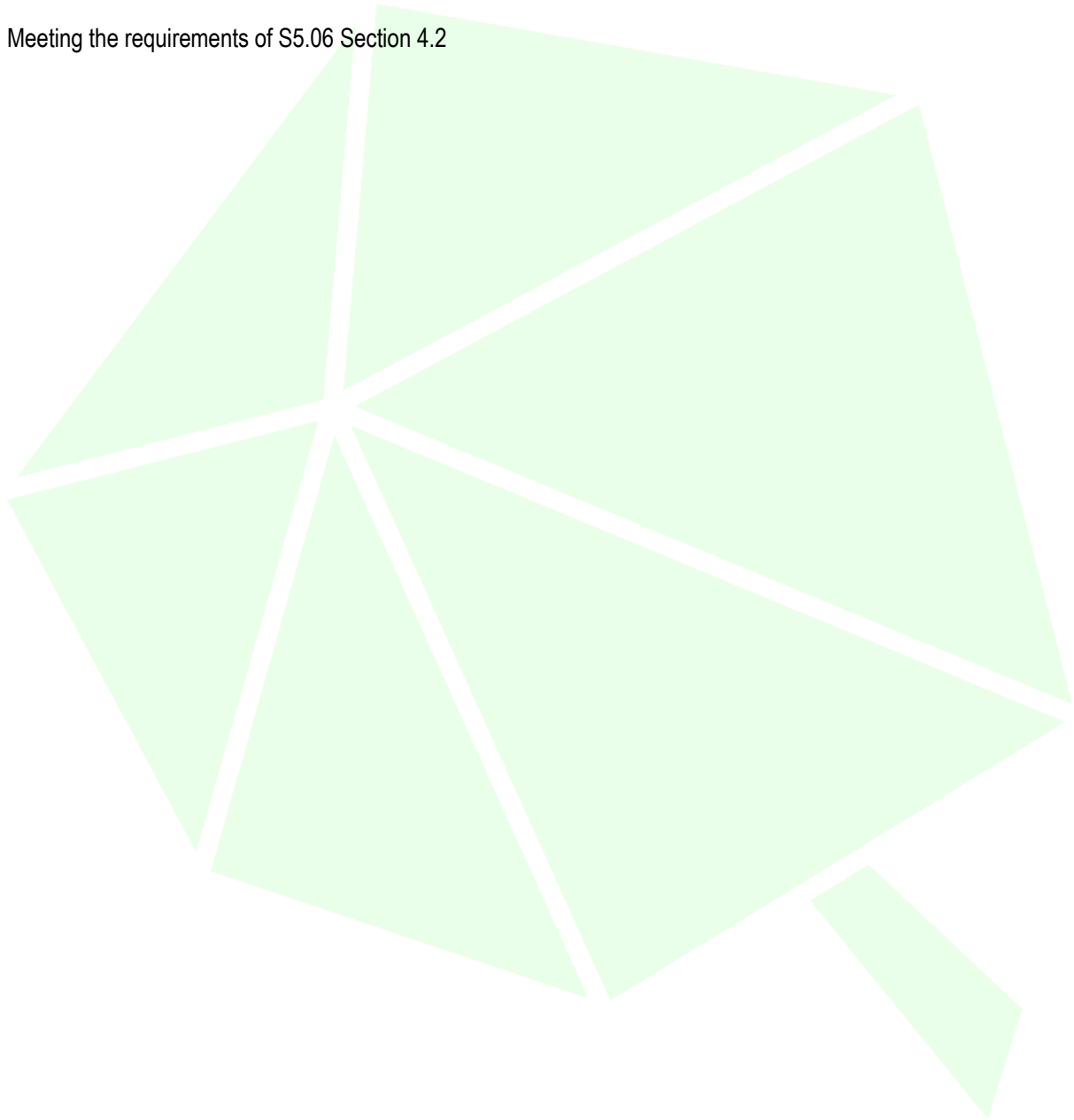
If analyses show any contamination to be present which would interfere with the succeeding use of the site this will be removed or treated to bring the round/groundwater into an acceptable condition for the surrender of the permit and completion of the site condition report to the satisfaction of the EA or the relevant regulatory body at that juncture.

12 ENVIRONMENTAL PERMITTING REGULATIONS

The permit application meets all aspects of the EPR by virtue of being part site application and part installation application.

