

RICCALL WOOD TREATMENT FACILITY

**Supporting Information for Environmental Permit Application Reference
EPR/PP3801LB/A001**

H Barker and Son Limited

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NON-TECHNICAL SUMMARY

Introduction

This document forms the application for an environmental permit to operate a waste wood treatment facility. The facility is located off King Ridding Lane in North Yorkshire. The applicant and operator of the waste wood treatment facility is H Barker & Son Limited.

The proposed activities fall under the Environmental Permitting (England and Wales) Regulations 2016¹ (EPR) as follows:

- Section 5.3 Part A (1) (a) (ii) . Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.
- Section 5.4 Part A (1) (a) (ii) . Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment.
- Section 5.6 Part A (1) (a) (i) . Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in sections 5.1,5.2,5.3 and paragraph (b) of this section.

In addition to the main activity, the following directly associated activities (DAAs) are carried out at the site:

- storage and handling of raw materials and wastes
- diesel generators for shredding / chipping machines

Activity Description

The site will accept will predominantly Grade C and D wood, albeit Grade A and B may also be accepted. Wood is delivered to the site and sorted into non-hazardous (Grades A, B and C) and hazardous (Grade D) wood. Once sorted, wood is stored until it is then processed by shredding and grinding to give a chipped wood material for use as a fuel in biomass boilers or small waste co-incineration plant (SWCP).

All storage and treatment of waste will take place on impermeable surface with sealed drainage. The annual throughput will be no more than 37,500 tonnes. There will be limited liquids stored on site (fuel oil and maintenance oils) and fuel/oil tanks and drums will be provided within adequate bunding in line with industry best practice standards (i.e. sized to contain 110% of the tank contents and include blind drains).

Surface water from waste storage and waste treatment areas drains to an attenuation tank. An impermeable concrete surface completely surrounded by a kerb will prevent surface waters escaping from the site. The fall of the site directs drainage towards the centre of the site and into the underground collection tank. Clean runoff from the building roof runs off the roof to the stone surface behind the building and will drain to ground, similarly rainwater in the above ground fire water tank areas will similarly drain to ground. There is no purpose designed soakaway, the clean rainwaters naturally drain to ground and therefore there is no associated emission point to a soakaway.

There will be stack emissions from the diesel generators for the chipper and shredder. An air quality assessment of the emissions from these units is provided in Appendix I.

Odour, noise and dust problems are not expected from the Riccall waste wood treatment facility. The site has been operational as an exempt facility for a number of years handling similar waste woods (excluding hazardous wood) and has not received any complaints relating to odour, noise or dust in this time.

Permit Application

This permit application is structured as follows. A full description of the operations, management and monitoring measures is provided within this supporting information document. An environmental

¹ <https://www.legislation.gov.uk/uksi/2016/1154/contents/made>

management system (EMS) is in place and will be updated to ensure it covers the elements required by the Environmental Permit and BAT conclusions.

Application forms can be found in Appendix A. Site plans and layouts can be found in Appendix B.

An environmental risk assessment (ERA) can be found in Appendix C. This has been carried out to assess the potential impacts of odour, noise and vibration, fugitive emissions, visible plumes, and accidents. These impacts have been assessed and range from very low to low.

A description of the condition of the site at the time of this application is provided in the Site Condition Report (SCR) included in Appendix D. This provides a coherent record of the site and its baseline conditions at the time of permitting. An assessment of relevant hazardous substances used, produced and emitted by the facility has been carried out in accordance with IED and can be found at Appendix D.

A Fire Prevention Plan (FPP) has been prepared for the site and is included in Appendix E.

A Drainage Strategy and Flood Risk Assessment is included in Appendix F.

In summary the proposed facility has been designed and is operated to ensure that significant impacts to the environment and human health do not arise as a result of its operation.

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1 INTRODUCTION

1.1.1 This document forms the application to permit the operation of the Riccall waste wood treatment facility under the Environmental Permitting Regulations 2016 (as amended)². The applicant and operator of the waste wood facility is H Barker and Sons Limited (H Barker).

1.2 Background

1.2.1 The facility is currently operated as an exempt activity (T6 - Treating waste wood and waste plant matter by chipping, shredding, cutting or pulverising) and receives waste wood which is then sorted, and suitable materials shredded for use as animal bedding or supplying heat through burning the chipped material. The operator has other poultry sites in the area which have biomass boilers or small waste co-incineration plant (SWCP). The recently installed SWCP at the East Tollerton farm poultry unit means that the required amount of waste wood has increased as this can be burned in the SWCP and therefore the operator is looking to increase the throughput and waste types of the currently exempt facility and therefore requires a permit to operate.

1.2.2 Based on the above requirements, the proposed activities are captured under the following activities:

- Section 5.3 Part A (1) (a) (ii) . Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.
- Section 5.4 Part A (1) (a) (ii) . Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment.
- Section 5.6 Part A (1) (a) (i) - Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in sections 5.1,5.2,5.3 and paragraph (b) of this section.

1.2.3 In addition to the main activity, the following directly associated activities (DAAs) are carried out at the site:

- storage and handling of raw materials
- diesel generator for chipper (Rotochopper B66 Diesel 750 hp C18 Cat engine)
- diesel generator shredder machines (Hammel 750D Diesel 350 hp CAT CV engine)

1.2.4 All storage and treatment of waste will take place on impermeable surface with sealed drainage. The annual throughput will be no more than 37,500 tonnes.

1.3 The Site

1.3.1 The Riccall waste wood treatment facility is located in Riccall, Yorkshire.

1.3.2 The site address is:

Riccall Wood Treatment Facility
King Rudding Lane
Riccall
York
YO19 6QL

1.3.3 The approximate location of the site is highlighted by the red X in the maps in Figure 1.1 below.

² The Environmental Permitting (England and Wales) Regulations, 2016.

Figure 1-1: General geographical location plan and surrounding area



- 1.3.4 The centre of the site is at National Grid Reference (NGR) SE 63681 37227.
- 1.3.5 The site layout and permit boundary plan can be found in Appendix B.
- 1.3.6 The main land use surrounding the area in which the facility is sited is identified as rural. The current surrounding land uses are:
- North . Agricultural Land;
 - East . Agricultural Land / Woodland;
 - South . Woodland / Business Park with Selby approximately 5km away;
 - West . Riccall Village is approximately 1.5 km away
- 1.3.7 A Habitats Screening Assessment from the EA has identified the following relevant statutory and local ecological sites in Table 1.1 below:

Table 1.1: Statutory Designated Sites

Site Name	Screening Distance (km)	Distance / Direction from the Proposed Site
Special Areas of Conservation (SAC)		
River Derwent	10	6.5 km / East
Lower Derwent Valley		6.5 km / East
Skipwith Common		0.6 km / East
Special Protection Areas (SPA)		
Lower Derwent Valley	10	6.5 km / East
Ramsar		
Lower Derwent Valley	10	6.5 km / East
Sites of Special Scientific Interest (SSSI)		
Skipwith Common	2	0.6 km / East
National Nature Reserve (NNR)		
Skipwith Common	2	0.6 km / East
Local Wildlife Sites (LWS)		
York and Selby Cycle Track	2	2.10 km / North West
Ancient Woodland		
Holly Cars / Hart Nooking	2	2.1 km / North

- 1.3.8 The nearest residential receptor is a staff bungalow located between the poultry facility and the wood treatment facility.
- 1.3.9 The nearest surface water features to the site are the Dam Dike (~800m north) and the River Ouse (~1,200m southwest).
- 1.3.10 Site layout plans can be found in Appendix B.

