Barking Metal Recycling Facility, Environmental Permit Variation Application

Best Available Techniques & Operating Techniques

S Norton & Co Limited

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Basis of Report

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1.0 Introduction

SLR Consulting Ltd (SLR) has been instructed by S. Norton & Co Limited (S Norton) to prepare an Environmental Permit (EP) variation application for the Metal Recycling Facility (Ref: EPR/CB3807HV) (the Permit) for their Barking facility located at 72/76 River Road, Barking, Essex, IG11 0DS (the Site). The proposed changes include additional waste codes, the storage of hazardous waste types above 50 tonnes at any one time as a new installation activity and the processing of Large Domestic Appliances (LDA) as a new WEEE treatment activity.

A separate EP for the adjacent area to the Site (the Western Area) was transferred to S Norton in February 2019 (Ref: EPR/DB3639RX). The Western Area is already included within the marked 'Site Plan' in Schedule 7 of the Permit, and both permits are authorised to carry out the receipt, storage and handling/processing of ferrous and non-ferrous (NF) material for recovery, however, the two permits were not formally consolidated. Therefore, in addition to the EP variation for the Permit to an Installation facility, S Norton wish to consolidate the two EPs into one to cover the entire metal recycling operations.

The proposed changes will be covered by the recovery codes already authorised in the Permit which are: R4, R5 and R13. However, the new permit will become an installation permit because of the addition of the hazardous waste storage activity. There will be no directly associated activities (DAA's).

Activities defined as Installations are required to conform to Best Available Techniques (BAT) requirements. The essence of BAT is that the selection of techniques to protect the environment should achieve an appropriate balance between the environmental benefits they bring, and the costs to implement them. In addition, it should be demonstrated that no significant pollution is caused by an assessment of the environmental impact of emissions from the activity as a whole.

This Best Available Techniques and Operating Techniques (BATOT) report is an integrated document which describes both the operating techniques that will be implemented at the facility to ensure compliance with the conditions of the EP, and also demonstrates compliance with BAT where applicable. It includes the standards which apply to the new installation activity as well as the new waste operation.

1.1 Site Setting

The Site is centred on National Grid Reference TQ 45852 81666, located at 72-76 River Road, Barking, Essex as shown on Drawing 01 Site Location Plan and is approximately 4.3km to the south west of Dagenham town centre, and 2.86km south east of Barking town centre. The Site is accessed via a track approximately 100m off River Road.

The Site is located within a predominantly industrial area and is bordered to the west and east by two other waste processing sites. River Road lies immediately adjacent to the north and the River Thames lies immediately adjacent to the south with a quay along this perimeter. This provides a berth for vessels to ship processed Heavy Metal Steel (HMS) / export ready metals to S Norton's other metal recycling facility in Southampton.

The Site is located within Barking & Dagenham Air Quality Management Area (AQMA) for Nitrogen Dioxide (NO_2) and Particulate Matter (PM_{10}).

There is one statutory protected Local Nature Reserve (LWR) and one Local Wildlife Site (LWS) within 2km of the Site. There are several Protected Fish Migratory Routes in the River Thames within 500m to the south of the Site and one Protected Habitat (Coastal Saltmarsh) which lies within 50m to the west and east of the Site.

The Site which includes the Western Area is circa 1.87 hectares in area and roughly rectangular with a narrow entrance/exit section leading to River Road. The immediate land uses are shown in Table 1-1 below.

Table 1-1: Land Uses Surround the Area

Boundary	Description
North	Hospitality (restaurants), commercial and industrial properties, local road network (River Road) and an open space with small surface water feature beyond
East	Commercial and industrial properties, local road network (River Road)
South	River Thames
West	Green open space (Creekmouth Open Space), the River Roding Confluence, Barking Creek Barrier (tidal barrier) and Beckton Sewage Treatment Works beyond

The surrounding land uses and receptors within 500m are identified on Drawing 03 Site Setting & Receptors Plan. Cultural and Natural Heritage receptors and European designated sites within 2km are identified on Drawing 04 Cultural and Natural Heritage Receptors.

1.2 Summary of Operations

The Site is permitted as a bespoke metal recycling facility to process ferrous and NF material. The Western Area is a separately permitted facility (Standard Rules permit) (SR) also owned by S Norton and located adjacent to the Site and similarly processes ferrous and non-ferrous (NF) material.

Both permits are authorised to carry out the receipt, storage and handling/processing of ferrous and NF material for recovery. Some waste materials received are exposed to treatment processes to facilitate size reduction, densification and to improve the metal content to a required quality for charging furnaces at a melter (located off-site). These are typically ferrous metals including Heavy Metal Steel (HMS) and plate & girder (P&G). The Western Area of the Site is used predominantly for the handling and processing of NF metal wastes in the warehouses, which are open, well-ventilated buildings with no enclosed spaces. Site activities in the Western Area include sorting and grading of NF wastes, such as sorting of batteries into waste types and cable stripping.

The Western Area which is to be consolidated as part of this permit variation already includes the sorting and handling of some hazardous waste.

As part of the permit variation in 2018, the annual tonnage of waste accepted at the Site increased from 75,000 tonnes to 200,000 tonnes per annum, facilitated by the installation of a new shear. The following changes were also made:

- Construction of steel wall alongside the eastern and northern site boundary, consisting of a 430mm thick steel barrier 5 metres high comprising 15mm steel plate;
- 2 temporary office buildings; and
- 100,000 litre water tank.

All storage and processing areas at the Site benefit from impermeable surfacing and sealed drainage system. As part of the EP variation and proposed changes, the consolidated permit will accept some additional waste types for sorting and grading.

Both permits are already authorised to accept hazardous waste and there are existing controls in place for the storage of hazardous wastes. However, the variation proposes storage of hazardous waste above 50 tonnes at any one time, such that this activity will now become an installation.

In addition, S Norton wish to accept and process LDAs via an existing shear. LDAs will be stored in the LDA in feed storage bay and processed via the LeFort shear to facilitate size reduction. They will then be stored on site in the outfeed storage bay prior to bulk transport to S Norton's AATF site in Liverpool where they will be further processed and treated through a shredding and downstream separation process.

As mentioned, S Norton also wish to consolidate the two EPs into one Installation Permit to cover the entire metal recycling operations.

1.3 Key Technical Standards

The key technical standards that will be followed for the Site are:

- Best Available Techniques Reference (Bref) Document for Waste Treatment, European IPPC Bureau JRC, published 2018;
- Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities, gov.uk, 13 July 2022;
- Non-hazardous and Inert waste: appropriate measures for permitted facilities, gov.uk, 8 December 2020;
- Risk assessments for your environmental permit, last updated 31 August 2022, Environment Agency, gov.uk;
- Control and monitor emissions for your environmental permit, last updated 17 May 2021, Environment Agency, gov.uk;
- Energy efficiency standards for industrial plants to get environmental permits, gov.uk (July 2019); and
- Develop a management system: environmental permits, last updated 4 August 2021, Environment Agency, gov.uk.