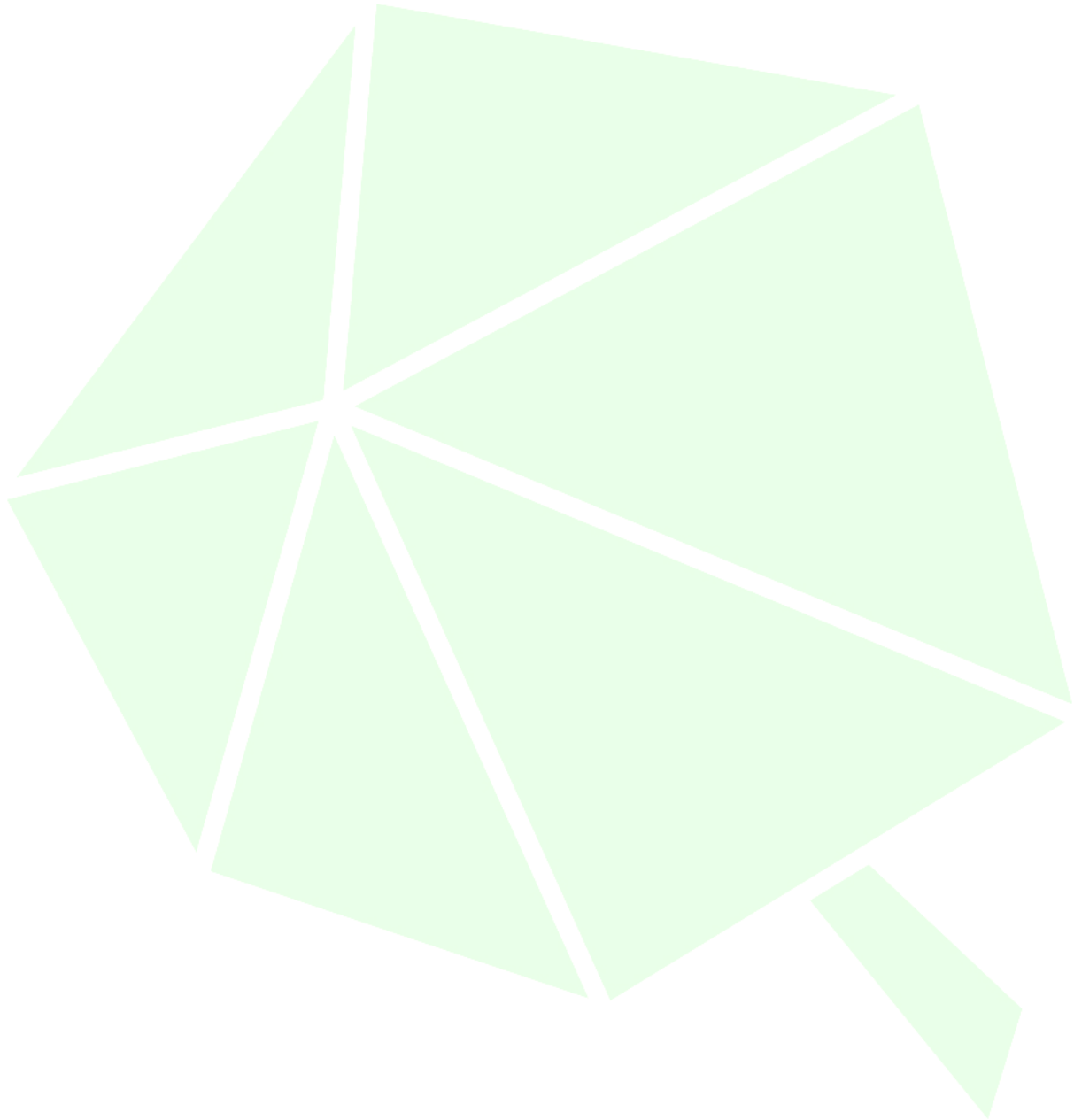
The site is subject to a planning application which will give due consideration to all local and national planning policies in relation to waste disposal and recycling /recovery.

Meeting the requirements of S5.06 Section 4.2



13 HABITATS

There is no European designation within 2 km of site. The closet is Sweat Mere and Crose Mere approx.. 3493 m east north east of the site. This BAT and all other associated documents have been produced to ensure the proposal does not impact on this SSSI.



BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
	Environmental Management Systems	Improve the overall environmental performance	Implement and adhere to an EMS that incorporates key features identified	N/A	Yes	N/A	Vision Recycling U.K. Ltd have an internal Environmental Management System (EMS) 010.1_05_004. The EMS includes standard operating procedures that minimise the environmental risks and impacts of the normal



2	Environmental Management Systems	In order to improve the overall environmental performance of the plant	<ul style="list-style-type: none"> a) Set up and implement waste characterisation and pre acceptance procedures b) Set up and implement waste acceptance procedures c) Set up and implement a waste tracking system and inventory d) Set up and implement an output quality management system e) Ensure waste segregation f) Ensure waste compatibility prior to mixing or blending of waste g) Sort incoming solid waste 	N/A	Yes	N/A	<p>operations and include maintenance, contingency plans to minimise the effect of breakdown and accidents etc. These include procedures relating to waste acceptance and environmental monitoring. A planned programme of maintenance is specified in the management system. All plant is inspected and maintained in line with the manufacturer's instructions or other appropriate regime. Vision Recycling U.K. Ltd have a training and development programme designed to ensure that staff are suitably trained to undertake their duties. The roles and responsibilities of staff on site are clearly defined and training records for each member of staff are maintained and reviewed regularly to ensure competence is maintained and up to date. Vision Recycling U.K. Ltd will have an accident prevention and management plan. In the event of an incident, details are recorded, and a full review undertaken. The EMS contains the following sections/procedures:</p> <ul style="list-style-type: none"> • Environment Policy • Safety, Health • Operating Techniques • Environmental Emission Controls • Communication with Complaints and Non-Conformances Procedures • Review Procedure • Contingency Plan • Health and Safety Requirements • Maintenance and Training Records • Site Closure Plan • Fire Prevention Plan
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BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
3	Environmental Management Systems	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)		N/A	Yes	N/A	<p>The plant does not include any process point source emissions to air or water. Details of mitigation measures to reduce emissions to air</p> <p>No internal drainage external roof water is separated from the site surface.</p> <ul style="list-style-type: none"> 010.1_09_009 Drainage Plan

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
4	Environmental Management Systems	In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below.	<ul style="list-style-type: none"> a) Optimised storage location b) Adequate storage capacity c) Safe storage operation d) Separate area for storage and handling of packaged hazardous waste 	N/A	Yes	N/A	<p>All wastes are stored in accordance with the requirements of the relevant Regulations and Directives and as per the site's EMS 010.1_05_004 and FPP 010.1_05_011. All wastes received and all outputs from the site processes will be stored in designated areas as per site plan 010.1_09_004, as well as per the arrangements set out in the EMS, Noise and Vibration Management plan 010.1_05_005 (NVMP), Fire Prevention Plan 010.1_05_011 (FPP).</p> <p>To ensure that waste storage arrangements are being adhered to, daily checks of the waste piles are conducted. If issues are identified, then records are made, and suitable actions are determined in accordance with the Non-Conforming Waste Procedure outlined in the EMS 010.1_05_004. The documents below cover BAT 4 techniques a (optimised storage location), b (adequate storage capacity) and c (safe storage operation), see site plan 010.1_09_004. Waste arrives on site in either containers or pallets. Any other hazardous waste that is identified at site will be handled as non-conforming waste as described in the</p>

