

BEST AVAILABLE TECHNIQUES (BAT) ASSESSMENT

DONALD WARD LIMITED

HARRIMAN'S LANE

NOTTINGHAM

NG7 2SD

Introduction

Donald Ward Limited is applying for an Installation Permit at Harriman's Lane, Nottingham, NG7 2SD. To support the application, the installation activities have been reviewed against Best Available Techniques (BAT).

The permit application is for the following Waste Framework Directive operations:

R3: Recycling or reclamation of metals and metal compounds.

R4: Recycling or reclamation of metals and metal compounds

R5: Recycling or reclamation of other inorganic materials

R12: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)

R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).

The application comprises the following installation activities:

Section 5.4 A(1) (b) (iv) – Recovery of non-hazardous waste with a capacity of more than 75 tonnes per day involving treatment in shredders of metal waste including waste electrical and electronic equipment and end - of - life vehicles and their components.

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

Section 5.6 - Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes.

The remainder of this document reviews the site processes against each relevant BAT conclusion.

General BAT conclusions

BAT 1

In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates a list of features (as identified in the BAT Conclusions document).

Ward operates under an existing environmental management system (EMS). The EMS is established so that it is maintained and continually improved as necessary.

The EMS includes standard operating procedures and safe working practices that minimise the environmental risks and impacts of the normal operations and include contingency plans to minimise the effect of breakdown, accidents etc. These include procedures relating to waste acceptance and environmental monitoring.

The EMS contains the following sections/procedures:

- EMS Summary
- Environment and Sustainability Policy
- Operating Techniques
- Noise Management Plan (& Deflagration Management Plan)
- Dust Management Plan
- Complaints Log and Investigation Procedure
- Environment Audit Procedure
- Emergency Action Plan
- Safe Working Procedure

**Ward
justification/evidence**

- Maintenance and Training Records

List of BAT 1 Features	Comment or See for Compliance
I. commitment of the management, including senior management.	EMS Summary, Operating Techniques
II. definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation.	Environment and Sustainability Policy
III. planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment.	EMS Summary, Operating Techniques
IV. implementation of procedures paying particular attention to: <ul style="list-style-type: none"> (a) structure and responsibility; (b) recruitment, training, awareness and competence; (c) communication; (d) employee involvement; (e) documentation; (f) effective process control; (g) maintenance programmes; 	<ul style="list-style-type: none"> a) covered by EMS Summary b) key personnel have relevant technical competencies, all staff receive environmental training, staff operating manual or mechanical equipment receive relevant training and Safe Working Procedures, and training records are kept by site management c) Operating Techniques, training and maintenance records d) key personnel have relevant technical competencies, all staff receive environmental training, staff operating manual or mechanical equipment receive relevant training and Safe Working Procedures

- (h) emergency preparedness and response;
- (i) safeguarding compliance with environmental legislation.

- e) EMS Summary, Training and Maintenance Records, Environment Audit Procedure
- f) Operating Techniques
- g) maintenance records
- h) Emergency Action Plan, Fire Prevention Plan (FPP, submitted as part of this application)
- i) Environment Audit Procedure

V. checking performance and taking corrective action, paying particular attention to:

- (a) monitoring and measurement (see also the JRC Reference Report on Monitoring of emissions to air and water from IED installations – ROM);

(b) corrective and preventive action;

(c) maintenance of records;

(d) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained.

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- a) Operating Techniques and EA CARs.
 - b) Operating Techniques and EA CARs
 - c) Maintenance Records
 - d) Environment Audit Procedure, EA CARs

VI. review, by senior management, of the EMS and its EMS Summary, Operating Techniques continuing suitability, adequacy and effectiveness.

VII. following the development of cleaner technologies.	Engineering and Asset Team review and monitor technology advances and applicability to regulatory and operational requirements
VIII. consideration for the environmental impacts from the eventual decommissioning of the plant at the stage of designing a new plant, and throughout its operating life.	Site closure plan to be completed
IX. application of sectoral benchmarking on a regular basis.	Sectoral benchmarking takes place via being a member of BMRA, BIR and ICER
X. waste stream management.	See BAT 2 of this document.
XI. an inventory of waste water and waste gas streams.	See BAT 3 of this document.
XII. residues management plan	Ward does not have a separate residues management plan in place. However, the aspects of a residue management plan are encompassed within the following EMS documents: minimisation of residues arising from the treatment of waste is addressed in the Operating Techniques and Environment, optimising the re-use, regeneration, recycling and/or recovery of energy of the residues is considered within the Operating Techniques; and ensuring proper disposal of residues is addressed within the Operating Techniques. Therefore, the requirements of a residues management plan are considered fulfilled by the EMS in place and it is concluded that Ward complies with this point.