2.0 Management of the activities

2.1 Management Systems

The Site is operated in accordance with an Integrated Management System (IMS) which includes a number of policies and procedures including Waste Acceptance Procedures (WAP) and an Emergency Action Plan (EAP) which is ISO 14001:2015 accredited. S Norton also operate an Environmental Management Plan (EMP) specific to operations at the Barking facility.

The additional activity as part of the EP variation in the form of the processing of LDAs will be operated in accordance with the procedures and policies within the IMS and those in the EMP which is supplemented by this OT document. The proposed changes in the permit do not require any changes to the operating techniques throughout this section.

S Norton also comply with a Competence Management System to an approved industry scheme (Energy & Utility Skills) that will cover the technical competence, and ensures that:

- The risks that the activities pose to the environment are identified;
- The measures that are required to minimise the risks are identified;
- Specific activities are managed in accordance with the working plan;
- Performance against the environment management system is audited at regular intervals; and

- The EP is complied with.

The company's Environmental procedures will be documented, implemented, communicated and maintained, and include the monitoring of performance, applicable controls and conformity with its objectives and targets to monitor the effectiveness of the procedures within IMS on a regular basis.

2.2 Management Structure and Responsibilities

2.2.1 Staffing, Competence and Training

The Site Manager is responsible for day to day operations and compliance with the EP, and to ensure the availability of resources required to establish, implement and maintain the competence management system. Roles, responsibilities, authorities and resources shall be defined, documented and communicated in order to ensure effective competence management.

Whenever the site is open to receive wastes, or will carry out any of the waste handling operations, it will be supervised by at least one member of staff who is suitably trained and fully conversant with the requirements of the permit regarding:

- Waste acceptance and control procedures;
- Operational controls;
- Maintenance;
- Record-keeping;
- Emergency action plans; and
- Notifications to the EA.

S Norton shall ensure a systematic approach to identifying, demonstrating and maintaining competence that ensures compliance with requirements as detailed in the environmental permit and activities. Management shall communicate to all levels and functions of the organization the importance of the competence management system. A training matrix is maintained within S Norton's IMS and training requirements are reviewed within S Norton's Training Procedure that can be found within the IMS.

2.2.2 Communication and reporting of actual or potential non-compliances and complaints

If actual or potential non-compliances occur on site, these will be recorded in the EHS (Environment, Health, and Safety) Management System Incident Record and communicated to the Site Manager. The Site Manager will investigate each event and identify a solution to remedy it and prevent it from reoccurring. If the non-compliance event is sustained, the operations may be stopped until a solution can be found, to minimise harm to the environment.

The remedial actions taken in response to the non-compliance may include:

- obtaining additional information on the nature and extent of the non-compliance;
- discussing and testing alternative solutions;
- modifying procedures and responsibilities;
- seeking approval for additional resources and training;
- contacting suppliers and contractors to seek alterations to the way they operate; and

- informing the Environment Agency (EA).

Members of the public can file complaints by contacting the Site. All complaints received by the Site Manager will be recorded in the EHS Management System Incident Record and investigated promptly, with a follow up response communicated to the complainant within 10 working days.

2.2.3 Auditing

The Site will benefit from regular auditing to ensure that it is compliant with the conditions of its permit. The internal audit will be carried out by the Environment Manager in conjunction with the Site Manager (or assistant Site Manager), to ensure that all activities on site are in accordance with the conditions of the EP. The outcome of the audit will be reviewed and tracked to identify any frequent non-compliances.

S Norton will also benefit from regular external auditing as part of its ISO 14001:2015 accreditation.

2.2.4 Reporting Non-Compliance and Taking Corrective Action

The Site Manager will deal with all environmental complaints and other incidents of non-conformance. These include:

- System/plant failure discovered at internal audit;
- incidents, accidents, and emergencies; and
- any other site issues as raised by the EA or otherwise identified.

Environmental non-compliances, including remedial action taken and any changes to operation made to avoid re-occurrence will be recorded in the EHS Management System Incident Record. Complaints will be reported to and investigated by the Site Manager and remedial measures implemented as required. Changes to prevent future complaints will be proposed and implemented where appropriate. Written records of non-conformances, complaints and other incidents will be maintained in the EHS Management System Incident Record in which the date, time and nature of the event, together with the results of investigations and remedial action taken, will be recorded.

2.2.5 Reviewing and reporting environmental performance

Senior management will review environmental performance annually and take actions to ensure that policy commitments are met and that policy remains relevant.

2.2.6 Managing documentation and records

Controls are in place to ensure that all documents are issued, revised and maintained in a consistent fashion.

Records are made and kept up to date on a daily basis to reflect all waste inputs and outputs, including waste residues and products. All records relating to waste acceptance are recorded digitally and stored on S Norton’s electronic waste tracking system.

Waste transfer records will be kept for a minimum of 2 years after the waste has been removed off site for non-hazardous waste or a minimum of 3 years for hazardous waste.

2.3 Technical Competence and Training

S Norton operate a Competence Management System to an approved industry scheme, namely Energy & Utility Skills. This is to demonstrate that staff are competent to deal with the environmental risks associated with their activities and replaces the need for a named TCM on site.

S Norton will continue to ensure that the Site is managed by sufficient staff, competent to operate the site.

S Norton shall ensure that the person(s) performing tasks for it or on its behalf that can impact on the requirements of the environmental permit are competent with associated records retained.

An assessment of staff training needs is carried out to identify the posts for which specific environmental awareness training is needed, and to determine the scope and level of such training. The assessment of training needs will be reviewed on a regular basis.

S Norton shall establish, document, implement and maintain a procedure to make persons working for it or on its behalf aware of:

- the importance of conformity with the technical competence policy and procedures and with the requirements of the competence management system;
- their roles and responsibilities in achieving conformity with the requirements of the competence management system; and
- the potential consequences of departure from specified procedures.

S Norton shall determine the actions required to achieve conformance with the requirements of this standard and compliance with the EP.

2.4 Permit Surrender

To assist in EP surrender, records will be maintained to demonstrate how the land beneath the site has been protected at all times between the date of EP issue and the end of EP operations.

Records to be maintained include:

- Maintenance of impermeable surfacing;
- Maintenance of drains and sumps; and
- Actions taken to clean up incidents and spillages.

A Site Condition Report has been produced (SLR ref: 416.064707.0001_SCR) as part of this variation to consolidate the 2 permits into one.

2.5 Display of Environmental Permit

A copy of the EP is kept available for reference by all staff and contractors whose work may have an impact on the environment.

2.6 Accident Management Plan

S Norton recognise the importance of the prevention of accidents that may have environmental consequences and that it is crucial to limit those consequences.

S Norton maintains a wider internal Emergency Action Plan (EAP) which is implemented across each of S Norton's facilities to ensure all S Norton facilities and site staff at each

facility are fully prepared for any incidents, including the prevention of accidents. The EAP therefore acts as the Site's Accident Management Plan.