1.4 Operator Details

- 1.4.1 The applicant is H Barker and Sons Ltd, as above abbreviated to H Barker within this document. Company number 04463139 as listed on Companies House.

1.5 Structure of the Application Document

1.5.1 Supporting information in this document is set out as follows:

- Section 2 identifies the environmental management systems in place at the site as well as the expected raw material, waste and energy consumptions
- Section 3 provides an overview of the operations the detailed operating techniques and the proposed activities that necessitate this permit application
- Section 4 details the potential point source and fugitive emissions from the operations
- Section 5 identifies the environmental risks and summarises the environmental impacts associated with the activities
- Section 6 provides the BAT justification for the main techniques and describes how they comply with BAT conclusions.

1.5.2 Other supporting information is provided in Appendices including the completed Environment Agency (EA) application forms (Part A, B2, B3 and F1 forms).

1.6 Pre-application Discussions

1.6.1 Enhanced pre-application advice was sought to confirm the regulated facility. A copy of the pre-application submission and preapplication advice from the EA is provided in Appendix L. The pre-application advice supports the regulated activities being applied for as set out in paragraph 1.2.2.

1.6.2 It should be noted that the pre-application submission was based on the treatment equipment operating for up to 30 hours per week with an annual throughput of 74,999 tonnes per annum. The basis of the application is now being made on operating the treatment equipment for only 15 hours per week with an annual throughput of 37,500 tonnes per annum. It should be noted that the facility currently operates for up to 10 hours per week with an annual throughput of up to 26,000 tpa. This change will not affect the advice provided.

1.6.3 We note that the advice provided by the EA notes that a justification be included with the application to support *why the shredding of non-hazardous waste for incineration would not be considered as pre-treatment for incineration as meeting a certain particle size may be a fuel specification required by the incinerator receiving the waste for disposal*. As set out in the letter accompanying the pre-application submission the treatment does not produce waste wood chip to an agreed specification and there are no contract specifications in place with the facilities accepting the output. The treatment process simply modifies the size of the incoming waste wood for the purpose of ease of handling and feed into an offsite incineration or co-incineration plant. The size reduction does not alter the chemical properties or composition of the waste wood including its calorific value. The calorific value of a material is dependent on the carbon and hydrogen content and this will not be affected by the particle size of the waste wood. EA guidance Regulatory Guidance Note 2³ specifically states that size reduction which may assist in the handling of the waste but it not primarily for the purpose of improving its combustion characteristics is not considered to be pre-treatment for incineration or co-incineration.

³ RGN 2: Understanding the meaning of regulated facility - GOV.UK (www.gov.uk)

2 MANAGEMENT OF ACTIVITIES

2.1 Environmental Management System

- 2.1.1 An EMS is in place at the Riccall Wood Treatment Facility. The EMA will be reviewed and updated as necessary to meet BAT and permitting requirements..
- 2.1.2 The EMS will ensure that:
- The risks that the activities pose to the environment are identified;
 - The measures that are required to minimise the risks are identified;
 - The activities are managed in accordance with the management system;
 - Performance against the management system is audited at regular intervals; and
 - The environmental permit is complied with.
- 2.1.3 Procedures are in place for the regular inspection and maintenance of plant, equipment, storage areas and associated infrastructure including site surfacing, drainage systems and containment systems.
- 2.1.4 Site operators are trained in the safe operation of plant and emergency procedures.
- 2.1.5 The management system will be reviewed at least once every four years or in response to significant changes to the activities, or in the event of accidents or other non-compliances.

2.2 Operation and Maintenance

- 2.2.1 Procedures are place to ensure that those operations which have the potential to give rise to significant environmental effects are controlled. Procedures will not only cover normal operation but will also address abnormal operation.
- 2.2.2 In particular procedures are in place covering the following:
- Waste reception and handling, including waste acceptance procedures (albeit these will be expanded to cover waste pre-acceptance procedures);
 - Good housekeeping measures;
 - Maintenance of key plant and equipment;
 - Storage, handling and removal of wastes (materials) from the site, including non-permitted wastes.
- 2.2.3 Planned maintenance routines are established to ensure all key plant components which have the potential to affect the environmental performance of the facility remain in good working order. Maintenance routines will draw on manufacturers recommendations, unless operational experience during the lifetime of the facility would indicate the need for variance.
- 2.2.4 Inspections will include but not be limited to:
- Storage infrastructure;
 - Processing equipment;
 - Fuel storage area.

2.3 Staff Competence and Training

- 2.3.1 The Operator ensure that all personnel employed at the facility have the appropriate skills and technical capabilities to understand the operation of the process, and their obligations under the terms and conditions of the Permit.

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- 2.3.2 The operator provides operator training to ensure the facility is managed and operated by a fully trained workforce. Training not only addresses normal operations but will also include those actions required in the event of abnormal operations and emergencies.
- 2.3.3 Training records are prepared for all operational staff and training needs will be reviewed on a regular basis as part of the Operator's EMS procedures. Copies of all training needs records will be available for inspection upon request.

2.4 Technical Ability

- 2.4.1 The CIWM (WAMITAB) certificate for Edward Barker covering non-hazardous waste treatment and transfer is included in Appendix K. Hazardous waste treatment will initially be covered by Mark Allso until such times as Edward Barker completes this qualification. Certificates for Mark Allso are provided in Appendix K.

2.5 Accident and Incident Management

- 2.5.1 Accident and emergency preparedness and management is covered within the EMS and will be subject to routine review.
- 2.5.2 An assessment of the risks from accidents at the facility has been undertaken and can be found in the environmental risk assessment in Appendix C.
- 2.5.3 A fire prevention plan has been produced in connection with the main permit application which includes consideration of the site operations. This is included as Appendix E of the main application.

2.6 Site Security

- 2.6.1 Several security measures are in place at the site in order to prevent unauthorised access (trespass and vandalism), these are as follows:
- 24-hour CCTV which is remotely monitored by site personnel;
 - Staff members live on site, so the site is always occupied
- 2.6.2 The site will be inspected daily and any defects or damage to security infrastructure or systems will be repaired by the end of the working day. All inspections and any defects, damage or repairs will be recorded.

2.7 Site Records

- 2.7.1 The following records will be maintained and kept at the site for inspection as required:
- Waste input and output, including any rejected loads or quarantined materials;
 - Servicing and maintenance records;
 - Management procedures;
 - Inspection records;
 - Results of site audits and reviews;
 - Complaints and incident records; and
 - Training needs records.
- 2.7.2 All records will also be stored off-site electronically for a minimum period of 6 years.

2.8 Non-compliance Reporting

- 2.8.1 Reporting of non-compliances to the regulator will be carried out in accordance with the requirements of the permit.
- 2.8.2 The EMS will ensure that non-compliances are investigated and rectified with lessons learnt fed into the review process so that improvements to site systems and procedures are made following a non-compliance.

2.9 Energy Consumption and Efficiency

- 2.9.1 The main energy usage at the site will come from the diesel generators used to power the shredding and grinding machinery and plant for shovelling and sorting the waste wood. The diesel engines that power the shredder and grinder are not routinely monitored. The shredder engine has a net thermal input of circa 895 kW⁴. The net thermal input of the grinder is circa 1.24 MW⁵. Approximately 45,000 litres of diesel will be used at the facility each year. It should be noted that this application seeks to increase treatment hours from up to 10 hours per week to up to 15 hours per week. On this basis the increase in fuel usage would be circa 15,000 litres per annum.
- 2.9.2 Annual energy efficiency reviews will be undertaken to identify areas for energy efficiency and an annual programme of improvements will be put in place as part of the site EMS.