XIII. accident management plan	Emergency Action Plan
XIV. odour management plan	See BAT 10 and 12 of this document
XV. noise and vibration management plan	See BAT 17 of this document and Noise Management Plan

Compliant / Not Compliant

Compliant with BAT 1, with exception of needing to formalise a Site Closure Plan

Action

Site Closure Plan to be formalised

BAT 2

In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below:

- a) Set up and implement waste characterisation and pre-acceptance procedures**
- b) Set up and implement waste acceptance procedures**
- c) Set up and implement a waste tracking system and inventory**
- d) Set up and implement an output quality management system**
- e) Ensure waste segregation**
- f) Ensure waste compatibility prior to mixing or blending of waste**
- g) Sort incoming solid waste**

Ward justification/evidence

Ward has established waste characterisation, waste pre-acceptance and waste acceptance procedures as part of the company's operating techniques. These procedures already cover the acceptance of both hazardous and non-hazardous wastes.

These procedures identify site specific checks, procedures and responsibilities at the pre-acceptance of waste stage (BAT 2 a) and site acceptance and inspection of waste (BAT 2 b). Record keeping procedures include details for waste tracking for incoming waste and export of waste such as via waste transfer notes (BAT 2 c).

The site’s management system is in the form of the inspection, record-keeping and non-conformance procedures outlined in the operating techniques document.. This describes the processes and procedures that have been designed and implemented to ensure that all waste products accepted and produced by Ward meet the necessary relevant criteria and all other legal requirements to which they subscribe (BAT 2d). Separate waste storage areas (BAT 2 e) are shown in the Site Layout Plan. BAT 2 f is not applicable to this site as mixing or blending of waste does not take place. Incoming solid waste is sorted according to the procedures set out in the Operating Techniques and the Process Description (BAT 2 g).

Waste is appropriately sorted, assessed for compatibility and segregated using the waste treatment process (Operating Techniques, BAT 2 e, BAT 2 g) and the materials movement and storage processes.

Compliant / Not Compliant

Compliant with all relevant parts of BAT 2.

Action

No action required.

BAT 3

In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates a list of features (as identified in the BAT Conclusions document).

Ward justification/evidence

The plant includes a single emission to air associated with a dust control unit installed on the shredder plant (A1a). This will be monitored in accordance with the environmental permit and records will be kept in accordance with the permit requirements (once issued).

There is a discharge of rainfall dependant surface water run off which passes through settlement and separation interceptors prior to discharge at point W1 to the road drains which lead to the Tottle Brook. Surface water from areas used for waste treatment activities at the site is discharged to the foul sewer via the interceptor at emission point S1.

Emissions to surface water and sewer will be monitored in accordance with the ‘Protocol for Monitoring Point Source Emissions to Surface Water and Sewer’. This will ensure the relevant parameters are monitored as required by BAT 6, which will ensure an inventory of emissions to water are maintained.

Compliant / Not Compliant

Compliant with BAT 3.

Action

No action required.

BAT 4

In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below.

- a) **Optimised storage location**
- b) **Adequate storage capacity**
- c) **Safe storage operation**
- d) **Separate area for storage and handling of packaged hazardous waste**

Ward

All wastes are stored in line with the requirements of the relevant Regulations and Directives and as per the site’s

justification/evidence Environment Management System.

All wastes received and all outputs from the site processes will be stored in designated areas as per the site layout plan, as well as per the arrangements set out in the Operating Techniques document.

To ensure that waste storage arrangements are being adhered to, minimum monthly checks of the stockpiles 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 Operating Techniques.

BAT 4 techniques a (optimised storage location), b (adequate storage capacity) and c (safe storage operation) are covered in the Operating Techniques. BAT 4 d (separate area for storage and handling of packaged hazardous waste)

is not applicable as the site does not accept 'packaged' hazardous waste. Any 'packaged' hazardous waste that is identified at site will be handled as non-conforming waste as described in the Operating Techniques document.

Compliant / Not Compliant Compliant with all relevant parts of BAT 4.

Action No action required.

BAT 5 **In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures.**

Ward justification/evidence Records of all incoming and outgoing waste are kept as part of EMS procedures. The Operating Techniques document detail the in-process controls for the handling and transfer of waste.

The Operating Techniques document outlines that the handling and transfer of waste is carried out by competent staff.

Section 5 of the Operating Techniques document states that a record system is to be maintained in accordance with the environmental permit. Recording of waste throughput and rejection is achieved via the use of a weighbridge system and duty of care information (waste transfer notes) recorded for every load that arrives and leaves.

All appropriate information to satisfy the requirement of duty of care and the permit is obtained and recorded. All records are maintained for inspection by the EA. The records contain the following information:

- Site inspections by the operator or other body and any subsequent issues and corrective actions taken (as recorded in Compliance Assessment Reports);
- Emergencies;
- Complaints and actions taken;
- Plant/equipment failure;

- A record of any rejection of waste;
- Any queries with Waste Carriers;
- Technically competent manager (TCM) – times on site;
- Any incidents/accidents on site and actions taken;
- Security failures; and
- Severe weather conditions.