The EAP has adopted a risk assessment approach and outlines its primary environmental risk management provisions to each potential hazard and residual environmental risk management provision to prevent and minimise pollution. The EAP describes the techniques that will be implemented to minimise the risks posed to the environment from existing site activities.

The existing techniques in the EAP will apply to the additional processing of LDAs and the proposed changes in the permit do not require any changes to the techniques in the EAP.

The measures detailed within Section 2.7 of this OT document will be implemented to minimise the potential causes and consequences of accidents from this additional treatment activity.

The EAP will be reviewed at least every four years or as soon as practicable after an incident, with changes made accordingly to minimise the risk of occurrence.

An initial assessment of the risk of accidents and abnormal operating conditions posed to the environment and site personal due to the additional processing of LDAs and acceptance of additional waste codes is provided in the Environmental Risk Assessment (ERA), enclosed in Section 6 of this application. The mitigation measures identified within the ERA will be implemented to limit the consequences of accidents on the environment and site personnel from the proposed changes.

The additional waste codes proposed as part of the EP variation are not deemed to impact the potential for accidents. Nonetheless, the ERA considers the risk of accidents and abnormal operating conditions posed to the environment and site personal from this change.

2.6.1 Action to minimise the potential causes and consequences of accidents

Action will be taken at the Site to minimise the existing potential causes and consequences of accidents whilst mitigation measures have been considered and included in the ERA to minimise the potential causes and consequences of accidents arising from the proposed changes.

Existing and new actions will include:

- maintaining a list of substances that would harm the environment if they were to escape;
- a spillage response procedure which will continue to be implemented when required;
- raw materials and waste will continue to be checked for compatibility with other substances with which they may come into contact;
- vehicles will follow designated routes;
- where appropriate, barriers will be constructed to prevent vehicles from damaging equipment;
- primary and secondary containment will continue to be provided to prevent the escape of potentially polluting materials;
- tanks for the containment of products will be fitted with level measurements to prevent overfilling;
- CCTV will continue to be utilized to minimise the risk of unauthorised access;

- the EHS Management System Incident Record will continue to be maintained of all incidents and near misses;
- appropriate equipment will continue to be maintained to limit the consequences of an accident;
- there will be minimal handling of wastes including LDAs where appropriate; and
- the handling of the mixed cables and ELV wiring looms to include the sorting and stripping of cable takes place inside the NF (NF) shed under appropriate Standard Operating Procedures (SOPs).

Activities affecting the health and safety (H&S) of operatives, contractors and visitors will be separately managed in compliance with H&S regulation and company H&S Policy.

2.7 Hazard Identification

The following potential hazards in relation to the existing on site activities have been identified:

- unauthorised waste receipt and processing;
- vehicle collision;
- failure of site surfacing resulting in ground contamination;
- fuel spills from vehicles;
- spillage of waste materials during transfer;
- spillage of liquid wastes or raw materials;
- major fire;
- minor fire;
- security and vandalism;
- failure to contain fire water;
- explosion;
- flooding;
- failure of machinery; and
- failure of equipment;

With respect to the proposed new activities as part of the EP variation, the following potential hazards are relevant from the above list:

- major fire;
- minor fire; and
- failure of equipment.

The following measures will be implemented to minimise the potential causes and consequences of accidents from the additional treatment and storage activities.

2.7.1 Fire

The Site will operate under a Fire Prevention Plan (FPP). The FPP follows EA guidance for FPPs[1] and will consider the mitigation and management methods to prevent a fire of combustible materials stored on Site.

The information contained within the FPP aims to meet the 3 main objectives of the EA's FPP Guidance:

- Minimise the likelihood of a fire happening;
- Aim for a fire to be extinguished within 4 hours; and
- Minimise the spread of fire within the Site and to neighbouring sites.

The FPP has provisions in place to ensure the additional processing of LDAs and associated plant is managed as in accordance with the appropriate procedures and considers plant maintenance, fire detection and suppression, water supply and the management of fire water.

Provisions are already in place to ensure the storage of hazardous waste is managed in accordance with the appropriate procedures and considers the managing of waste piles, preventing fire spreading and quarantine measures.

The FPP will include changes associated with the permit variation, including acceptance of the new waste types, the increase in the storage of hazardous waste and the WEEE processing activity, however, it has not been included with this application. The local regulatory EO provided the following advice to S Norton on 06/04/23: '*If you wanted to increase the heights prior to the issue of your a permit variation/consolidation then revised documents would need to be submitted and agreed in writing*.' S Norton wish to increase the height of the storage of the HMS stockpile prior to the permit variation/consolidation. Therefore, the FPP will be updated to reflect the change in the storage of the HMS stockpile (in addition to the changes as part of the permit variation) and in line with EA advice, the FPP will be submitted to the local EO for formal approval separately and prior to the issue of permit variation application with all the proposed changes.

Suppression from nearby fire monitors and regular housekeeping including monitoring from site personnel will ensure that existing and new activities at the Site, including the processing of LDAs via LeFort shear does not carry any additional fire risk.

Daily monitoring will take place using thermal imaging equipment (FLIR cameras) to monitor any hot spots. Note that the use of probes within the waste piles is impractical due to the nature of the waste stored on site. All staff will be trained on how to use the equipment and incorporate monitoring into everyday site inspections. If a hotspot is detected, the material around the hotspot will be removed to ensure the 'at risk' material is isolated, and the hotspot will be monitored closely until the temperature returns to normal.

The FPP considers the amount of waste stored on site at any one time with specified storage amounts and durations. As outlined above, the FPP will be updated with the change to the maximum stockpile sizes as a result of the hazardous waste storage activity. There is no change to the throughput of waste. There will be some additional storage locations and handling procedures as a result of the additional processing of LDAs and acceptance of new waste codes. These are explained in Section 4 of this OT and illustrated on Drawing 02.

[1] Fire Prevention Plans, January 2021.

2.7.2 Failure of Equipment

Equipment failure is identified as a potential accident risk associated with the processing of LDAs via the LeFort shear.

All existing equipment including the shear machines will be subject to pre-planned preventative maintenance checks and maintained to manufactures recommendations. Equipment will continue to be inspected daily in line with the existing procedure for plant and machinery.

S Norton utilise a Computerised Maintenance Management System (CMMS) to log findings of maintenance inspections. It also includes a preventive and reactive maintenance programme. All equipment will be subject to application of the CMMS.

S Norton have contingency measures in the unlikely event of plant failure with regard to handling arrangements. A dedicated document 'Business Continuity Plan' is part of the Site's IMS, which ensures S Norton comply with permit conditions and operating procedures during maintenance or shutdown at the Site due to unforeseen circumstances.