5	Environmental Management Systems	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.		N/A	Yes	N/A	<p>Vision Recycling U.K. Ltd has established handling and transfer procedures(EMS 010.1_05_004) Records of all incoming and outgoing waste are kept as part of EMS 010.1_05_004 procedures. The EMS outlines that the handling and transfer of waste is carried out by competent staff. Section 14 of the EMS states that a record system is to be maintained in accordance with the environmental permit. recording of waste throughput and rejection is achieved via the use of a weighbridge system and duty of care information (waste transfer notes) recorded for every load that arrives and leaves.</p> <p>All appropriate information to satisfy the requirement of duty of care and the permit is obtained and recorded. All records are maintained for inspection by the EA. The records contain the following information:</p> <p>Site inspections by the operator or other body and any subsequent issues and corrective actions taken (as recorded in Compliance Assessment Reports); Emergencies;</p> <ul style="list-style-type: none"> • Complaints and actions taken; • Plant/equipment failure; • A record of any rejection of waste; • Any queries with Waste Carriers; • Technically competent manager (TCM) – times on site; • Any incidents/accidents on site and actions taken; • Security failures; and • Severe weather conditions.
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BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
							<p>The operation will benefit from an well-trained work force who are trained in operations on site including appropriate waste storage and measures taken to prevent, detect and mitigate spills. Staff are trained appropriately in the handling and transfer of waste, in the use of spill kits and the requirements of the EMS 010.1_05_004 & Contingency Plan. All staff are trained in appropriately detecting and identifying spillages and the spill response procedure is used when a spillage is detected. Spill drills are undertaken to test response procedures. All site personnel are tasked with monitoring for evidence of spillages and leakage during their day to day routine. Any evidence of leaks or spillages are reported to the TCM or the nominated person for remedial action. Relevant documents:</p> <ul style="list-style-type: none"> • Environment Management System • Review Procedure • Contingency Plan • Health and Safety Requirements • Maintenance and Training Records • Site Closure Plan • Fire Prevention Plan • Compliance Assessment Reports (CARs) • Complaints Log and Investigation Procedure
Monitoring							

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
6	Monitoring Emissions	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).			N/A		As discussed above there are no relevant wastewater streams which would require an inventory under BAT 3. There are no discharge points associated with this permit.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
7	Monitoring Emissions	BAT is to monitor emissions to water with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. (See BAT Conclusions document for standards)			N/A	N/A	

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
8	Monitoring Emissions	BAT is to monitor channelled emissions to air with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. (See BAT Conclusions document for standards)			N/A	N/A	

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
9	Monitoring Emissions	BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques in the BAT conclusions document.			N/A	N/A	

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
10	Monitoring Emissions	BAT is to periodically monitor odour emissions.		N/A	Yes	N/A	<p>The nature of the waste accepted at the site presents a low risk of odour nuisance. The processes undertaken on site will not give rise to malodours or residues with malodours.</p> <p>Odour management is included in the EMS 010.1_05_004. In the unlikely event that any odorous material is identified it will be handled accordingly and removed from site as a priority.</p> <p>Site employees will undertake regular inspections and undertake remedial action if odour is identified as a problem. Good housekeeping is implemented across the site to minimise the risk of odours occurring.</p>
11	Monitoring Emissions	BAT is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and wastewater, with a frequency of at least once per year.		N/A	Yes	N/A	<p>Waste returns are submitted to the EA for all wastes received and dispatched.</p> <p>Monitoring of raw water and energy use on site is carried out via supplier invoices and records of these are maintained. Use of hydraulic and lubricating oils is monitored via purchase invoices.</p> <p>A full description of the process techniques can be found in the EMS 010.1_05_004 document.</p>

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
12	Monitoring 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 elements specified in the BAT Conclusions document.		N/A	Yes	N/A	<p>The nature of the waste accepted at the site presents a low risk of odour nuisance.</p> <p>The EMS is reviewed, and the odour mitigation measures specifically would also be reviewed following receipt of an odour complaint, albeit this is considered unlikely due to the type of waste accepted on site.</p>
13	Monitoring Emissions	In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques specified in the BAT conclusions document.		N/A	Yes	N/A	<p>Odour management controls are detailed in the EMS 010.1_05_004 but are not deemed a significant risk for this type of waste and activity. Plan, as set out in the response to BAT 10. The waste accepted at the site presents a low risk of odour nuisance. Control and monitoring of waste acceptance procedures will ensure wastes likely to cause malodours are not accepted. Any odorous material identified will be handled accordingly and removed from site as a priority as per waste acceptance/rejection procedures in the EMS.</p>

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
14	Monitoring Emissions	In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given in the BAT Conclusions document.	<ul style="list-style-type: none"> a) Minimising the number of potential diffuse emission sources b) Selection and use of high-integrity equipment c) Corrosion prevention d) Containment, collection and treatment of diffuse emissions e) Dampening f) Maintenance g) Cleaning of waste treatment and storage areas h) Leak detection and repair (LDAR) programme 	N/A	Yes	N/A	<p>All waste acceptance, storage and processing occur within a building except for metal storage in one metal container see site layout 010.1_09_004.</p> <p>Odour is not expected to be a problem due to the type of waste and activities carried out on site see EMS 010.1_05_004.</p> <p>Site specific equipment is utilised in the processing of waste. Internal operations and waste type reduce risk and impact of waste. Regular maintenance of processing.</p> <p>The site management team carry out monitoring of site operations and undertake regular visual inspections (at least once per day) of operations</p>
15	Monitoring Emissions	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			N/A		N/A