The operation currently benefits from an experienced and well-trained work force who are experienced in the historical and recent operation of the facility by other owners 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 Emergency Action Plan and Safe Working Procedures. All staff are trained in appropriately detecting and identifying spillages and the spill response procedure is used when a spillage is detected. Spill drills are undertaken to test response procedures. All site personnel are tasked with monitoring for evidence of spillages and leakage during their day to day routine. Any evidence of leaks or spillages are reported to the Site Manager or their nominated deputy for remedial action.

Operation and design precautions taken when mixing or blending wastes (e.g. vacuuming dusty/powdery wastes) is not applicable to the Site.

Compliant / Not Compliant

Compliant with BAT 5.

No action required.

Action

BAT 6 For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).

As discussed above there are relevant wastewater streams which would require an inventory under BAT 3.

Ward justification/evidence The surface water runoff passes through settlement and separation interceptor prior to discharge to surface water (Tottle Brook). Wastewater generated by any waste treatment activities at the site is discharged to the foul sewer via the oil separator at emission point S1. Emissions to surface water and sewer will be monitored in accordance with the 'Protocol for Monitoring Point Source Emissions to Surface Water and Sewer'. as agreed in writing with the Environment Agency and the permit. This will ensure the relevant parameters are monitored as required by BAT 6.

Compliant / Not Compliant

Compliant

No action required

Action

BAT 7 **BAT is to monitor emissions to water with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. (See BAT Conclusions document for standards)**

Ward justification/evidence Monitoring will be undertaken on the surface water (W1) and (S1) discharge in accordance with the 'Protocol for Monitoring Point Source Emissions to Surface Water and Sewer'.

Compliant / Not Compliant Compliant with BAT 7.

Action No action required

BAT 8 **BAT is to monitor channelled emissions to air with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. (See BAT Conclusions document for standards)**

Ward justification/evidence A 'Point Source Emissions to Air Monitoring Protocol' is included in the Dust Management Plan. An emission to air from the shredder plant air extraction system is noted as A1a in the Operating Techniques Site Plan. This will be monitored at least every 6 months in accordance with BAT and permit conditions.

Compliant / Not Compliant Compliant with BAT 8.

Action No action required.

BAT 9 **BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques in the BAT conclusions document.**

Ward justification/evidence Not applicable to site operations as these activities are not carried out.

Compliant / Not Compliant N/A

Action No action required.

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

The nature of the waste accepted at the site presents a low risk of odour nuisance. The processes undertaken on site are unlikely to give rise to malodours or residues with malodours.

Odour management controls are detailed in the Operating Techniques. This includes control and monitoring of waste acceptance procedures will ensure wastes likely to cause malodours not accepted. In the unlikely event that any odorous material is identified it will be handled accordingly and removed from site as a priority.

Ward justification/evidence 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.

Any complaints, should they be received, will be investigated and appropriate action will be taken if the site is found to be the source of odour. All complaints will be recorded in accordance with the EMS.

Drainage systems will be inspected and maintained to minimise the odours associated with stagnating water.

The BAT conclusion document states the following for BAT 10:

The applicability is restricted to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated.

Therefore, the management in place is deemed sufficient for the site and monitoring in accordance with BAT 10 is not required.

Compliant / Not Compliant	Compliant with BAT 10
Action	No action required.
BAT 11	BAT is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year.
	Waste returns will be submitted to the EA for all wastes received and dispatched as per any permit requirements.
Ward justification/evidence	Monitoring of raw water and energy use on site is carried out and records of these are maintained. Use of hydraulic and lubricating oils is monitored and records maintained. A full description of the process techniques can be found in the operating techniques document Sections 2.11. .
Compliant / Not Compliant	Compliant with BAT 11.
Action	No action required.
BAT 12	BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the elements specified in the BAT Conclusions document.
Ward justification/evidence	The nature of the waste accepted at the site presents a low risk of odour nuisance and has not presented a need for an OMP.

See BAT 10 for details of the odour management measures in place.

Compliant / Not Compliant

Compliant with BAT 12.

Action

No action required.

BAT 13

In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques specified in the BAT conclusions document.

Ward justification/evidence

Odour management controls are detailed 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 minimised. Any odorous material identified will be handled accordingly and removed from site as a priority (BAT 13a). The techniques outlined in BAT 13 b and 13c are not applicable to this site as odour-minimising chemicals may adversely affect the quality of the output and aerobic treatment is not used on site.

Compliant / Not Compliant

Compliant – adequately covered in existing measures.

Action

No action required.

BAT 14

In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given in the BAT Conclusions document.

Ward justification/evidence

The Operating Techniques document and Dust Management Plan set out the measures in place to reduce diffuse emissions to air, including those of VOCs, dust and odour.

Ward have a series of VOC emission mitigation measures that are implemented on site to ensure VOC emissions are controlled as far as is practicable. These include:

- Insignificant source of fugitive emissions of VOC. Volumes of petrol are minimal and originate from the depollution of ELV activity. Combustion processes are not carried out on the site. Vehicles/plant used on site are diesel (BAT 14a).
- The integrity of fuel tanks and function of gauges are checked regularly.
- Spillages of petroleum products is unlikely as ELV activities are carried out in the designated area with drip trays and ELV fluid storage tanks. However, spill kits will be available, and any spills of diesel will be attended to immediately. Spill kits will be located at key locations on site and will be mobile so that they may be taken to the site of an incident (BAT 14d, 14h).
- Emergency Response Plan will be in place, which will include documented procedures for handling spillages to minimise impacts.
- Employees have training on emergency response plan and environmental awareness.