In events of planned or unplanned shutdown where waste cannot be stored on Site, in the short term, measures are in place so that waste can be diverted back to its source. The Site Manager or acting person of authority would ensure that the Site is closed and communicate with the holder of the waste so it could be diverted back to its source or to a suitable authorised alternative facility. S Norton has access to a large number of HGVs which could be brought into the Site to take it up to Manchester or Liverpool.

If the Site cannot accept waste for more than a day or two, then the Site Manager would ensure arrangements are in place in place to allow incoming waste to be diverted to another S Norton metal recycling facility in either Manchester (Trafford Park) or Liverpool (Bankfield). These options can take materials at short notice until operations return to normal.

3.0 Site Operations and Feedstock

The Site is permitted as a metal recycling facility to process ferrous and NF material. The Western Area is a separately permitted facility also owned by S Norton and located adjacent to the Site and similarly processes ferrous and NF material.

Both permits are authorised to carry out the receipt, storage and handling/processing of ferrous and NF material for recovery which includes shearing and cutting of oversize ferrous metal to specification.

As part of the EP variation, the Site will also accept and process LDAs. The LDAs following appropriate acceptance procedures will be stored in the LDA in feed storage bay (as shown on Drawing 02) and processed via the existing LeFort shear for size reduction. They will then be stored on Site in the outfeed storage bay (shown on Drawing 02) prior to bulk transport to S Norton's AATF site in Liverpool where they will be further processed and treated through a shredding and downstream separation process.

Both sites are already authorised to store hazardous waste. The variation proposes to increase the amount stored at any one time in excess of 50 tonnes, which means that this will now be regulated as an installation under Section 5.6 Part A(1) (a) *Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Sections…5.3.*

3.1 Feedstock and Capacity

As a result of the consolidation of the 2 permits, the new combined tonnage of the consolidated permit will be 275,000 tonnes.

The Site will accept ferrous and NF scrap metals from a range of suppliers such as feeder yards and small traders.

The Site will only accept wastes as defined in Table 3-1. The list includes existing authorised accepted waste types and the new proposed additional waste types. The new proposed waste types are shown in green text.

Table 3-1: List of Wastes

EWC Code	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 10	waste metal
12	WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS
12 01	Wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 01	ferrous metal filings and turnings
12 01 03	non-ferrous metal filings and turnings
15	WASTE PACKAGING ABSORBENTS WIPING CLOTHES FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 04	metallic packaging
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01	End-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 06	end-of-life vehicles containing neither liquids nor other hazardous components
16 01 12	brake pads other than those mentioned in 16 01 11
16 01 17	ferrous metals
16 01 18	non-ferrous metals
16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
16 01 22	components not otherwise specified
16 02	wastes from electrical and electronic equipment
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
16 06	batteries and accumulators
16 06 01*	lead batteries
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 04	metals (including their alloys)
17 04 01	copper, bronze, brass
17 04 02	aluminium

EWC Code	Description
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 10*	cables containing oil, coal tar and other hazardous substances
17 04 11	cables other than those mentioned in 17 04 10
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 01	wastes from incineration or pyrolysis of waste
19 01 02	ferrous materials removed from bottom ash
19 10	wastes from shredding of metal-containing wastes
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 02	ferrous metal
19 12 03	non-ferrous metal
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) SEPARATELY COLLECTED FRACTIONS (EXCEPT 15 01)
20 01	separately collected fractions (Except 15 01)
20 01 33*	Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 40	metals

3.2 Operating Hours

The Site will continue to operate between the hours 06:00 and 17:00, Monday to Friday and 06:00 to 12:00 on Saturday except for maintenance periods.

The Site will not operate Sundays or bank holidays except for emergencies.

4.0 Operations & Controls

4.1 Waste Reception & Storage

Ferrous metal wastes or alloys and NF metal wastes will be transported to Site by S Norton vehicles or authorised third party carriers.

Authorised vehicles delivering waste to the Site will be directed to the weighbridge which is located by the Site office on the entrance track to the Site. Authorised vehicles delivering NF metal waste to the Site will be directed to the NF weighbridge (shown on Drawing 02 Site Layout Plan) located on the Western Area prior to the separation and sorting of waste types.

Following the weighbridge and application of the Site's waste acceptance procedures (see Section 8 of this BATOT), vehicles will be directed by the Site office to the suitable material storage area (material locations are illustrated on Drawing 02).

4.1.1 Sorting of waste types

Forklift trucks (FLT) will be used to sort the material once deposited in the appropriate material storage area and to ensure the materials have been properly segregated into the waste types. Any waste types deposited in the incorrect material storage area will be moved to the appropriate area immediately upon detection.

The storage locations of the processed waste outputs (existing and new waste types) are shown in Table 4-1 and illustrated on Drawing 02 Site Layout Plan.

All waste, combustible or otherwise will be stored on impermeable ground with a sealed drainage system. There will be no combustible waste stored in buildings. The warehouses are open, well-ventilated buildings with no enclosed spaces.

Waste is stored for a maximum duration of 4-5 weeks and is therefore moved regularly.

4.1.1.1 Western Area

The Western Area which is to be consolidated with the Permit for the Site includes storage of NF metal wastes including some hazardous waste. Activities will include sorting and grading of NF metal wastes, including the sorting of batteries into waste types and cable sorting and stripping where appropriate. A small hand shear is located in the NF warehouse.

Batteries will continue to be directed to and stored in the smaller NF shed which is undercover. Batteries will be stored in pallets no more than 3m high. The Site only receives lead acid batteries. If other types of battery including nickel metal hydride batteries or lithium-ion batteries are received, they will be stored separately as a non-conforming waste in one of the two quarantine areas. The waste will then be subject to S Norton's non-conforming waste procedure.

Hazardous wastes and non-hazardous wastes will not be mixed and site operatives will ensure they are stored accordingly (with Table 4-1 of this OT) and as shown on Drawing 02.

All hazardous waste including the cables containing hazardous substances and wiring loom will be stored in locations that minimize the handling of waste. All waste handled is done so by trained staff who are competent and trained to understand handling requirements of waste types that need to be segregated to ensure they do not come into contact with one another. The cables containing hazardous substances and wiring loom will be stored in skips with a weatherproof covering to prevent the ingress of water.

4.2 Processing

Some waste materials accepted at the Site are exposed to processes to facilitate size reduction, densification and to improve the metal content to a required quality for charging furnaces at a melter (located off-site). These include the following:

4.2.1 Shearing

Shearing occurs at fixed locations. A LeFort shear is located in the middle of the Site, a Henschel shear is located adjacent to the corner of the Site closest to River Road/adjacent to MixIt and a small hand shear is located in the NF warehouse. The LeFort and Henschel shear machines are electrically powered with hydraulic moving parts.

The LeFort shear is used to facilitate size reduction of larger materials such as Oversize HMS 1&2 and the LDAs to cut the materials into smaller sizes.

The Henschel shear is used to facilitate size reduction of larger materials such as Oversize P&G and large structural grades to cut the materials into smaller sizes.