2.10 Efficient Use of Raw Materials and Water

- 2.10.1 The main raw materials accepted at the facility are predominantly Grades C and D wood, but the facility can receive Grades A, B, C and D waste wood. The wood recycling industry grade waste wood into four grades A, B, C and D as follows:
- **Grade A** . visibly clean recycled waste wood mainly from packaging waste, scrap pallets, packing cases and cable drums, and process off-cuts from the manufacture of untreated products.
 - **Grade B** . may contain Grade A wood together with other waste wood sourced from construction and demolition activities, transfer stations, civic amenity sites and the manufacture of furniture from solid wood. Grade B waste wood should be regarded as treated waste wood and can mainly be used in panel board manufacture.
 - **Grade C** . may contain the above grades of waste wood and from similar sources but will predominantly consist of panel products such as panel board, MDF, plywood, including products bonded using heat treatment.
 - **Grade D** . is hazardous waste consisting of wood which has had copper, chrome, arsenic (CCA) treatment or creosote applied. It can only be disposed of by incineration or hazardous waste landfill.
- 2.10.2 The waste wood to be accepted will fall under the EWC codes detailed in below:

Table 2.1: Permitted Waste Types

EWC Code	Description
02 01 03	Plant-tissue waste
02 01 07	Wastes from forestry

⁴ Based on max gas oil usage of 88.6 l/hour from engine specification and net CV for gas oil of 10.1 kWh/l from DEFRA GHG Conversion Factors for Company Reporting 2021, revised January 2022

⁵ Based on fuel usage of 122.7 l/hour from engine specification and net CV for gas oil of 10.1 kWh/l from DEFRA GHG Conversion Factors for Company Reporting 2021, revised January 2022

03 01 01	Waste bark and cork
03-01-04*	Sawdust, shavings, cuttings, wood, particle board and veneer containing hazardous substances
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03 01	Waste bark and wood
15 01 03	Wooden packaging
15 02 02*	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances
17 02 01	Wood
17 02 04*	Wood containing or contaminated with hazardous substances
19 02 09*	Solid combustible wastes containing hazardous substances
19 02 10	Combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 05 03	Off-specification compost
19 12 07	Wood other than that mentioned in 19 12 06
20 01 37*	Wood containing hazardous substances
20 01 38	wood other than that mentioned in 20 01 37

- 2.10.3 Waste is stored in dedicated stockpiles according to the grade and type of wood. Unprocessed wood will be stored externally with processed wood being stored internally within the building.
- 2.10.4 The site layout including waste stockpiles and dimensions can be found in Appendix B.
- 2.10.5 Details of raw materials used as the facility can be found in Table 2.2 below:

Table 2.2: Raw Materials Inventory

Raw Material	Maximum amount	Annual Usage	Description of how the raw material is used	Main Hazards
Diesel	10,000 litres	~45,000 litres	Fuel for on-site plant and machinery	<p>H226: Flammable liquid and vapour.</p> <p>H304: May be fatal if swallowed and enters airways.</p> <p>H315: Causes skin irritation.</p> <p>H332: Harmful if inhaled.</p> <p>H351: Suspected of causing cancer</p> <p>H373: May cause damage to organs (Thymus, liver and bone marrow)</p> <p>H411: Toxic to aquatic life with long lasting effects.</p>
Lubricating Oils	6 x 200 litre drums & 20 x 1 litre drums	< 1,500 litres	Used for on-site plant and machinery	<p>H304: May be fatal if swallowed and enters airways.</p> <p>H351: Suspected of causing cancer</p> <p>H413: May cause long lasting harmful effects to aquatic life</p>
Anti-Freeze	200 litres	~200 litres	Used for on-site plant and machinery	<p>H302: Harmful if swallowed.</p> <p>H373: May cause damage to organs through prolonged or repeated exposure.</p>

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- 2.10.6 Diesel for the grinder/shredder and other mobile plant is stored within a 20,000-litre tank which is located next to the poultry sheds. This is located within a bund which can contain 110% of the volume of the tank. The fill points have auto shut-off system and a code is required to be entered to fill from the tank. There are no high-level alarms or leak detection.
- 2.10.7 A separate 1,000 litre mobile double skinned bowser is used for filling machinery on site. This is filled from the diesel tank detailed above and then moved to the wood treatment facility for use.
- 2.10.8 Lubricating oils are stored within a dedicated bunded store on impermeable surface with sealed drainage etc. These stores are kept locked at all times when not in use. The stores contain the following volumes:
- 6 x 200 litre drums (oils);
 - 20 x 1 litre drums (oils); and
 - 200 litres (anti-freeze)
- 2.10.9 Spill kits are stored in the site workshop. Staff are aware of spill kit locations and are trained in spillage response.
- 2.10.10 Annual reviews of fuel and raw materials will be undertaken and yearly comparisons to identify areas for improvements. Usage of raw materials against outputs of processed waste will be undertaken to ensure that there are improvements year on year for raw materials tonne per tonne of processed wood output. An annual programme of improvements will be put in place as part of the site EMS.

2.11 Waste Pre-Acceptance and Acceptance Procedures

- 2.11.1 A waste pre-acceptance and waste acceptance procedure will be put in place. A summary of waste pre-acceptance and acceptance procedures are detailed below:
- Waste will generally be sourced from local waste transfer stations or skip companies. All suppliers will be advised of the permitted wastes for the site and the types of wood that are acceptable at the facility. All suppliers will be required to agree to undertaking inspections to ensure that only permitted wastes are delivered to the facility by third parties and that only registered waste carriers will deliver.
 - Waste pre-acceptance checks will be in place at the contract stage to ensure that only waste wood that is categorised under the permitted waste codes is delivered to the site.
 - Upon arrival at site, all vehicles will report to the office where deliveries will be checked by visual inspection to ensure they conform to the permitted waste codes and the deliveries are as expected from contracted suppliers. Paperwork records of all deliveries will be checked to ensure that the correct details of the supplier, waste description, volume/tonnage and EWC code are included. Any non-conforming loads will be rejected and returned to the customer if possible. Waste may also be rejected if it does not match the description of the waste included on the paperwork.
 - Vehicles will be directed to the appropriate tipping area where waste will be tipped under supervision and inspected for suitability.
 - If the waste is acceptable then the vehicle will be allowed to leave site; if any non-permitted wastes are found, depending on the volume and type, all the waste will either be re-loaded and sent back to the originating site or if a small amount, quarantined and removed from site as soon as possible.
 - Records of all waste types and deliveries including appropriate waste paperwork will be kept on site and available for inspection.
- 2.11.2 The Operator will undertake frequent inspections of the installation to identify potential problems with the process equipment that may adversely affect performance. This will include a programme of preventative maintenance of major components of the installation.

2.12 Avoidance, Recovery and Disposal of Wastes

- 2.12.1 The operations at the facility do not result in a large amount of waste material in addition to the processed waste wood. The main wastes produced from the operations are packaging materials from the oils used on site.
- 2.12.2 Only the required amounts of oil for use in plant and machinery is purchased therefore minimising the generation of waste. These are generally used for topping up only, with servicing and maintenance being undertaken off-site at dedicated servicing and maintenance facilities.