Ward has a series of dust mitigation measures implemented on site to ensure dust emissions are controlled as far as is practically possible. The measures include:

- The site operates in accordance with the dust management measures specified in the Operating Techniques and Dust Management Plan..
 - The waste materials handled will under normal circumstances be of be of macro solid form. Material not inherently dusty and the potential for dust generation is therefore small. (BAT 14a).
 - Compliance with waste acceptance procedures will identify wastes consisting solely of dusts and ensure they are adequately contained. It will identify the presence of wastes with the potential to generate significant
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quantities of dusts so they can be managed accordingly. Wastes will be inspected at weighbridge and in unloading areas (BAT 14a).

- The site management team carry out monitoring of site operations and undertake regular visual inspections (at least once per day) of operations to check that routine dust management practices are being adhered to and to assess the potential for dust emissions. Remedial action is taken if dust/particulates are identified as a potential problem.
 - The shredder plant conveyor feed is designed to eliminate dust from feeding the machine and has a hood fitted to help contain dust. Dust suppression sprays are installed along at the processing area and dust suppression techniques, such as dampening, and the use of both manual and mechanical sweeping are employed as necessary to prevent unacceptable emissions. The area benefits also from a netted screen to contain any particulate emissions locally.
 - The pre-shredder operates at low speed and high torque to minimise the generation of dust. The discharge chute is fitted with a water misting system to further suppress dust.
 - A portable dust buster will be available / employed to suppress dust in areas not covered by fixed spray systems, if required.
 - Where appropriate and reasonably practicable, the parts of the mechanical treatment processes with the potential to give rise to dusts are covered and/ or fitted with dust suppressing technology to eliminate fugitive emissions from plant and machinery during the process. The fragmentiser is located under cover, which acts to reduce dust and particulate emissions from the site.
 - The fragmentiser is fitted with dust extraction technology. The fine fraction from the process is contained in bags that are sealed to minimise emissions.
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- Drop heights the distance between the grab and the stockpile “the drop” (deliveries and products are kept to a minimum in line with company best practice (i.e. grab lowers material onto stockpiles or into containers) to prevent the generation of fugitive emissions of dusts (BAT 14a).
 - The wastes and process residues are adequately stored and treated in a manner so as to prevent the potential release of dusts and particulates. Storage and containment include managed stockpiles, bays, bins, skips, containers, stillages, tote bags or drums (BAT 14d).
 - All treatment activities take place on impermeable surface with sealed drainage system, minimising the risk of generation of dusts from site surfacing. The integrity of the surfacing is maintained.
 - Good housekeeping is employed daily to reduce quantities of particulates and dust accumulating on the site and alleviate any waste leaving the site (BAT 14g).
 - Manual sweeping is employed on plant and equipment to minimise build-up of dust and debris. Visual monitoring by the site manager or appointed representative in their absence is undertaken throughout the day to determine the frequency such sweeping. The bobcat has a brush attachment and sweeping is undertaken daily. A road sweeper is used routinely as required and if deemed necessary following inspections (BAT 14g).
 - Distances that material has to travel are kept to a minimum with due care and consideration being given to unloading and loading areas and distance from storage area (BAT 14d).
 - Traffic speed including vehicles and mobile plant is limited to minimise dust generation by vehicle movement on site. Visible signage informing of the speed limit is displayed on site.
 - Netting is erected at appropriate areas of the site boundary to further help prevent escape of dust and particulates from the site.
 - A skirt is present around the dust bagging plant to prevent windblown material (BAT 14d).
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- All relevant employees and relevant contractors are aware of the details of the procedure for dust management and control.
- Any complaints regarding dusts/particulates will be investigated and appropriate action taken if the site is found to be the source of the emission. All complaints will be recorded in accordance with the EMS.
- Significant changes to operational practices will be subject to discussions and to investigation to assess their potential impact on the environment. Operational changes are defined as a significant change to plant type, a change to storage/treatment location of waste or a significant change to waste handling procedure.
- Dust/particulates will be controlled through the ongoing visual monitoring of site operations by the site management team who will undertake regular inspections and undertake remedial action if dust/particulates are identified as a problem (BAT 14f).
- All plant and machinery associated with the site operations & used for the prevention of fugitive emissions will be subject to a preventative maintenance programme (BAT 14f).
- Plant and machinery will be inspected/maintained and cleaned on a regular basis (BAT 14f, 14g).

The waste accepted at the site presents a low risk of odour nuisance. However, a series of odour mitigation measures implemented on site to ensure odour emissions are controlled as far as is practicable. These include:

- The waste types handled will be unlikely to give rise to malodours and compliance with waste acceptance procedures will prevent receipt of odour-generating wastes (BAT 14a).
- Control and monitoring of waste acceptance procedures will ensure wastes likely to cause malodours are minimised. Any malodorous material identified will be handled accordingly and removed from site as a priority (BAT 14a).
- The processes undertaken on site will not give rise to malodours (BAT 14a).