4.2.2 Processing of LDAs

LDAs accepted as part of the EP variation will be accepted on Site typically in curtain sided vehicles following appropriate waste acceptance procedures at the weighbridge (see Section 8). They will then be directed to the LDA infeed storage bay adjacent to the LeFort shear (as shown on Drawing 02) and transferred using FLTs which will clamp the LDAs from the curtain sided vehicles and place into the infeed storage bay for temporary storage prior to processing via the LeFort shear machine.

The LDAs will then be batch fed into the LeFort shear machine via grab material handler. The processed LDA will then be stored in a separate stockpile in the outfeed storage bay adjacent to the infeed storage bay (as illustrated on Drawing 02). The two storage bays are divided by a steel pontoon. There will also be a clear difference in the visual appearance of the unprocessed and processed LDA.

The processed LDAs will then be bulked up prior to bulk transport to S Norton's AATF site in Liverpool where it is treated through a shredding and downstream separation process.

4.2.3 Control Measures for the processing of LDAs

LDAs once received and accepted on Site will be kept segregated in the infeed storage bay so that they cannot come into contact with incompatible wastes. This will ensure that there is minimal handling of the waste material.

Handling of the LDAs will be carried out by competent staff using appropriate equipment including mobile plant.

Regular housekeeping including monitoring from site personnel will include daily recorded checks and continuous monitoring.

Suppression from a nearby fire monitor and water cannon will ensure that the potential for diffuse emissions from the processing of LDAs is minimised.

Potential fugitive dust emissions from the shearing of LDAs have been considered in detail in Section 9 of this OT. However, it should be noted that the additional activity itself does not contribute significantly to dust re-suspension due to the non-dusty nature of the waste stream.

4.2.4 Gas and Hydraulic Cutting

Other size reduction treatment processes that will take place include gas cutting and hydraulic cutting of materials (in order to be processed by the shear). These may be located in any area of the Site with adequate pollution prevention and control measures in place.

4.3 Storage of Waste Outputs Pending Transfer

Following sorting, grading, size reduction and densification the ferrous metals are loaded into ship vessels or into vehicles depending on the grade of metal and onward destination.

The NF materials are loaded into a mechanical container loader known as an 'Acculoader' which assists with the loading into HGVs for onward transport.

The projected outputs from the onsite processes are summarised in table 4-1 along with how they are stored and where the outputs end up.

Table 4-1: Projected Outputs from Site Processes

Material	Output (tpa)	Storage	Destination
Ferrous			
HMS 1 and 2	182,000	In the HMS 1&2 Storage area adjacent to the Dock side	**Off-site metal recycling**
P and G	14,000	In the 5ft P&G Storage area adjacent to the Henschel shear	**Off-site metal recycling**
LDAs	5,000	In the LDA outfeed storage bay in the middle of the Site adjacent to the LeFort shear	**Off-site metal recycling**
Shredder Feed (consisting of HMS bottoms (residues)	2,500	Adjacent to the oversize P&G storage area in the far right corner of the Site adjacent to the Thames boundary.	**Off-site metal recycling**
Cast iron brake discs	300	In the corner of the Site adjacent to the mobile plant storage area.	**Off-site metal recycling**
Electric motors	200	In a container in the left side of the Site adjacent to the Western Area	**Off-site metal recycling**
Non-Ferrous			
Aluminium	5,000	In the material storage bay on the left side of the Site adjacent to the Western Area	**Off-site non-ferrous recycling**
Alloy wheels (aluminium)	1,500	In the material storage bay on the left side of the Site adjacent to the Western Area	**Off-site non-ferrous recycling**
Lead batteries	600	In crates in the covered NF shed on the Western Area	**Off-site non-ferrous recycling**
Mixed cables	500	In a covered container in the left corner of the Western Area adjacent to the NF shed	**Off-site non-ferrous recycling**
Mixed coppers	200	In the warehouse building (Western Area)	**Off-site non-ferrous recycling**
Lead	150	In the warehouse building (Western Area)	**Off-site non-ferrous recycling**
Brass	100	In the warehouse building (Western Area)	**Off-site non-ferrous recycling**
Total	**212,050**		

4.4 Quarantine Procedures

There are two quarantine areas on the Site as illustrated in Drawing 02. The quarantine storage areas are separate from other storage of wastes for the purposes of both fire containing wastes and materials that are prohibited, awaiting full inspection, or awaiting assessment or removal i.e., non-conforming wastes.

Non-conforming waste will not be stored in the quarantine area for no longer than fourteen working days.

Section 8.3 of this OT document details the Site's Quarantine and Acceptance Procedures.

Written procedures for dealing with wastes held in quarantine including maximum storage volume are included within the Site's FPP.

5.0 Appropriate Measures

The following section provides an assessment of the pollution prevention and control techniques proposed for the facility against the appropriate measures relevant to the activities to be carried out. This includes:

- Best Available Techniques Reference (Bref) Document for Waste Treatment;
- Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities; and
- Non-hazardous and inert: appropriate measures for permitted facilities.

5.1 Temporary Storage of Hazardous Waste

Indicative BAT for these activities in set out in the revised Waste Treatment Bref (the Bref).[2] There are no specific BATc for the activity of temporary storage of hazardous waste but the General requirements (BAT 1 – BAT 24) would apply to the activities.

Appendix 01 provides a description of the techniques proposed at the site and how these meet the requirements of each of the BAT conclusions listed above.

5.2 WEEE treatment

The EA published appropriate measures for permitted activities that are relevant to regulated facilities with an environmental permit to treat or transfer all types of WEEE.[3] The EA uses the term 'appropriate measures' to cover best available techniques (BAT) for waste installations facilities, best available treatment recovery and recycling techniques (BATRRT) for the treatment of WEEE and 'proper treatment' as referred to by the WEEE Directive.

Appendix 02 demonstrates how pollution prevention and control techniques proposed for the facility will meet the above relevant appropriate measures in the technical guidance document.

5.3 Non-hazardous and Inert Waste

The EA published appropriate measures for permitted activities that are relevant to regulated facilities with an environmental permit to treat or transfer non-hazardous and inert waste[4].

There is a large degree of overlap between the appropriate measures for facilities to treat or transfer all types of WEEE and those relevant to treat or transfer non-hazardous and inert waste. Therefore, this section assesses the techniques proposed for the site against the relevant appropriate measures within the non-hazardous and inert technical guidance document that are in addition to those listed in Appendix 01 (treatment of WEEE), and only include the following:

2 EC Joint Research Centre Best Available Techniques (BAT) Reference Document for Waste Treatment, 2018, EUR 29362 EN

3 Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities - Guidance - GOV.UK (www.gov.uk)

4 Non-hazardous and inert waste: appropriate measures for permitted facilities - Guidance - GOV.UK (www.gov.uk)

- Section 3. Waste Pre-acceptance, Acceptance and Tracking appropriate measures 3.3 Quarantine;
- Section 4. Waste Storage, Segregation and Handling appropriate measures 4.0 General waste storage and 4.1 Segregation;
- Section 5. Waste Treatment appropriate measures 5.2 Waste treatment outputs, including fines;
- Section 6. Emissions Control appropriate measures 6.1 Enclosure within buildings and 6.6 Pests; and
- Section 9. Waste Minimisation, Recovery and Disposal appropriate measures.