3 SITE OPERATIONS

3.1 Site Activities

- 3.1.1 The main activity undertaken at the site will be the separation, storage and treatment (grinding/shredding) of waste wood. A site layout plan and process flow diagram can be found in Appendix B.
- 3.1.2 The waste wood will be sourced from local waste recycling operations. Waste coming into the site will be inspected and any observed contamination will be removed during this process.
- 3.1.3 The total quantity of waste wood to be accepted at the facility will be less than 37,500 tonnes a year. The types of waste wood permitted to be accepted for wood processing are detailed in section 2.10.
- 3.1.4 Waste pre-acceptance checks will be in place at the contract stage to ensure that only waste wood that is categorised under the permitted waste codes is contracted to be delivered to the site.
- 3.1.5 All incoming and outgoing waste will be measured by volume and weights calculated using a known weight by volume ratio. This ratio will be checked annually using an off-site weighbridge to ensure that the correct weight by volume continues to be applied. Waste wood is generally delivered in 40-yard tippers which are netted prior to arrival at site.
- 3.1.6 The incoming material will be delivered in covered vehicles. On arrival at the site, deliveries will be checked by visual inspection to ensure they conform to the permitted waste codes and the deliveries are as expected from contracted suppliers. Paperwork records of all deliveries will be checked to ensure that the correct details of the supplier, waste description, volume/tonnage and EWC code are included. Any non-conforming loads will be rejected and returned to the customer if possible. Waste may also be rejected if it does not match the description of the waste included on the paperwork.
- 3.1.7 Following acceptance, wood will be tipped directly onto the main concrete pad. During tipping, the waste will again be visually inspected for any non-conforming materials. If any materials are found, these will be removed to the quarantine areas immediately for storage prior to removal from the site.
- 3.1.8 Hazardous wood and non-hazardous wood will be kept separate at all times in discrete stockpiles. Stockpiles will be labelled so as to show if it is hazardous or non-hazardous waste.
- 3.1.9 Any incidents of non-conforming loads will be reported immediately to the waste producer and the Environment Agency.
- 3.1.10 Once tipped, waste wood will be sorted by grade (A-D) using 360° grab and piled by grade prior to treatment. Prior to grinding/shredding, any large pieces of metal will be removed by hand, with smaller pieces of metal (e.g. nails/screws etc.) removed by over band magnets on the grinder/shredder units. Separated metal is stored in a skip until removed from site.
- 3.1.11 Treatment will be undertaken in discreet batches with only one grade of wood being treated at a time. Treatment consists of 2 stages, shredding and then grinding with each stage reducing the size of the wood. Technical specifications of the shredder and grinder used can be found in Appendix H along with photos of the treatment process and site layout included in Appendix J.
- 3.1.12 Untreated wood is loaded into the shredder using the 360° grab. The stockpile of treated wood is then moved onto the grinding process using a bucket loader and finally into the building using the bucket loader
- 3.1.13 The stage 1 shredder allows processing of up to 60 tonnes/hour of waste wood and up to 25 tonnes/hour of railway sleepers whilst the stage 2 grinder allows processing of up to 60 tonnes/hour of waste wood and up to 25 tonnes/hour of railway sleepers. The grinder and shredder both contain blockage monitoring which automatically stops the machines and alerts the operator should a blockage be detected.

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- 3.1.14 Both the shredder and the grinder are powered by diesel fuelled engines. The diesel engines directly drive the hydraulic systems in both the shredder and the grinder units; they are not operated to generate electricity to power these units.
 - 3.1.15 The wood processing area is located in the open air and comprises material stockpiles and mobile plant. The whole external storage and processing area will be laid to concrete to provide an impermeable surface with sealed drainage so as to prevent release of polluting substances into ground. It is proposed that the site drainage system will collect rainwater and runoff from the processing areas on an impermeable concrete surface which drains to a below ground storage tank as detailed in Section 4.2. In order to accommodate 1 month's rainfall, the storage volume in the tank is calculated as 337m³. Further details can be found in the Drainage Strategy included as Appendix F.
 - 3.1.16 Once processed, wood will be moved into the building where it will be stored on impermeable surface. The building is mainly enclosed with a partial opening at the front, as shown in the photo in Appendix J, to allow access.
 - 3.1.17 The stockpiles are managed to prevent dust, particulate emissions and the risk of fire. Further information on the management of stockpiles to minimise the risk of fire can be found in the fire prevention plan FPMP which can be found in Appendix E.

3.2 Process Controls

- 3.2.1 All staff will be appropriately trained in the operations of the shredder and grinder machines.
- 3.2.2 Both machines contain process alarms that alert the operator of any issues such as blockages or non-standard items in the material feeds.
- 3.2.3 A procedure is in place for all staff detailing the safe operations of the shredder and grinder machines and actions to take should alerts of any issues arise.

4 EMISSIONS AND MONITORING

4.1 Point Source Emissions to Air

- 4.1.1 There will be two-point source emissions to air from the grinder and shredder machine. These are both mobile plant.
- 4.1.2 The emissions from these point source emissions to air have been assessed, see Appendix I. It should be noted that the two units are in current operation processing up to 26,000 tpa of waste wood under an exemption. The proposals will increase the hours of operation from up to 10 hours per annum to up to 15 hours per annum and allow a maximum treatment of up to 37,500 tpa of waste wood.

4.2 Point Source Emissions to Water (Other than Sewers)

- 4.2.1 There are no point source emissions to water from the activities at the facility.
- 4.2.2 An impermeable concrete surface completely surrounded by a kerb will prevent surface waters escaping from the site. The fall of the site directs drainage towards the centre of the site and into the underground collection tank. In order to accommodate 1 month's rainfall, the storage volume in the tank is calculated as 337m³. Water will drain from the concrete surface to a 1,200mm diameter circular sump which will comprise a silt trap, thence to a 2,000-litre capacity Class 1 interceptor before discharging to the tank, in order to minimise the potential for the entry of hydrocarbons and suspended solids to the tank. Water is removed by tanker as required and where possible used for dust suppression on site.
- 4.2.3 Clean runoff from the building roof runs off the roof to the stone surface behind the building and will drain to ground, similarly rainwater in the above ground fire water tank areas will similarly drain to ground. There is no purpose designed soakaway, the clean rainwaters naturally drain to ground and therefore there is no associated emission point to a soakaway.
- 4.2.4
- 4.2.5 Further details on site drainage design can be found in Appendix F. Please note that the drainage plan provided in Appendix F has been updated by the drainage plan provided in Appendix B.

4.3 Point Source Emissions to Sewers, Effluent Treatment Plants or Other Transfers off Site

- 4.3.1 There will be no process point source emissions to sewers, effluent treatment plants or other transfers off site from the operations at the facility detailed in this permit application.

4.4 Point Source Emissions to Land

- 4.4.1 Clean water from the building roof as described in paragraph 4.2.3 above, will drain to ground.

4.5 Fugitive Emissions

- 4.5.1 Potential fugitive emissions from the facility include:
- Dust;
 - VOCs from fuel storage;
 - Leaks or spills as a result of accidents or incidents.
- 4.5.2 Fugitive emissions are assessed in the environmental risk assessment in Appendix C and a dust management plan is included as Appendix J. These documents describe the potential emissions

and management controls in place. The risk from fugitive emissions is considered to be low or very low.