- Site employees will undertake regular inspections and undertake remedial action if odour is identified as a problem (BAT 14f, 14g).
- Where there is the potential for malodours, quantities of wastes stockpiled will be kept to a minimum (BAT 14a).
- Good housekeeping will be implemented across the site to minimise the risk of odours occurring (BAT 14f, g).
- Drainage systems will be inspected and maintained to minimise the odours associated with stagnating water (BAT 14f).

These measures demonstrate the use of minimising the number of potential diffuse emission sources (BAT 14 technique a), containment, collection and treatment of diffuse emissions (BAT 14 technique d), maintenance (BAT 14 technique f) and cleaning of waste treatment and storage areas (BAT 14 technique g).

Compliant / Not Compliant Compliant with BAT 14.

Action No action required.

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

a) Correct plant design

b) Plant management

Ward justification/evidence Not applicable to site operations as no use of flares.

Compliant / Not Compliant N/A

Action No further action

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

- a) Correct design of flaring devices**
- b) Monitoring and recording as part of flare management**

Ward justification/evidence Not applicable to site operations as no use of flares.

Compliant / Not Compliant N/A

Action No further action

BAT 17 **In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:**

- a) a protocol containing appropriate actions and timelines;**
- b) a protocol for conducting noise and vibration monitoring;**
- c) a protocol for response to identified noise and vibration events, e.g. complaints;**
- d) a noise and vibration reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures.**

Ward justification/evidence The Noise Management (and Deflagration Management) Plan considers the risk from Noise and Vibration and there are procedures within the EMS that include the elements set out in BAT 17, where applicable. These are:

- measures taken at the site to minimise any potential noise and vibration emissions (BAT 17a).
- Complaints Log and Investigation Procedure – As part of the EMS, the operator has systems in place for dealing with complaints and this would be relevant to any noise complaints received at the site (BAT 17c).

A protocol for conducting noise and vibration monitoring (BAT 17b) and noise monitoring that as well as a noise and vibration reduction programme (BAT 17d) and the pre- and post-mitigation noise levels measured at sensitive receptors needs to be completed via a Noise Impact Assessment.

Compliant / Not Compliant	Compliant with BAT 17 with exception of needing to undertake an update to date Noise Impact Assessment for Ward
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Action	Noise Impact Assessment
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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 in the BAT conclusions document
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The installation activities at the site are not considered to represent a significant risk of noise or vibration. However, the Noise Management Plan sets out measures taken at the site to minimise any potential noise and vibration emissions. These include:

- The shredder plant and pre-shredder operate at slow speeds to reduce noise impact and is located away from sensitive receptors.
- All plant within the control of Ward and subcontractors will be inspected and maintained to current recommended standards and manufacturer recommendations (BAT 18b).
- 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 (BAT 18b).

Ward

justification/evidence

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- Drop heights (for deliveries and products) will be kept to the practical minimum in line with company best practice plus sympathetic handling of material will reduce potential for noise emissions (BAT 18b).

The plan outline the process for dealing with complaints and this would be relevant to any noise complaints received at the site. In response to previous noise nuisance complaints.

Compliant / Not Compliant	As per BAT 17
Action	Noise Impact Assessment
BAT 19	In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques given in the BAT conclusions document
Ward justification/evidence	<p>Water is used as required for dust suppression. Wastewater generated by any activities on site are generally rainfall dependent and discharge to foul sewer and surface water post-interceptor(s). As this is rainfall dependent, it is not possible to reduce the volume of discharge.</p> <p>A full description of the process techniques can be found in the operating techniques document, which accompanied the permit application.</p> <p>All operational areas within the site are covered with impermeable surfacing (BAT 19c).</p> <p>Daily site checks are carried out which would identify any leaks or spillages and procedures are in place to minimise any impacts from leaks or spills. Impermeable surfaces are subject to regular inspections and maintenance to minimise the risk of any fugitive emissions (BAT 19h).</p>
Compliant / Not Compliant	Compliant with BAT 19.
Action	No action required.

BAT 20 **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.**

Ward justification/evidence

There is limited wastewater generated from site installation activities. The site has a rainfall dependent discharge to surface water, which passes through one of two interceptors prior to discharge to surface water or foul water sewers depending on the area of the site the water has originated from (BAT 20c).

A full description of the process techniques can be found in the operating techniques document, which accompanied the permit application. See further comments in the response to BAT 3.

Compliant / Not Compliant

Compliant with BAT 20.

Action

No action required.

BAT 21 **In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques given below, as part of the accident management plan (see BAT 1).**

Ward justification/evidence

Ward has an Emergency Response Plan and a Fire Prevention Plan which includes site information and contacts list as part of the EMS. The EMS Summary and Operating Techniques also cover prevention measures. The plans contain the following procedures:

- Site evacuation including drill requirements
- Fire
- Explosions
- Non-conforming waste including drill requirements
- Security breach including drill requirements
- Flooding

- Escape from containment
- Emergency procedures for liquid spillages or leaks including drill requirements

Compliant / Not Compliant Compliant with BAT 21.