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
16	Monitoring Emissions	In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given below	<ul style="list-style-type: none"> a) Correct design of flaring devices b) Monitoring and recording as part of flare management 		N/A		N/A

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
17	Monitoring Emissions	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	<ul style="list-style-type: none"> 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. V. VI. 	N/A	Yes	N/A	Environmental Risk Assessment (ERA) 010.1_05_002 Identified the need for an Noise Impact Assessment (NIA) BS BS4142. Noise and Vibration Management Plan 010.1_05_005, this also contains a complaints and investigation procedure.. The onsite procedures and mitigation are deemed sufficient for the site.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
18	Monitoring Emissions	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.	a) Appropriate location of equipment and buildings b) Operational measures c) Low-noise equipment d) Noise and vibration control equipment e) Noise attenuation	N/A	Yes	N/A	Activities undertaken on site are not considered to represent a risk of noise and vibration with appropriate controls see NVMP 010.1_05_005. <ul style="list-style-type: none"> All plant will be maintained to current recommended standards and manufacturer recommendations. Vehicles, plant and machinery will be switched off when not in use where practicable. Delivery vehicles processed as quickly as possible to minimise noise from engines, reversing warning signals etc. Sympathetic driving of vehicles will reduce unnecessary revving of engines. Waste will be unloaded using forklifts and placed down in to storage with no 'drop height' When moving material around the site,, operators ensure that the material is loaded/contained prior to be transported around site reducing the likelihood of material being dropped. As part of the EMS 010.1_05_004, the operator has systems in place for dealing with complaints and this would be relevant to any noise complaints received at the site. In response to previous noise nuisance complaints,
Emissions to Water							

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
19	Monitoring Emissions	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	<ul style="list-style-type: none"> a) Water management b) Water recirculation c) Impermeable surface d) Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessel. e) Roofing of waste storage and treatment areas. f) Segregation of water streams g) Adequate drainage infrastructure h) Design and maintenance provisions to allow detection and repair of leaks. i) Appropriate buffer storage capacity 	N/A	Yes	N/A	<p>Water is not used as part of any permitted process on site.</p> <p>There is no site surface run off as the waste storage and processing area is within a building except for one metal container. Roof water is separate see drawing 010.1_09_009 Drainage Plan. For process description see EMS 010.1_05_004.</p>

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
20	Monitoring Emissions	In order to reduce emissions to water, BAT is to treat wastewater using an appropriate combination of the techniques given in the BAT conclusions document.	a) Equalisation b) Neutralisation c) Physical separation, e.g. screens, sieves, grit separators, grease separators, oil-water separation or primary settlement tanks. d) Adsorption e) Distillation/rectification f) Precipitation g) Chemical Oxidation h) Chemical Reduction i) Evaporation j) Ion Exchange k) Stripping l) Activated sludge process m) Membrane bioreactor n) Nitrification/denitrification when the treatment includes a biological treatment o) Coagulation and flocculation p) Sedimentation q) Filtration (e.g. sand filtration, microfiltration, ultrafiltration) r) Flotation	N/A	Yes	N/A	No waste water generated.
Emissions from Accidents and Incidents							

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
21	Monitoring Emissions	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).	a) Protection measures b) Management of incident/accidental emissions c) Incident/accident registration and assessment system	N/A	Yes	N/A	The EMS 010.1_05_004 Covers environmental protection measures, accident and incident management as well as the NVMP 010.1_05_005 and the FPP 010.1_05_011. These documents contain the following procedures; <ul style="list-style-type: none"> • Site evacuation including drill requirements • Fire • Explosions • Non-conforming waste • Emergency procedures for liquid spillages or leaks including drill requirements • Flooding • Escape from containment
Material and Energy Efficiency							