Appendix 03 demonstrates how pollution prevention and control techniques proposed for the facility will meet the above relevant appropriate measures in the technical guidance document.

6.0 Infrastructure and Equipment Inventory

6.1 Engineered Containment System

6.1.1 Surfacing

Operational areas of the Site which includes the Western Area will benefit from an engineered containment system comprising an impermeable concrete surface with a sealed drainage system.

6.1.2 Sub-Surface Structures

The locations of subsurface drains, pipework and interceptors are recorded on relevant documentation namely the Site Layout and drainage plan as illustrated on Drawing 02. This will be maintained in the Site office along with other important documentation.

The Site will be served by two interceptors as illustrated on Drawing 02. The majority of the site surface will be served by one interceptor (approximately three quarters of the total area) and the surface of the Western Area will be served by a second interceptor located nearest to the site car park.

All surface and subsurface structures will be inspected, and the maintenance will be recorded and scheduled via a Computerised Maintenance Management System (CMMS). The maintenance team undertake inspections in line with the schedule. Any faults are recorded on the CMMS and actioned accordingly. Defects can be raised by the site management and operators through the online system which automatically alerts the maintenance team who can then action the job.

6.1.3 Bunds

Bunds and or double skinned walls will be provided for all tanks containing liquids whose spillage could be harmful to the environment. Containment bunds or double skinned walls will be provided to make sure that any leaks/spillages will be contained in the event of a leak of the primary containment. The containment measures will be:

- capable of containing at least 110% of the volume of the largest tank within the bund;
- constructed of materials which are impermeable and resistant to the stored materials in accordance with relevant material safety data sheets (MSDS);

- constructed to the appropriate British Standard and Health and Safety Executive (HSE) guidance;
- of a type suitable for the containment of the materials in the event of leak or spill;
- pipework will be routed within bunded areas so that no penetration of walls or base of the bund takes place; and
- connection points will be located within the bund.

The proposed changes in the permit do not require any changes to these operating techniques.

6.2 Engineered Drainage and Surface Water Management System

The Site benefits from impermeable surfacing and sealed drainage to capture and prevent percolation of potentially contaminated water into the ground.

The Site is connected to the municipal foul sewer system. Uncontaminated surface water runoff will be discharged via the on-site surface water drainage system. This run off will pass via the interceptors prior to discharge into municipal foul sewer for the wider industrial area within which the facility is located. Discharges to sewer are limited to uncontaminated surface water runoff and sanitary effluent (sinks, toilets, cleaning water, etc).

Any wastes that may potentially have hazardous properties are stored within containment.

The Site drainage system incorporates provision for containment and isolation in the event of a spillage or incident requiring use of firewater. The system for the Site can be isolated to prevent discharge to foul sewer. An inflatable bung would be inserted into the combined interceptor outflow, therefore, isolating any contaminated water. Any contaminated surface water will be contained and tested prior to any release into the foul sewer system only once Thames Water have been informed of the results of testing and approved its release. Alternatively, it will be tankered off site to an appropriately regulated site for treatment if not suitable for release to sewer.

There is a second/spare inflatable bung. Both inflatable bungs are located in the storage sub-station area. The drainage and containment systems are shown on Drawing 05 Fire Prevention & Management.

The proposed changes in the permit do not require any changes to these operating techniques.

6.3 Plant and Equipment

Plant and equipment are maintained in accordance with the manufacturer's recommendations. S Norton have a dedicated maintenance team based onsite. All external contractors are made aware of the relevant contents of the FPP.

All maintenance is recorded and scheduled via the CMMS. As with the engineered containment system the maintenance team will undertake inspections of plant and equipment in line with the schedule. Inspection will be undertaken on a daily basis, before use, to check for faults and to ensure appropriate safeguards are in place. This procedure also covers general housekeeping and cleaning of plant and all equipment on site. Any faults are recorded on the CMMS and actioned accordingly.

At the end of each day operators clean down the plant and equipment of any potentially combustible material.

All mobile plant and static plant operators are equipped with 2-way radios to enable communication with each other and site management. In the event of a failure or suspected fault with an item of plant or piece of equipment, the operator will ensure that the equipment is shut off in a safe manner and not used until the equipment can be repaired or replaced.

6.3.1 Fixed equipment

The following items of fixed plant or equipment are held on Site:

- LeFort 1450 Koloss shear
- Danieli Henschel 1250 shear
- Acculoader (mechanical container loader for NF materials)

6.3.2 Mobile plant

The following items of mobile plant are permanently held on Site:

- Sennebogen grab machine (x5)
- Liebherr LH60 h grab machine
- CAT 325D / CAT 330 magnet machine (x2)
- CAT 927 loading shovel
- Volvo L110E loading shovel
- Linde H35D-03 forklift truck
- Linde H35D-01 forklift truck
- Manitou 200ATJ Cherry picker

The fixed equipment and mobile plant that will be held on Site will be detailed in the Site's asset list.

Mobile plant is kept away from combustible waste. This is achieved by allocating areas for mobile plant for storage when not in use.

Any mobile plant not in use or requiring maintenance is stored in the designated mobile plant storage area as illustrated on Drawing 02.

The proposed changes in the permit do not require any changes to these operating techniques.

6.4 Site Security

The Site has a number of security measures in place to limit the likelihood of arson or vandalism including:

- Single road entry access via a track accessed from River Road;
- Security fencing at the most exposed south western perimeter and along the perimeter of the Western Area along with Thames barrier wall along the whole southern boundary;
- Corrugated steel fencing and steel panelled fencing along the eastern and western boundary;
- Boundary wall located along the north of the perimeter;
- Security teams patrol the Site out of hours (from 4pm to 6am daily);

- CCTV covering the Site which includes the Western Area;
- Lightning towers located throughout the Site (refer to Drawing 05); and
- An alarm system.

All visitors and contractors are required to register in the visitor's book and sign out again on exit and are escorted by a member of staff. This minimises the risk of unauthorised visitors being present at the site.

CCTV is monitored by security personnel and site operatives throughout their shift. Any breach in security would be reported to the Site Manager (or in their absence, their deputy) and the emergency services as appropriate.

All S Norton staff are trained to challenge any persons who they believe should not be on site. All staff are in constant radio coverage of site management.

In the event of a breach of security at the Site, the cause will be investigated, and appropriate mitigation measures implemented. This will be recorded within the IMS on the EHS Management System Incident Record. Records maintained will include inspections and maintenance of doors and locks, breaches of security, investigations and actions taken.