Action No action required.

BAT 22 In order to use materials efficiently, BAT is to substitute materials with waste.

The raw materials used on site are as follows:

- Lubricating oil/grease, for parts lubrication
- Hydraulic oil, used as a power transmitting medium and to protect machine components

Ward justification/evidence

At present, it is not considered possible to substitute the raw materials used by the process with waste.

This is an ongoing process and Ward will continue to look into identifying alternative resources and enhance efficiency of material use, where possible.

Compliant / Not Compliant Compliant with BAT 22.

Action No action required.

BAT 23 In order to use energy efficiently, BAT is to use both of the techniques given in the BAT conclusions document.

Ward justification/evidence The Operating Techniques includes an energy efficiency plan and an energy balance. Energy metrics are monitored, and records are kept.

Compliant / Not Compliant Compliant with BAT 23.

Action No action required

BAT 24 **In order to reduce the quantity of waste sent for disposal, BAT is to maximise the reuse of packaging, as part of the residues management plan (see BAT 1).**

Ward justification/evidence A very low proportion of the waste accepted at the site is packaged in bags. Where possible, this packaging is re-used on site or for waste leaving the site.

Compliant / Not Compliant Compliant with BAT 24.

Action No action required.

BAT conclusions for the mechanical treatment of waste:

BAT 25 **In order to reduce emissions to air of dust, and of particulate-bound metals, PCDD/F and dioxin-like PCBs, BAT is to apply BAT 14d and to use one or a combination of the techniques given in the BAT conclusions document.**

BAT 25 in the current BAT conclusions document gives a BAT AEL for particulate emissions from channelled sources of 5 mg/m³ (and 10 mg/m³ in certain circumstances). The air handling unit has been designed to meet this limit.

Ward justification/evidence The shredder plant has an air extraction system which includes water injection to the mill (BAT 25d), a cyclone (BAT 25a) and fabric filters (BAT 25b) to collect dust. Dust is collected in sealed bags / covered containers and transported off site for disposal.

The pre-shredding activity operates at low speed and high torque to minimise dust generation. It also incorporates a water misting system on the discharge chute. There are no channelled emissions from the pre-shredding activity.

As set out in the response to BAT 14, BAT 14d (Containment, collection and treatment of diffuse emissions) is also in place on the site.

Point source emissions to air will be monitored in accordance with the 'Point Source Emissions to Air Monitoring Protocol'.

Ambient Emissions to air will be monitored in accordance with the 'Ambient Emissions Monitoring Protocol'.

Compliant / Not Compliant

Compliant with BAT 25.

Action

No action required.

BAT conclusions for the mechanical treatment in shredders of metal waste:

BAT 26

In order to improve the overall environmental performance, and to prevent emissions due to accidents and incidents, BAT is to use BAT 14g and all of the techniques given in the BAT conclusions document.

BAT 14g will be used at the site in the following ways:

- Plant and machinery are inspected/maintained and cleaned on a regular basis.
- Good housekeeping is employed daily to reduce quantities of particulates and dust accumulating on the site, to minimise the risk of odour emissions and alleviate any waste leaving the site.
- Manual sweeping is employed on plant and equipment to minimise build-up of dust and debris. Visual monitoring by the site manager or appointed representative in their absence is undertaken throughout the day to determine the frequency such sweeping. The bobcat has a brush attachment and sweeping is undertaken daily. A road sweeper is used when required.
- Site employees will undertake regular inspections and undertake remedial action if odour is identified as a problem.

Ward justification/evidence

Ward has established waste characterisation, waste pre-acceptance and waste acceptance procedures as part of the company’s operating techniques plan. These procedures identify site specific checks, procedures and responsibilities at the pre-acceptance of waste stage and site acceptance and inspection of waste (BAT 26a). The operating techniques details the in-process controls for pre-acceptance procedures to assess wastes, waste acceptance procedures and the installation treatment processes.

Staff are trained appropriately in the handling and transfer of waste. The operating techniques document sets out the process for dealing with non-conforming wastes such as those containing dangerous items (BAT 26b). As far as possible all loads are visually assessed from the weighbridge and may be rejected if the waste is found to be mis-described or non-permitted. If there are other irregularities with the paperwork, the weighbridge operator may also radio a designated site operative and request specific inspection of the load when deposited at the reception / storage area. Further inspection follows before and during the unloading stage. If the site operative is unsatisfied with any particular item(s) or indeed the whole load, its removal off-site by the driver is required or, if the Company considers it to be the best environmental option, the material is quarantined pending further investigation and possible referral to the Environment Agency. Non-conforming wastes will be placed immediately in a designated quarantine area until suitable disposal arrangements can be made. There will be no mixing of non-conforming (quarantined) wastes with authorised wastes. Non-conforming wastes will be stored separately where possible and when legislation requires. Any non-conforming wastes that are defined as hazardous under the Hazardous Waste Directive will be handled and moved off site in line with the requirements of the Directive.