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
22	Efficiency Monitoring	In order to use materials efficiently, BAT is to substitute materials with waste	<p>Description Waste is used instead of other materials for the treatment of wastes (e.g. waste alkalis or waste acids are used for pH adjustment, fly ashes are used as binders).</p> <p>Applicability Some applicability limitations derive from the risk of contamination posed by the presence of impurities (e.g. heavy metals, POPs, salts, pathogens) in the waste that substitutes other materials. Another limitation is the compatibility of the waste substituting other materials with the waste input (see BAT 2)</p>	N/A	Yes	N/A	<p>The raw materials used on site are as follows:</p> <ul style="list-style-type: none"> • Lubricating oil/grease, for parts lubrication • Hydraulic oil, used as a power transmitting medium and to protect machine components <p>At present, it is not considered possible to substitute the raw materials used by the process with waste. Water (Via borehole) is used for fire fighting.</p>
23	Efficiency Monitoring	In order to use energy efficiently, BAT is to use both of the techniques given below	<p>a) Energy efficiency plan</p> <p>b) Energy balance record</p>	N/A	No	N/A	<p>New permitted activity at this location no base line of energy consumption to design an energy efficiency plan or energy balance record.</p>
Reuse of Packaging							

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
24	Efficiency Monitoring	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).	<p>Description 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).</p> <p>Applicability Some applicability restrictions derive from the risk of contamination of the waste posed by the reused packaging</p>	N/A	Yes	N/A	A majority of waste that is received at site is containerised in Intermediate Bulk Containers (IBC) or pallets see EMS 010.1_05_004 and site layout 010.1_09_004 for location.
BAT Conclusions for the Mechanical Treatment of Waste							

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
25	Mechanical Treatment	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.		N/A	Yes	N/A	Where appropriate and reasonably practicable, the parts of the mechanical treatment processes with the potential to give rise to dusts are located internally (mechanical and manual).

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
26	Mechanical Treatment	In order to improve the overall environmental performance, and to prevent emissions due to accidents and incidents, BAT is to use BAT 14g and all of the techniques given in the BAT conclusions document.	<ul style="list-style-type: none"> a) implementation of a detailed inspection procedure for baled waste before shredding; 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); c) treatment of containers only when accompanied by a declaration of cleanliness. 	N/A	Yes	N/A	<ul style="list-style-type: none"> • Plant and machinery are inspected/maintained and cleaned on a regular basis. • Good housekeeping is employed daily to reduce quantities of particulates and dust accumulating on the site, to minimise the risk of emissions and alleviate any waste leaving the site. • Manual sweeping is employed to minimise build-up of dust and debris. Visual monitoring by the site manager or appointed representative in their absence is undertaken throughout the day to determine the frequency such sweeping. • Site employees will undertake regular inspections and undertake remedial action if odour is identified as a problem. • Staff are trained in handling waste. • As far as possible all loads are visually assessed from the weighbridge and may be rejected if the waste is found to be mis-described or non-permitted. If there are other irregularities with the paperwork, the weighbridge operator may also radio a designated site operative and request specific inspection of the load when deposited at the reception / storage area. • Material might be isolated for further inspection and investigation. • No non conforming waste

<p>27</p>	<p>Mechanical Treatment</p>	<p>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.</p>	<ul style="list-style-type: none"> a) Deflagration management plan b) Pressure relief dampers c) Pre-shredding 	<p>N/A</p>	<p>Yes</p>	<p>N/A</p>	<p>The shredder and process on site do not treat wastes that could cause deflagrations. Wastes that could cause deflagrations are not accepted at the site. The EMS 010.1_05_004, sets out the process for dealing with non-conforming wastes such as these. As far as possible all loads are visually assessed from the weighbridge and may be rejected if the waste is found to be mis-described or non-permitted. If there are other irregularities with the paperwork, the weighbridge operator may also radio a designated site operative and request specific inspection of the load when deposited at the reception / storage area. Further inspection follows before and during the unloading stage. If the site operative is unsatisfied with any particular item(s) or indeed the whole load, its removal offsite by the driver is required or, if the Company considers it to be the best environmental option, the material is quarantined pending further investigation and possible referral to the EA. Non-conforming wastes will be placed immediately in a designated quarantine area until suitable disposal arrangements can be made. There will be no mixing of non-conforming (quarantined) wastes with authorised wastes. Non-conforming wastes will be stored separately where possible and when legislation requires. Any non-conforming wastes that are defined as hazardous under the Hazardous Waste Directive will be handled and moved off site in line with the requirements of the Directive.</p>
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BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
28	Mechanical Treatment	In order to use energy efficiently, BAT is to keep the shredder feed stable.	The shredder feed is equalised by avoiding disruption or overload of the waste feed which would lead to unwanted shutdowns and start-ups of the shredder. BAT conclusions for the treatment of WEEE containing VFCs and/or VHCs Unless otherwise stated, the BAT conclusions presented in this section apply to the treatment of WEEE containing VFCs and/or VHCs, in addition to BAT 25.		N/A		Shredder feed stock is kept stable due to the robust waste acceptance procedure. As the feed stock is not variable there are less variable energy demands.
29	Mechanical Treatment	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.	<ul style="list-style-type: none"> a) Optimised removal and capture of refrigerants and oils b) Cryogenic Condensation c) Adsorption 		N/A		Not applicable as site does not treat WEEE containing volatile fluorocarbons (VFCs) and/or volatile hydrocarbons (VHCs).