The gates and fencing are inspected on a daily basis to identify any weaknesses or defects. Any defects identified are repaired with a temporary solution within 24 hours, with a permanent fix implemented within 7 days, unless a timescale is otherwise agreed with the EA. Details of any damage to the fencing and gates and subsequent repairs carried out will be recorded on the EHS Management System Incident Record.

The proposed changes in the permit do not require any changes to these operating techniques.

7.0 Raw Materials and Energy

7.1 Raw Materials

7.1.1 Inventory of Raw Materials

There will not be any storage of chemicals at the Site and therefore, a Control of Substances Hazardous to Health (COSHH) assessment will not be necessary.

The raw materials that will be used on Site are detailed in Table 7-1.

Table 7-1: Principal Raw Materials

Material	Consumption (tonnes per annum)	Storage Location	Site Arrangement
White diesel **(for fuelling of mobile plant and equipment e.g. fork lift trucks)**	160,500	Adjacent to the Site office and car park	In 46,000 litre tank surrounded by a leakage containment bund capable of containing at least 110% of the total volume of the containers within the bund.
AdBlue	10,000	Adjacent to the LeFort 1450 Koloss shear	In 1,000 litre IBC in a bund capable of containing at least 110% of the volume of the IBC.
Equivis ZS46 hydraulic oil	1,200	Adjacent to the Site office and car park	In 2,800 litre tank surrounded by a leakage containment bund

Material	Consumption (tonnes per annum)	Storage Location	Site Arrangement
			capable of containing at least 110% of the total volume of the containers within the bund.
Lubricant oil (Grease)	1,040	Stored on site in various different locations	In different sizes of containment which include 400g tube cartridges, 12.5kg kegs and 50kg kegs. All in a bund capable of containing at least 110% of the largest container.
Red Magic detergent	400	Adjacent to the LeFort 1450 Koloss shear	In 1,000 litre IBC in a bund capable of containing at least 110% of the volume of the IBC.
Transmission oil	200	Adjacent to the Site office and car park	In 2 x 240 litres barrels surrounded by a leakage containment bund capable of containing at least 110% of the total volume of the containers within the bund.
Pressurised gas bottles and cylinders **(for use in hot cutting (burning) processes)**	n/a	Stored adjacent to the water monitor tower on the quayside.	When not in use they are stored in cages. Orphaned gas bottles and cylinders are stored separately adjacent to the AdBlue and Red Magic detergent.

7.1.2 Raw Materials Selection

Wherever possible, raw materials will be selected that minimise environmental impact. Consideration will be given to such factors as degradability, bioaccumulation potential, product contamination and toxicity. Reviews will be frequently undertaken to ensure that all raw materials are appropriate for use, that consumption is optimised and that opportunities for reduction and improvements are implemented through an action plan.

Alternative raw materials will be evaluated for their environmental impact on an on-going basis and, where there is no overriding quality requirement substitution will be given appropriate consideration. The on-going programme of professional and technical development for all site personnel will ensure awareness of new developments in product availability and their implication.

7.1.3 Waste Minimisation

The overall objective of the Site is to maximise the recovery of ferrous metal via the shearing and cutting of oversize ferrous metal to specification from the waste feedstocks and the recovery of NF material from the waste feedstocks, thereby moving waste up the hierarchy and minimising the volume sent to landfill or Energy from Waste (EfW) facilities for disposal.

All waste generated from the Site is sent for onward processing and recovery. All HMS bottoms (residues) and LDA including residues are sent to S Norton's Bankfield site for further processing.

Waste generation at the Site a will be reviewed annually and where necessary an appropriate improvement programme will be implemented.

7.1.4 Water Use

The main uses of water at the facility are for dust suppression. Water usage on Site is not likely to significantly increase as a result of the additional processing of LDAs or acceptance of additional waste types. The option to recirculate water from dust suppression has been considered but deemed impractical due to water losses from evaporation and absorption. However, the impact from the use of water for suppression purposes is considered low.

Other uses of mains water are in the welfare facilities and for fire-fighting. The Site has a water storage tank with a capacity of 103,800 litres (as shown on Drawing 05). There are two pumps attached to the tank (one diesel and one electric).

The use of water will be regularly reviewed to ensure maximum efficiency and ensure that any further potential for reduction in consumption and recycling opportunities are identified in accordance with the EA's appropriate measures guidance5. The predicted average total usage is expected to be negligible as it will only be required in very small quantities in the welfare facilities and in unpredictable circumstances including use for fire-fighting and ad hoc water suppression.

The proposed changes in the permit do not require any changes to these operating techniques.

7.2 Energy

7.2.1 Energy Consumption

The Site energy consumption is provided in Table 7-2 below.

Table 7-2: Energy Consumption

Energy Source	Annual Consumption (kWh)
LeFort 1450 Koloss shear (electricity)	503,625
Danieli Henschel 1250 shear (electricity)	229,950
Acculoader (electricity)	444

The Site will not be part of a Climate Change Agreement; however, S Norton complies with the Energy Saving Opportunity Scheme (ESOS) Phase 2 (2019) and carries out energy and transport audits of their significant energy uses and provides annual Streamline Energy and Carbon Reporting (SECR) returns. Refer to document ref: Appendix C3_3_ Energy efficiency measures.

7.2.2 Energy Efficiency Measures

Energy efficiency has been considered as part of the additional activity included in the EP variation in the form of the acceptance and processing of LDAs. The LDAs will be processed via existing plant; it is considered that this modification will make the LDAs easier to handle, store and transport in order to facilitate their journey for onward recovery in turn ensuring

[5] Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities - Guidance - GOV.UK (www.gov.uk)

that there are fewer trips than there would otherwise be. Ultimately this ensures the material is recycled, reducing CO2 emissions due to fewer miles travelled and benefiting the circular economy.

Plant and equipment will be subject to regular maintenance to ensure it continues to operate at optimum energy efficiency and that energy consumption does not increase due to inefficient performance.

Energy use will be monitored and recorded and periodically reviewed to identify areas of improvement and to ensure that any inefficiency is investigated, and appropriate actions taken.

Energy use and energy minimisation will be included within the management system for the control of resources. Within the management system the review process will identify energy use by source for the different site operations. The results will be used to identify potential measures for improving energy efficiency.

The proposed changes in the permit do not require any changes to these operating techniques

8.0 Waste Acceptance, Recovery or Disposal

8.1 Pre-Acceptance Procedures

The objective of the waste pre-acceptance procedure is to evaluate customer information at the enquiry stage to determine whether the waste could be accepted at the Barking facility. This includes waste produced at S Norton's other facilities as well as third party producers.

S Norton will issue any potential holders of scrap ferrous and NF metals with a specification that will include a description of the type of material i.e., heavy steel and associated prices. This will essentially inform the holder of the waste of the materials that the Site can accept.

The Site primarily accepts material from merchant customers who are assigned a buyer. The buyer will conduct their own pre-acceptance checks to assess the quality of the grades being accepted to ensure the wastes they accept conform to the specification and conforming type of material. The waste is then subject to the waste acceptance procedures as detailed below.