The fragmentiser process has a picking station on the downstream where these items could be removed (BAT 26b).

BAT 26c is not applicable to the site as containers are not accepted on site for treatment.

Compliant / Not Compliant

Compliant with BAT 26.

Action

No action required.

BAT 27 **In order to prevent deflagrations and to reduce emissions when deflagrations occur, BAT is to use technique a. and one or both of the techniques b. and c. given in the BAT conclusions document.**

Ward justification/evidence

The facility generally does not accept wastes which can cause deflagrations. The operating techniques document sets out the process for dealing with non-conforming wastes such as these (a). As far as possible all loads are visually assessed from the weighbridge and may be rejected if the waste is found to be mis-described or non-permitted. If there are other irregularities with the paperwork, the weighbridge operator may also radio a designated site operative and request specific inspection of the load when deposited at the reception / storage area. Further inspection follows before and during the unloading stage. If the site operative is unsatisfied with any particular item(s) or indeed the whole load, its removal off-site by the driver is required or, if the Company considers it to be the best environmental option, the material is quarantined pending further investigation and possible referral to the Environment Agency. Non-conforming wastes will be placed immediately in a designated quarantine area until suitable disposal arrangements can be made. There will be no mixing of non-conforming (quarantined) wastes with authorised wastes. Non-conforming wastes will be stored separately where possible and when legislation requires. Any non-conforming wastes that are defined as hazardous under the Hazardous Waste Directive will be handled and moved off site in line with the requirements of the Directive.

The installation of the low speed pre-shredder plant will ensure any potential for deflagrations is reduced further (c).

The permit application does contain a Deflagration Management Plan.

Compliant / Not Compliant

Compliant with BAT 27

Action

No action required.

BAT 28

In order to use energy efficiently, BAT is to keep the shredder feed stable.

Ward

The site has a pre-shredder to improve the consistency of the feed to the shredder. The shredder is fed slowly and as evenly as practicable. Sensors are installed in the unit which will automatically eject material that blocks

justification/evidence the shredder. In the event that this system does not remove the blockage, the shredder will be stopped and the blockage removed manually. The feed to the shredder can be reversed under these circumstances.

Compliant / Not Compliant Compliant with BAT 28.

Action No action required.

BAT conclusions for the treatment of WEEE containing VFCs and/or VHCs:

BAT 29 In order to prevent or, where that is not practicable, to reduce emissions of organic compounds to air, BAT is to apply BAT 14d, BAT 14h and to use techniques specified in the BAT conclusions document.

Ward justification/evidence Not applicable to site operations as there is no treatment of WEEE containing VFCs and/or VHCs. If these wastes are received at the facility, they will be transferred to a third party facility for treatment.

Compliant / Not Compliant N/A

Action No action required.

BAT 30 In order to prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs, BAT is to use either of the techniques given below.

- a) Inert atmosphere
- b) Forced ventilation

Ward justification/evidence Not applicable to site operations as there is no treatment of WEEE containing VFCs and/or VHCs. If these wastes are received at the facility, they will be transferred to a third party facility for treatment.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the mechanical treatment of waste with calorific value:

BAT 31 In order to reduce emissions to air of organic compounds, BAT is to apply BAT 14d and to use one or a combination of the following techniques: Adsorption, biofilter, thermal oxidation and wet scrubbing.

Ward justification/evidence Not applicable to site operations as there is no mechanical treatment of waste with calorific value.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the mechanical treatment of WEEE containing mercury:

BAT 32 In order to reduce mercury emissions to air, BAT is to collect mercury emissions at source, to send them to abatement and to carry out adequate monitoring.

Ward justification/evidence

- WEEE containing mercury such as gas discharge lamps, fluorescent lamps, flat panel display (FPD) equipment and mercury switches will not be mechanically treated at the facility. These items, if accepted will be sent to a third party authorised facility for treatment.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the biological treatment of waste:

BAT 33 **In order to reduce odour emissions and to improve the overall environmental performance, BAT is to select the waste input.**

Ward justification/evidence Not applicable as no biological treatment of the waste is carried out.

Compliant / Not Compliant N/A

Action No action required.

BAT 34 **In order to reduce channelled emissions to air of dust, organic compounds and odorous compounds, including H₂S and NH₃, BAT is to use one or a combination of the techniques given in the BAT conclusions document.**

See Table 6.7 for BAT-associated emission levels (BAT-AELs) for channelled NH₃, odour, dust and TVOC emissions to air from the biological treatment of waste.

Ward justification/evidence Not applicable as no biological treatment of the waste is carried out.

Compliant / Not Compliant N/A

No action required.

Action

BAT 35 In order to reduce the generation of waste water and to reduce water usage, BAT is to use all of the techniques given in the BAT conclusions document.

Ward justification/evidence Not applicable as no biological treatment of the waste is carried out.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the aerobic treatment of waste:

BAT 36 In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.