- 4.5.3 The wood processing facility has impermeable surfacing with all run-offs draining to a below ground storage tank via a silt trap and interceptor. A drainage plan is included in Appendix B.
- 4.5.4 The impermeable surfaces are subject to regular inspections and maintenance to minimise the risk of any fugitive emissions.
- 4.5.5 Staff are trained in the use of spill kits, the requirements of the Accident Management Plan and Spill Clean-Up Procedures.
- 4.5.6 All site personnel are tasked with monitoring for evidence of spillages and leakage during their day-to-day routine. Any evidence of spillage or leakage will be reported to the Site Manager or their nominated deputy for appropriate remedial action.
- 4.5.7 All the waste wood material will continue to be dampened down during the summer to minimise potential for fugitive emissions and working practices include clear spatial separation of waste wood of different storage age. This rotation system exists to ensure the oldest waste is treated and shipped first from site.
- 4.5.8 Disturbance of wood piles/processed wood will be kept to a minimum to avoid any dust being generated. Material drop heights will also be kept to a minimum from end of conveyors and loading shovels to minimise dust risk. Daily checks are carried out for dust emissions from the facility. A mobile mister is used to minimise any dust emissions. The grinder and shredder do not have any in-built dust suppression systems.
- 4.5.9 Good housekeeping practices are adopted at the site. Machines are blown down every day with leaf blowers to remove any deposited materials and minimise dust build up. Every Saturday, a general site tidy is carried out.

4.6 Odour

- 4.6.1 The site has been operational as an exempt wood treatment facility for a number of years and during this time has not received any complaints relating to odour or encountered any odour related issues from the site.
- 4.6.2 The waste wood that is processed at the facility is not odorous and as such, there is limited risk of odours as a result of the proposed activities. Waste acceptance procedures include checks for any odorous waste upon delivery to the site and should any odorous waste be found, it will either be rejected and returned to the supplier or quarantined and removed from site within 24 hours.
- 4.6.3 Should odour become an issue because of the operations, an odour management plan will be produced. This will contain specific details for management of odour from the wood processing facility will including how the site can effectively manage potential odour releases associated with the operations at the permitted facilities and minimise the risk of abnormal operational conditions, which could result in increased risk of odour generation at the site to a level that may cause an impact outside the site boundaries.
- 4.6.4 Any odour complaints will be investigated as detailed in the EMS complaints procedures and details recorded in the Site Diary.
- 4.6.5 Further details are included in the environmental risk assessment in Appendix C. The risk of odour from the facility been concluded to be low.

4.7 Noise and Vibration

- 4.7.1 The site has been operational as an exempt wood treatment facility since 2009 for a number of years and during this time has not received any complaints relating to noise or encountered any noise related issues from the site.

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- 4.7.2 There is no specific low-noise machinery in use at the site as noise has not been considered an issue since the site has been in operation. There are no proposed changes to the machinery to be used for processing the wood at the site and therefore, even though the throughput capacity will increase, the overall noise levels associated with the facility will remain the same.
 - 4.7.3 There is no change to the current operating hours of the exempt facility. The site is operational 6 days a week from 8am to 4:30pm (not including Sundays). The site is occasionally operational on a bank holiday.
 - 4.7.4 Noise mitigation will include ensuring mobile plant is silenced to the current recommended standards, drop heights are kept as low as possible, plant and machinery will be turned off when not in use and processing managed so as to keep operational noise to as short a time period as possible.
 - 4.7.5 Any noise complaints will be investigated as detailed in the EMS complaints procedures and details recorded in the Site Diary.
 - 4.7.6 Further details are included in the environmental risk assessment in Appendix C. The risk of noise and vibration from the facility been concluded to be low.

4.8 Monitoring and Reporting of Emissions

- 4.8.1 Monitoring where required will be carried out in accordance with the environmental permit.
- 4.8.2 The mobile shredder and grinder both include a single emission point each. Emission point A1 will be associated with the shredder and emission point A2 is associated with the grinder. Given the units are mobile plant they may operate at various locations within the yard area. The emissions for these units are regulated under the Non-Road Mobile Machinery Regulations (NMMR). There are no fixed point source emissions with an associated stack to provide emissions monitoring. Routine monitoring of emissions is therefore not proposed.
- 4.8.3 All records of waste movements in and out of the site will be kept for use in producing quarterly waste returns for the facility.
- 4.8.4 Daily inspections will be undertaken at the facility as detailed in the EMS procedure and these will include checks for fugitive emissions such as dust, noise, odour and litter. Records of all inspections will be recorded and available for inspection as required.
- 4.8.5 If any fugitive emissions are found during inspections, these will be reported to the site manager and actions taken in accordance with incident reporting procedures to mitigate impacts and return to a compliant state.

5 ENVIRONMENTAL IMPACTS

5.1 Environmental Risk Assessment

- 5.1.1 An ERA has been carried out in support of this application. It includes an assessment of the risk to the environment and human health from the proposed activities at the site.
- 5.1.2 The ERA has been produced in accordance with the Environment Agency's (EA's) Risk Assessments for your environmental permit guidance⁶ which covers a range of environmental risks. The ERA can be found in Appendix C.
- 5.1.3 The ERA has concluded that the risks of impacts to the environment from fugitive emissions, odour, noise, dust and accidents range from very low to low. It is concluded that the operations at the facility are unlikely to cause any significant environmental impacts.

⁶ <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>

6 BEST AVAILABLE TECHNIQUES (BAT) ASSESSMENT

6.1.1 This section contains a review against the BAT requirements detailed in the best available techniques (BAT) conclusions for waste treatment⁷.

⁷ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018D1147&from=EN>

6.2 Assessment Against the Best Available Techniques (BAT) Conclusions for Waste Treatment

6.2.1 The BAT assessment can be found in Table 6.2 below:

Table 6.1: Assessment of BAT Conclusions Requirements

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
General BAT Conclusions			
Overall environmental performance:			
1	<p>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 follows:</p> <p>I. commitment of the management, including senior management.</p> <p>II. definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation.</p> <p>III. planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment.</p> <p>IV. implementation of procedures paying particular attention to:</p> <p>(a) structure and responsibility;</p> <p>(b) recruitment, training, awareness and competence;</p> <p>(c) communication;</p> <p>(d) employee involvement;</p> <p>(e) documentation;</p> <p>(f) effective process control;</p> <p>(g) maintenance programmes;</p> <p>(h) emergency preparedness and response;</p> <p>(i) safeguarding compliance with environmental legislation.</p> <p>V. checking performance and taking corrective action, paying particular attention to:</p> <p>(a) monitoring and measurement (see also the JRC Reference Report on Monitoring of emissions to air and water from IED installations . ROM);</p> <p>(b) corrective and preventive action;</p> <p>(c) maintenance of records;</p> <p>(d) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained.</p>	<p>The Operator has developed an Environmental Management System (EMS) to direct the operation of the wood treatment process operations.</p> <p>An overview of the EMS is provided in Section 2 of this application. Noise and odour management are addressed within the EMS but due to the nature of the activities and site location a separate noise an odour management plan are not required.</p> <p>The EMS is compliant with the BAT requirements with the exception of:</p> <p>I. commitment of the management, including senior management.</p> <p>VI. review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness. (as identified in the BAT Conclusions document).</p> <p>VII. following the development of cleaner technologies.</p> <p>IX. application of sectoral benchmarking on a regular basis.</p> <p>An update to the EMS will be made to address these requirements.</p>	<p>No . but will incorporate updates prior to the facility coming into operation.</p>