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
30	Mechanical Treatment	In order to prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs, BAT is to use either of the techniques.	<ul style="list-style-type: none"> a) Inert atmosphere b) Forced ventilation 		N/A		Not applicable to site operations as there is no treatment of WEEE containing VFCs and/or VHCs.
31	Mechanical Treatment	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	<ul style="list-style-type: none"> a) Adsorption b) Biofilter c) Thermal oxidation d) Wet scrubbing 		N/A		Not applicable to site operations as there is no mechanical treatment of waste with calorific value.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
32	Mechanical Treatment	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.	<ul style="list-style-type: none"> equipment used to treat WEEE containing mercury is enclosed, under negative pressure and connected to a local exhaust ventilation (LEV) system; waste gas from the processes is treated by dedusting techniques such as cyclones, fabric filters, and HEPA filters, followed by adsorption on activated carbon (see Section 6.6.1); the efficiency of the waste gas treatment is monitored; mercury levels in the treatment and storage 		N/A		EMS 010.1_05_004 covers the monitoring frequency, maintenance and trigger alarms for action of mercury limits.
33	Mechanical Treatment	In order to reduce odour emissions and to improve the overall environmental performance, BAT is to select the waste input.	The technique consists of carrying out the pre-acceptance, acceptance and sorting of the waste input (see BAT 2) so as to ensure the suitability of the waste input for the waste treatment, e.g. in terms of nutrient balance, moisture or toxic compounds which may reduce the biological activity.		N/A		Not applicable as no biological treatment of the waste is carried out.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
34	Mechanical Treatment	In order to reduce channelled emissions to air of dust, organic compounds and odorous compounds, including H ₂ S and NH ₃ , BAT is to use one or a combination of the techniques given below.	<ul style="list-style-type: none"> a) Adsorption b) Biofilter c) Fabric Filter d) Thermal oxidation e) Wet scrubbing 		N/A		Not applicable as no biological treatment of the waste is carried out.
35	Mechanical Treatment	In order to reduce the generation of waste water and to reduce water usage, BAT is to use all of the techniques given below.	<ul style="list-style-type: none"> a) Segregation of water streams b) Water recirculation c) Minimisation of the generation of leachate 		N/A		

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
36	Mechanical Treatment	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.	Monitoring and/or control of key waste and process parameters, including: <ul style="list-style-type: none"> • waste input characteristics (e.g. C to N ratio, particle size); • temperature and moisture content at different points in the windrow; • aeration of the windrow (e.g. via the windrow turning frequency, O2 and/or CO2 concentration in the windrow, temperature of air streams in the case of forced aeration); • windrow porosity, height and width. 		N/A		Not applicable as no aerobic treatment of the waste is carried out.
37	Mechanical Treatment	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.	a) Use of semipermeable membrane covers b) Adaption of operations to the meteorological condition		N/A		