Ward justification/evidence Not applicable as no aerobic treatment of the waste is carried out.

Compliant / Not Compliant N/A

Action No action required.

BAT 37 In order to reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps, BAT is to use one or both of the techniques specified in the BAT conclusion document.

Ward justification/evidence Not applicable as no aerobic treatment of the waste is carried out.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the anaerobic treatment of waste:

BAT 38 In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.

Unimetals Ward

justification/evidence Not applicable as no anaerobic treatment of the waste is carried out.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the mechanical biological treatment (MBT) of waste:

BAT 39 In order to reduce emissions to air, BAT is to use both of the techniques given below.

Ward

justification/evidence Not applicable as no mechanical biological treatment of the waste is carried out.

Compliant / Not Compliant N/A

No action required.

Action

BAT conclusions for the physico-chemical treatment of solid and/or pasty waste:

BAT 40	<p>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).</p> <p>Monitoring the waste input, e.g. in terms of:</p> <ul style="list-style-type: none"> - content of organics, oxidising agents, metals (e.g. mercury), salts, odorous compounds; - H₂ formation potential upon mixing of flue-gas treatment residues, e.g. fly ashes, with water.
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Ward justification/evidence Not applicable as no physico-chemical treatment of solid and/or pasty waste is carried out.

Compliant / Not Compliant N/A

Action No action required.

BAT 41	<p>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 of the following techniques: Adsorption, biofilter, thermal oxidation and wet scrubbing.</p>
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Ward justification/evidence Not applicable as no physico-chemical treatment of solid and/or pasty waste is carried out.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the re-refining of waste oil:

BAT 42	In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).
Ward justification/evidence	Not applicable to site operations as no re-refining of waste oil carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 43	In order to reduce the quantity of waste sent for disposal, BAT is to use one or both of the following techniques: Material recovery and/or energy recovery.
Ward justification/evidence	Not applicable to site operations as no re-refining of waste oil carried out.
Compliant / Not Compliant	N/A
Action	No action required.
BAT 44	In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the following techniques: Adsorption; thermal oxidation; and wet scrubbing.
Ward justification/evidence	Not applicable to site operations as no re-refining of waste oil carried out.
Compliant / Not Compliant	N/A
Action	No action required.

BAT conclusions for the physico-chemical treatment of waste with calorific value:

BAT 45 In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the techniques specified in the BAT conclusion document.

Ward justification/evidence Not applicable to site operations as no physico-chemical treatment of waste with calorific value.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the regeneration of spent solvents:

BAT 46 In order to improve the overall environmental performance of the regeneration of spent solvents, BAT is to use one or both of the following techniques: Material recovery and/or energy recovery.

Ward justification/evidence Not applicable to site operations as no processing of spent solvents.

Compliant / Not Compliant N/A

Action No action required.

BAT 47 In order to reduce emissions of organic compounds to air, BAT is to apply BAT 14d and to use a combination of the techniques specified within the BAT conclusion document.

Ward justification/evidence Not applicable to site operations as no processing of spent solvents.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil:

BAT 48 In order to improve the overall environmental performance of the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil, BAT is to use all of the techniques specified within the BAT conclusion document.

Ward justification/evidence Not applicable to site operations as no thermal treatment of spent activated carbon, waste catalysts and/or excavated contaminated soil.

Compliant / Not Compliant N/A

Action No action required.

BAT 49 In order to reduce emissions of HCl, HF, dust and organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the techniques specified within the BAT conclusion document.

Ward justification/evidence Not applicable to site operations as no thermal treatment of spent activated carbon, waste catalysts and/or excavated contaminated soil.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the water washing of excavated contaminated soil:

BAT 50 In order to reduce emissions of dust and organic compounds to air from the storage, handling, and washing steps, BAT is to apply BAT 14d and to use one or a combination of the following techniques: Adsorption; fabric filter; and wet scrubbing.

Ward justification/evidence Not applicable as no water washing of excavated contaminated soil.

Compliant / Not Compliant N/A

Action No action required.

BAT conclusions for the decontamination of equipment containing PCBs:

BAT 51 In order to improve the overall environmental performance and to reduce channelled emissions of PCBs and organic compounds to air, BAT is to use all of the techniques specified in the BAT conclusion document.

Ward justification/evidence Not applicable to site operations as no decontamination of equipment containing PCBs.

Compliant / Not Compliant N/A

Action No action required.

BAT Conclusions for the treatment of water-based liquid waste:

BAT 52 In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).

Ward Not applicable to site operations as no treatment of water-based liquid waste.

justification/evidence

Compliant / Not Compliant	N/A
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Action	No action required.
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BAT 53	In order to reduce emissions of HCl, NH₃ and organic compounds to air, BAT is to apply BAT 14d and to use one or a combination of the of the following techniques: Adsorption, biofilter, thermal oxidation and wet scrubbing.
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Ward justification/evidence	Not applicable to site operations as no treatment of water-based liquid waste.
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Compliant / Not Compliant	N/A
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Action	No action required.
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