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
	<p>VI. review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness. (as identified in the BAT Conclusions document).</p> <p>VII. following the development of cleaner technologies.</p> <p>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.</p> <p>IX. application of sectoral benchmarking on a regular basis.</p> <p>X. waste stream management.</p> <p>XI. an inventory of waste water and waste gas streams.</p> <p>XII. residues management plan</p> <p>XIII. accident management plan</p> <p>XIV. odour management plan</p> <p>XV. noise and vibration management plan</p>		
2	<p>In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below:</p> <p>a) Set up and implement waste characterisation and pre-acceptance procedures</p> <p>b) Set up and implement waste acceptance procedures</p> <p>c) Set up and implement a waste tracking system and inventory</p> <p>d) Set up and implement an output quality management system</p> <p>e) Ensure waste segregation</p> <p>f) Ensure waste compatibility prior to mixing or blending of waste</p> <p>g) Sort incoming solid waste</p>	<p>Waste characterisation and pre-acceptance procedures will be in place as detailed in section 2.11 and the EMS will be updated to include these procedures. Waste acceptance procedures are in place within the EMS.</p> <p>The EMS includes a description of waste sorting and segregation procedures. Hazardous and non-hazardous wastes will not be mixed.</p> <p>Records of all loads accepted and removed from site are recorded with this used as a waste tracking system and inventory.</p> <p>The waste treatment comprises simple chipping of waste for handling purposes. There are no specification requirements included in contracts with end users of the material.</p>	<p>No . but will incorporate updates to address waste pre-acceptance requirements prior to the facility coming into operation.</p>
3	<p>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:</p> <p>(i) information about the characteristics of the waste to be treated and the waste treatment processes, including:</p> <p>(a) simplified process flow sheets that show the origin of the emissions;</p>	<p>There are no emissions to water from the facility with all run-off captured in a below ground tank containment for a volume of 337m³. The tank will be emptied by road tanker before it reaches capacity. The permitted activities do not include the acceptance or treatment of wastewater streams.</p>	<p>Yes</p>

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
	<p>(b) descriptions of process-integrated techniques and waste water/waste gas treatment at source including their performances;</p> <p>(ii) information about the characteristics of the waste water streams, such as:</p> <p>(a) average values and variability of flow, pH, temperature, and conductivity;</p> <p>(b) average concentration and load values of relevant substances and their variability (e.g. COD/TOC, nitrogen species, phosphorus, metals, priority substances/micropollutants);</p> <p>(c) data on bioeliminability (e.g. BOD, BOD to COD ratio, Zahn-Wellens test, biological inhibition potential (e.g. inhibition of activated sludge)) (see BAT 52);</p> <p>(iii) information about the characteristics of the waste gas streams, such as:</p> <p>(a) average values and variability of flow and temperature;</p> <p>(b) average concentration and load values of relevant substances and their variability (e.g. organic compounds, POPs such as PCBs);</p> <p>(c) flammability, lower and higher explosive limits, reactivity;</p> <p>(d) presence of other substances that may affect the waste gas treatment system or plant safety (e.g. oxygen, nitrogen, water vapour, dust).</p>	<p>Emissions to air are from the operation of the grinder and shredder machines. Emissions from these machines fall under the NRMM regulations and have been assessed within the air quality assessment (Appendix I).</p> <p>The incoming waste streams and the process activities do not include any gas generation or waste gas treatment activities which will create additional point source emissions.</p>	
4	<p>In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below.</p> <p>a. Optimised storage location</p> <p>b. Adequate storage capacity</p> <p>c. Safe storage operation</p> <p>d. Separate area for storage and handling of packaged hazardous waste</p>	<ul style="list-style-type: none"> All incoming waste is stored on an impermeable concrete surface whilst awaiting processing and immediately following processing. Once processed, all waste is moved and stored within a covered building to minimise risk of fugitive emissions and nuisance. Waste is stored and monitored as detailed in the fire prevention plan included as Appendix E. Procedures are in place as part of waste acceptance and waste recording to ensure that the volumes accepted and removed are scheduled to maintain waste tonnages below the maximum storage capacity of the site. Should storage volumes approach the maximum storage limits, no further waste is accepted until waste has been removed and there is a buffer so as not to exceed maximum storage volumes. 	Yes

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
		<ul style="list-style-type: none"> Waste is stored and monitored as detailed in the fire prevention plan included as Appendix E. Waste is stored in segregated stockpiles according to the category of wood waste with stockpiles managed to the volumes detailed in the fire prevention plan and sufficient fire breaks, storage times and monitoring imposed so as to minimise the risk of self-combustion. Not applicable - All hazardous waste will arrive unpackaged. These will be stored on impermeable surfaces with sealed drainage before and after processing to minimise risk from any contaminated run-off. A dedicated storage area will be allocated for storage of category D wood waste. 	
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.	As part of site induction and ongoing training, staff will undergo training in the handling, sorting and transfer of all waste wood. Procedures will be implemented as part of the EMS to prevent, detect, and mitigate any spillages during the operations at the facility. These procedures will be incorporated as part of staff training requirements to ensure all operations are carried out by competent staff. All training will be recorded and records available for inspection as required.	Yes
Monitoring:			
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).	Not applicable as there are no point source emissions to water.	N/A
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)	Not applicable as there are no point source emissions to water.	N/A
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)	Not applicable as emissions to air from the shredder and grinder machines are covered by the NRMM regulations. The nature of the equipment as mobile plant in any event do not include suitable fixed stacks to install emissions monitoring ports in accordance with EA requirements to	N/A

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
		undertake monitoring in accordance with the relevant standards.	
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.	Not applicable as none of these activities are undertaken at the site.	N/A
10	BAT is to periodically monitor odour emissions.	As detailed in the environmental risk assessment in Appendix C, the nature of the waste accepted at the site presents a low risk of odour nuisance. The site has been operational as an exempt facility for a number of years with no complaints relating to odour being received during this time. Daily inspections are carried out of the facility and these will detect any potential odour issues. If any are detected, these will be reported to the site manager and actions taken to identify the source of the odour and mitigate any potential odour.	Yes
11	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.	Annual monitoring of energy and raw materials usage will be undertaken. After year one, comparisons will be undertaken of all usage with previous years to identify any abnormal trends and minimise resource usage and waste generation where possible.	Yes
Emissions to air:			
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.	As detailed in the environmental risk assessment in Appendix C, the nature of the waste accepted at the site presents a low risk of odour nuisance. The site has been operational as an exempt facility for a number of years with no complaints relating to odour being received during this time. No odour management plan has been prepared for the site at this time, however, should odours become an issue in the future, an odour management plan will be written at this time.	N/A
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.	Not applicable as waste accepted at the site presents a low risk of odour nuisance, residence times of potentially odours waste is minimised and there have been no complaints to date for the exempt activity currently undertaken at the site.	N/A