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
38	Mechanical Treatment	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.	Implementation of a manual and/or automatic monitoring system to: <ul style="list-style-type: none"> • ensure a stable digester operation; • minimise operational difficulties, such as foaming, which may lead to odour emissions; • provide sufficient early warning of system failures which may lead to a loss of containment and explosions. This includes monitoring and/or control of key waste and process parameters, e.g.: <ul style="list-style-type: none"> • pH and alkalinity of the digester feed; • digester operating temperature; • hydraulic and organic loading rates of the digester feed; • concentration of volatile fatty acids (VFA) and ammonia within the digester and digestate; • biogas quantity, composition (e.g. H₂S) and pressure; • liquid and foam levels in the digester. 		N/A		Not applicable as no anaerobic treatment of the waste is carried out.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
39	Mechanical Treatment	In order to reduce emissions to air, BAT is to use both of the techniques given below.	<ul style="list-style-type: none"> a) Segregation of the waste gas streams b) Recirculation of waste gas 		N/A		Not applicable as no mechanical biological treatment of the waste is carried out.
Physico-Chemical Treatment of Waste							
40	Physico-Chemical Treatment	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).			N/A		No chemical treatment processes are undertaken at the site. All incoming waste is subject to pre-acceptance and acceptance checks as detailed in BAT 2.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
41	Physico-Chemical Treatment	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.	<ul style="list-style-type: none"> a) Adsorption b) Biofilter c) Fabric filter d) Wet scrubbing 		N/A		Not applicable as no physico-chemical treatment of solid and/or pasty waste is carried out.
Re-refining of waste oil:							
42	Re-refining of waste oil:	In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).	Monitoring of the waste input in terms of content of chlorinated compounds (e.g. chlorinated solvents or PCBs).		N/A		Not applicable to site operations as no re-refining of waste oil carried out.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
43	Re-refining of waste oil:	In order to reduce the quantity of waste sent for disposal, BAT is to use one or both of the techniques given below.	a) Material recovery b) Energy recovery		N/A		
44	Re-refining of waste oil:	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.			N/A		

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
45	Re-refining of waste oil:	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	<ul style="list-style-type: none"> a) Adsorption b) Cryogenic condensation c) Thermal oxidation d) Wet scrubbing 		N/A		Not applicable to site operations as no physico-chemical treatment of waste with calorific value.
Regeneration of spent solvents							
46	Regeneration of spent solvents	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.	<ul style="list-style-type: none"> a) Material recovery b) Energy recovery 		N/A		Not applicable to site operations as no processing of spent solvents.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
47	Regeneration of spent solvents	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.	<ul style="list-style-type: none"> a) Recirculation of process off-gases in a steam boiler b) Adsorption c) Thermal oxidation d) Condensation or cryogenic condensation e) Wet scrubbing 		N/A		
Thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil							
48	Thermal treatment	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	<ul style="list-style-type: none"> a) Heat recovery from the furnace off-gas b) Indirectly fired furnace c) Process-integrated techniques to reduce emissions to air.4 		N/A		Not applicable to site operations as no thermal treatment of spent activated carbon, waste catalysts and/or excavated contaminated soil.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
49	Thermal treatment	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.	<ul style="list-style-type: none"> a) Cyclone b) Electrostatic precipitator (ESP) c) Fabric filter d) Wet scrubbing e) Adsorption f) Condensation g) Thermal oxidation 		N/A		
Water washing of excavated contaminated soil							
50	Water washing of excavated contaminated soil	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	<ul style="list-style-type: none"> a) Adsorption b) Fabric filter c) Wet scrubbing 		N/A		Not applicable as no water washing of excavated contaminated soil.
Decontamination of equipment containing PCBs							

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
51	Decontamination of equipment containing PCBs	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	a) Coating of the storage and treatment areas b) Implementation of staff access rules to prevent dispersion of contamination c) Optimised equipment cleaning and drainage d) Control and monitoring of emissions to air e) Disposal of waste treatment residues f) Recovery of solvent when solvent washing is used		N/A		PCBs are removed mechanically through the use of shredders, over band magnets and shaker decks see site layout 010.1_09_004.
Treatment of water-based liquid waste							
52	Treatment of water-based liquid waste	In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).	Monitoring the waste input, e.g. in terms of: <ul style="list-style-type: none"> • bioeliminability (e.g. BOD, BOD to COD ratio, Zahn-Wellens test, biological inhibition potential (e.g. inhibition of activated sludge)); • feasibility of emulsion breaking, e.g. by means of laboratory-scale tests. 		N/A		Not applicable to site operations as no treatment of water-based liquid waste.

BAT No.	Topic	Brief Description	BAT	BAT-AEL	Operating to BAT?	BAT-AEL derogation needed?	Comments
General BAT Conclusions							
53	Treatment of water-based liquid waste	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.	<ul style="list-style-type: none"> a) Adsorption b) Biofilter c) Thermal oxidation d) Wet scrubbing 	N/A			



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