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
14	<p>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.</p>	<ul style="list-style-type: none"> • In order to minimise fugitive emissions at the site, all waste is stored on impermeable surfacing with sealed drainage. During periods of dry weather, dust suppression will be used to minimise any off-site dust impacts. Staff are trained so as to minimise drop heights of waste when moving around the site and loading the chipper/shredder. Processed wood is stored undercover within an enclosed building. • Not applicable to the type of plant in operation at the facility • All plant and machinery undergo regular servicing and maintenance in line with manufacturers recommendations and undergoes regular checks prior to operation at the site. These will identify any potential areas of corrosion and ensure corrosion prevention is undertaken where possible. • Processed wood is stored undercover within an enclosed building. • During periods of dry weather, dust suppression will be used to minimise any off-site dust impacts. A mobile mister is used to minimise any dust emissions. The chipper and shredder do not have any in-built dust suppression systems. • All plant and machinery undergo regular servicing and maintenance in line with manufacturers recommendations and undergoes regular checks prior to operation at the site. • Regular inspections of process equipment and storage/treatment areas are undertaken with regular housekeeping such as cleaning of conveyor belts and storage areas undertaken when required due to build-up of dust/waste materials. Machines are blown down every day with leaf blowers to remove any deposited materials and minimise dust build up. Every Saturday, a general site tidy is carried out. • Not applicable due to the nature of the operation and type of waste processed and stored. 	Yes

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
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	Not applicable as there is no flare installed at the site.	N/A
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	Not applicable as there is no flare installed at the site.	N/A
Noise and Vibrations:			
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.	The site has been operational as an exempt facility for a number of years with no complaints relating to noise or vibration being received during this time. No noise and vibration management plan has been prepared for the site at this time, however, should noise or vibration become an issue in the future, a noise and vibration management plan will be written at this time.	N/A
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	<ul style="list-style-type: none"> The site has been operational as an exempt facility for a number of years with no complaints relating to noise or vibration being received during this time. All plant and machinery undergo regular servicing and maintenance in line with manufacturers recommendations and undergoes regular checks prior to operation at the site. All staff are suitably trained in the operation of plant and equipment on site and as part of training, will be reminded of the requirement to minimise noise from the site activities where possible. The site is operational 6 days a week from 8am to 4:30pm (not including Sundays). The site is occasionally operational on a bank holiday. 	Yes

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
		<p>All vehicles, equipment and plant will be switched off when not in use.</p> <ul style="list-style-type: none"> • There is no specific low-noise equipment in use at the facility. • Not applicable . no noise issues have been identified therefore no noise and vibration control equipment is in place at the site. • Not applicable . no noise issues have been identified therefore no noise attenuation is in place at the site. 	
Emissions to Water:			
19	<p>In order to optimise water consumption, to reduce the volume of wastewater 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</p>	<ul style="list-style-type: none"> • Water Management . Water used at the site is supplied from mains water. Dust suppression is provided by mobile mister units to minimise water usage. • Water recirculation . Not applicable, no water is used within the plant or captured and recirculated at the site. • Impermeable Surface . All storage and processing areas are on impermeable surfaces with sealed drainage. • Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels . Not applicable, no waste waters or aqueous liquids are stored on site • Roofing of waste storage and treatment areas . All processed waste is stored within a building. • Segregation of water streams . Clean water is captured within the underground tank along with some water from the building roof being discharged to ground. Water from the underground tank is re-used on site. • Adequate drainage infrastructure . All run-off is captured in an underground tank. • Design and maintenance provisions to allow detection and repair of leaks - Not applicable, no wastewater is stored on site. All impermeable surfaces undergo 	Yes

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
		<p>regular inspections for any signs of deterioration or repairs required.</p> <ul style="list-style-type: none"> • Appropriate buffer storage capacity . Not applicable, no wastewater is stored on site. Details of firewater storage are included in the fire prevention plan in Appendix E. 	
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.	Not applicable . no wastewater is treated at the site.	N/A
Emissions from Accidents and Incidents:			
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).	<ul style="list-style-type: none"> • The operator will produce an accident management plan (AMP) as part of the site EMS. This will cover the following: <ul style="list-style-type: none"> • Acceptance and storage of waste; • Use of plant and equipment; • Use and storage of fuels and chemicals; and • Emergency incidents • The AMP will cover potential impacts, risks, control, protection and mitigation measures. This will includes details of what to do in the event of an emergency and where all the accident and emergency response items (fire extinguishers, water supply points and hoses, spill kits, first aid kits, assembly points and location of nearest fire hydrant etc) are located. Further details on accident management are also included in the environmental risk assessment in Appendix C and the fire prevention plan in Appendix E. • The accident management plan and fire prevention plan will include details on how to manage emissions and accidents. • Staff will be appropriately trained in the handling and transfer of waste, in the use of spill kits and the requirements of the Accident Management Plan and Spill Clean-Up Procedures. All staff will be trained in appropriately detecting and identifying spillages and 	No . to be addressed when EMS produced

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
		the spill response procedure will be used when a spillage is detected. All site personnel will be 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 nominated deputy for remedial action. All accidents and incidents will be recorded and notified to the EA as required. All records will be available for inspection when requested.	
Material Efficiency:			
22	In order to use materials efficiently, BAT is to substitute materials with waste.	Not applicable, there are no opportunities to substitute any raw materials with waste.	N/A
Energy Efficiency:			
23	In order to use energy efficiently, BAT is to use both of the techniques given in the BAT conclusions document.	<p>An energy efficiency plan and energy balance record will be produced as part of the site EMS. (BAT 23 a&b)</p> <p>The current plant (chipper & shredder) and associated machinery on site are all diesel operated. Records of diesel usage will be made annually and reviewed to see where improvements can be made for energy efficiency year on year. No other fuels (electricity / gas) are used on site as part of the operations.</p> <p>Any plant or machinery, when replaced, will look to use energy efficient models so as to improve the efficiency of the site where possible.</p> <p>All plant and machinery is maintained and serviced following manufacturers recommendations to ensure operations are efficient as possible.</p>	No . to be addressed when EMS produced
Reuse of Packaging:			
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).	The only packaging material on site comprises drums/IBCs from oils and anti-freeze. There is currently no system in place to be able to re-use these on site and the suppliers do not accept packaging returns for re-use.	Yes
BAT Conclusions for the Mechanical Treatment of Waste			
General BAT conclusions for the mechanical treatment of waste:			

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
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.	Not applicable as there are no channelled emissions to air therefore unable to apply the techniques listed above those already mentioned in BAT 14d.	N/A
The mechanical treatment in shredders of metal waste:			
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.	Not applicable as no mechanical treatment in shredders of metal waste undertaken at the site.	N/A
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.	Not applicable as no mechanical treatment in shredders of metal waste undertaken at the site.	N/A
28	In order to use energy efficiently, BAT is to keep the shredder feed stable.	Not applicable as no mechanical treatment in shredders of metal waste undertaken at the site.	N/A
BAT conclusions for the treatment of WEEE containing VFCs and/or VHCs:			
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.	Not applicable as no treatment of WEEE undertaken at the site.	N/A
BAT-associated emission levels (BAT-AELs) for channelled TVOC and CFC emissions to air from the treatment of WEEE containing VFCs and/or VHCs:			
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	Not applicable as no treatment of WEEE undertaken at the site.	N/A
BAT conclusions for the mechanical treatment of waste with calorific value:			
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.	Not applicable as there are no channelled emissions to air.	N/A
BAT conclusions for the mechanical treatment of WEEE containing mercury:			
32	In order to reduce mercury emissions to air, BAT is to collect mercury emissions at source, to send them to abatement and to carry out adequate monitoring.	Not applicable as no mechanical treatment of WEEE containing mercury undertaken at the site.	N/A
BAT Conclusions for the Biological Treatment of Waste			
The biological treatment of waste:			
33	In order to reduce odour emissions and to improve the overall environmental performance, BAT is to select the waste input.	Not applicable as no biological treatment of waste undertaken at the site.	N/A

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
34	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 in the BAT conclusions document. See Table 6.7 for BAT-associated emission levels (BAT-AELs) for channelled NH ₃ , odour, dust and TVOC emissions to air from the biological treatment of waste.	Not applicable as no biological treatment of waste undertaken at the site.	N/A
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.	Not applicable as no biological treatment of waste undertaken at the site.	N/A
The aerobic treatment of waste:			
36	In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.	Not applicable as no aerobic treatment of waste undertaken at the site.	N/A
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.	Not applicable as no aerobic treatment of waste undertaken at the site.	N/A
The anaerobic treatment of waste:			
38	In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.	Not applicable as no anaerobic treatment of waste undertaken at the site.	N/A
The mechanical biological treatment (MBT) of waste:			
39	In order to reduce emissions to air, BAT is to use both of the techniques given below.	Not applicable as no mechanical biological treatment of waste undertaken at the site.	N/A
BAT Conclusions for the Physico-Chemical Treatment of Waste			
The physico-chemical treatment of solid and/or pasty waste:			
40	In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2). Monitoring the waste input, e.g., in terms of: - content of organics, oxidising agents, metals (e.g., mercury), salts, odorous compounds; - H ₂ formation potential upon mixing of flue-gas treatment residues, e.g., fly ashes, with water.	As part of the site EMS, pre-acceptance and waste acceptance procedures will be established prior to the permitted operations at the facility. These procedures will contain processes to monitor the waste input to ensure of consistent quality and comply with the permitted waste types for the facility. Pre-acceptance procedures will ensure that the producer of the waste provides adequate characterisation of the waste so it can be assessed for the suitability of the waste for the operations at the facility and the required quality output for use in the biomass boiler and incinerator.	Yes

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
		The H ₂ formation potential is not applicable as there no mixing of flue-gas treatment residues undertaken at the site.	
41	In order to reduce emissions of dust, organic compounds and NH ₃ 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.	Not applicable as there are no channelled emissions to air.	N/A
BAT conclusions for the re-refining of waste oil:			
42	In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).	Not applicable as no re-refining of waste oil undertaken at the site.	N/A
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.	Not applicable as no re-refining of waste oil undertaken at the site.	N/A
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.	Not applicable as no re-refining of waste oil undertaken at the site.	N/A
BAT conclusions for the physico-chemical treatment of waste with calorific value:			
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.	Not applicable as there are no channelled emissions to air.	N/A
BAT conclusions for the regeneration of spent solvents:			
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.	Not applicable as no regeneration of spent solvent undertaken at the site.	N/A
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.	Not applicable as no regeneration of spent solvent undertaken at the site.	N/A
BAT conclusions for the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil:			
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.	Not applicable as no thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil undertaken at the site.	N/A
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.	Not applicable as no thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil undertaken at the site.	N/A
BAT conclusions for the water washing of excavated contaminated soil:			

BAT Number	Summary of BAT Conclusions Requirements	Operator Evidence of Compliance	BAT Compliant?
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.	Not applicable as no water washing of excavated contaminated soils undertaken at the site.	N/A
BAT conclusions for the decontamination of equipment containing PCBs:			
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.	Not applicable as no decontamination of equipment containing PCBs undertaken at the site.	N/A
BAT Conclusions for the Treatment of Water-based Liquid Waste			
Overall environmental performance:			
52	In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).	Not applicable as no water-based liquid waste accepted at the site.	N/A
Emissions:			
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.	Not applicable as no water-based liquid waste accepted at the site.	N/A

6.3 Conclusions

6.3.1 The table below shows the outcomes of the BAT conclusions assessment:

Table 6.2: BAT Assessment Outcomes

BAT Conclusion	Compliance Status
BAT 1	Not Currently Compliant - to be addressed via EMS update
BAT 2:	Not Currently Compliant - to be addressed via EMS update
BAT 3:	Compliant
BAT 4:	Compliant
BAT 5:	Compliant
BAT 6:	Not Applicable
BAT 7:	Not Applicable
BAT 8:	Not Applicable
BAT 9:	Not Applicable
BAT 10:	Compliant
BAT 11:	Compliant
BAT 12:	Not Applicable
BAT 13:	Not Applicable
BAT 14:	Compliant
BAT 15:	Not Applicable
BAT 16:	Not Applicable
BAT 17:	Not Applicable
BAT 18:	Compliant
BAT 19:	Compliant
BAT 20:	Not Applicable
BAT 21:	Not Currently Compliant - to be addressed when EMS is produced
BAT 22:	Not Applicable
BAT 23:	Not Currently Compliant - to be addressed when EMS is produced
BAT 24:	Compliant
BAT 25:	Not Applicable
BAT 26:	Not Applicable
BAT 27:	Not Applicable
BAT 28:	Not Applicable
BAT 29:	Not Applicable

BAT Conclusion	Compliance Status
BAT 30:	Not Applicable
BAT 31:	Not Applicable
BAT 32:	Not Applicable
BAT 33:	Not Applicable
BAT 34:	Not Applicable
BAT 35:	Not Applicable
BAT 36:	Not Applicable
BAT 37:	Not Applicable
BAT 38:	Not Applicable
BAT 39:	Not Applicable
BAT 40:	Compliant
BAT 41:	Not Applicable
BAT 42:	Not Applicable
BAT 43:	Not Applicable
BAT 44:	Not Applicable
BAT 45:	Not Applicable
BAT 46:	Not Applicable
BAT 47:	Not Applicable
BAT 48:	Not Applicable
BAT 49:	Not Applicable
BAT 50:	Not Applicable
BAT 51:	Not Applicable
BAT 52:	Not Applicable
BAT 53:	Not Applicable

6.3.2 Based on a review of the available information it has been assessed the site/operator is compliant with most of the requirements of the above applicable BAT conclusions.

6.3.3 The operator is not currently compliant with the following BAT conclusions; however, these will be addressed as part of the production of the site EMS:

- **BAT 1** - BAT is to implement and adhere to an environmental management system (EMS);
- **BAT 2** - BAT is to implement and adhere to waste pre-acceptance and waste acceptance procedures;
- **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; and
- **BAT 23** - In order to use energy efficiently, BAT is to use both of the techniques given in the BAT conclusions document.

6.3.4 There are no BAT conclusions that the operator requires derogation from at this point in time.

References

1. The Environmental Permitting (England and Wales) Regulations 2016 - <https://www.legislation.gov.uk/ukSI/2016/1154/contents/made>
2. Environment Agency (EA) Risk Assessments for your environmental permit guidance - <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>
3. Risk assessments for specific activities: environmental permits - <https://www.gov.uk/government/collections/risk-assessments-for-specific-activities-environmental-permits>
4. Best Available Techniques (BAT) conclusions for waste treatment - <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018D1147&from=EN>



Appendices

Appendix A

Application Forms

Appendix B

Site Plans

Appendix C

Environmental Risk Assessment

Appendix D

Site Condition Report & Baseline Assessment

Appendix E

Fire Prevention Plan

Appendix F

Drainage Strategy and Flood Risk Assessment

Appendix G

Technical Specifications

Appendix H

Site Photos

Appendix I

Air Quality Assessment

Appendix J

Dust Management Plan

Appendix K

Evidence of Technical Competence

Appendix L

Pre-Application Advice