S Norton's other sites sending waste to Barking will be pre-recorded and tracked on S Norton's electronic waste tracking system. This will keep a record of waste characterisation information for each waste stream proposed for acceptance.

The proposed changes in the permit do not require any changes to these operating techniques.

8.1.1 Approval or Rejection of New Waste Streams

The Site does not typically handle new waste streams and follows a prescribed list of wastes. Potential holders or producers of incoming waste are notified of the accepted waste types following an enquiry to S Norton.

Pre-acceptance is reassessed on an at least annual basis. Information will be reassessed if the:

- waste changes;
- process giving rise to the waste changes; or
- waste received does not conform to the prescribed list of wastes.

The proposed changes in the permit do not require any changes to these operating techniques.

8.1.2 Wastes that can be Accepted

The Site will only accept only the waste types listed in table 3-1 of this OT document

8.2 Waste Acceptance Procedures

The purpose of the Waste Acceptance Procedure is to provide on-site verification to ensure that the Site only accepts waste that is:

- suitable for the activity;
- allowed by the permit; and
- appropriately considered by the environmental risk assessment.

The Waste Acceptance Procedure will also assist with:

- ensuring the activities do not cause pollution;
- assist in the waste sourcing decision making process; and
- prevent the receipt of non-permitted wastes.

This Waste Acceptance Procedure outlined within this OT document has been prepared with reference to the following Environment Agency guidance:

- 'Waste electrical and electronic equipment (WEEE): Appropriate Measures for Permitted Facilities' dated July 2021.
- 'Non-hazardous and inert waste: Appropriate Measures for Permitted Facilities' dated UPDATED December 2022.
- 'Classify some waste electrical devices, components, and wastes from their treatment' EA Guidance published June 2020.

In addition, S Norton have a dedicated document 'Acceptance and Control of Waste' as part of the Site's IMS, which details the acceptance & storage of waste and outlines policies ensuring suitable control measures are implemented in line with industry and legislative requirements on Site in accordance with ISO 9001, ISO 14001 and ISO 45001 and should be read in conjunction with the following procedures.

8.2.1 Procedures at the Site Control Office

Upon delivery of waste to the Site, the objectives of the Waste Acceptance Procedure implemented at the Site Office and weighbridge are to undertake:

- visual inspection of loads;
- checking and completion of paper work accompanying each load;
- rejection of unacceptable loads; and
- ensure that only wastes conforming to the approved waste types are accepted at the Site.

8.2.2 Visual Inspection of Pre-Approved Loads

All waste arriving at the Site will be required to report to the Site Office/weighbridge. The vehicle operator will be required to disclose the nature of the waste they are carrying and provide relevant documentation.

All loads of waste delivered to Site will be visually inspected at the Site Office where practicable. The objective of this inspection is to detect the presence of unauthorised waste or waste not conforming to the nature of the waste described on the relevant documentation.

Where visual inspection is not possible at the Site Office, all loads will be visually inspected in the yard area prior to unloading. Once unloaded, staff will carry out a further visual inspection of the load to ensure it conforms to the description of the waste on the relevant documentation.

8.2.3 Checking and Completion of Paperwork Accompanying Each Load

The Site Manager or the Weighbridge operator will ensure that a fully completed waste transfer note is received for every load (unless part of a multiple consignment) and will issue the delivery driver with a receipt. A risk-based approach will be taken, considering:

- the source, nature and age of the waste;
- the waste's hazardous properties where relevant;
- the waste's potential to contain POPs;
- potential risks to process safety, occupational safety and the environment (for example, from odour and other emissions); and
- knowledge about the previous waste holders.

These will be considered during pre-acceptance and will form part of the acceptance procedures for that particular waste stream.

Only authorised waste carriers (and exempt authorities) will be allowed on Site. Any new waste carrier must provide evidence of registration before being allowed to release his load.

After inspection of the load, the Site Manager/Weighbridge operator will sign the waste transfer note to confirm that the details are correct. Only when the Site Manager/Weighbridge operator is satisfied that everything relating to a load is acceptable will the load be directed to the relevant tipping area.

8.2.4 Management and Monitoring of Approved Wastes for Acceptance

The Site Manager/Weighbridge operator will only accept waste that is either detailed on the sites electronic waste tracking system, which contains details on the wastes that have been approved for receipt or that conforms to the procedures outlined in Section 8.2.1 of this OT.

8.2.5 Rejection of Unacceptable Loads

Waste will be rejected from Site by the Site Manager/Weighbridge operator in the following circumstances:

- if the waste does not conform to the description on accompanying paperwork, the waste transfer note or on the sites electronic waste tracking system; or
- if the waste is delivered by an unauthorised carrier; or
- if the visual and olfactory inspection reveals the presence of unauthorised waste.

In these circumstances the load will be rejected from Site and the Site Manager/Weighbridge operator will advise the driver that the load is rejected. The producer and carrier of the waste will be informed. Relevant paperwork will be completed.

If a load is rejected before completion of paperwork accepting the waste on Site there will have been no 'transfer' of the waste from the carrier and accordingly a new waste transfer note will not be created.

In the event that waste is rejected following completion of the original transfer note, a new transfer note will be generated. Pre-acceptance records will be kept for a minimum of 3 years on the sites electronic waste tracking system following receipt of the waste.

8.2.6 Procedures at the Operational Area

The objectives of the Waste Acceptance Procedures at the operational area are:

- to carry out further visual inspection of the loads prior to, during and following unloading from the delivery vehicle;
- to communicate with the Site Manager/Weighbridge operator as necessary regarding issues relating to individual loads of waste; and
- to implement quarantine and rejection procedures as necessary for non-conforming waste.

8.2.7 Visual Inspection of Loads Prior to, During and Following Unloading

On arrival at the working area, the load will be directed by the supervisor to the appropriate storage or processing area.

Every load of waste will be observed by a Site Operative prior to unloading where practicable, during and following unloading from the vehicle. The waste will be visually inspected at that stage to ensure there are no unauthorised materials present within the load.

When the Operative has satisfied himself as to the acceptability of the waste it will be deemed as an acceptable load.

In the event that unauthorised waste is observed or suspected it will be dealt with in accordance with the waste rejection procedures.

8.2.8 Communications with Site Manager/Person of Competence

The site operatives at the active operational area will be in direct radio contact with the Site Manager/Weighbridge operator. This will enable instructions to be given regarding particular loads of waste and ensure appropriate precautions are taken during the deposition process.

8.2.9 Quarantine and Rejection Procedures

In the event that non-conforming waste is identified during the visual inspection at the operational area, quarantine and rejection procedures will be implemented in accordance with Section 8.3 of this procedure.

The proposed changes in the permit do not require any changes to these operating techniques.

8.3 Quarantine and Acceptance Procedures

The objectives of the quarantine and rejection procedures are to ensure that all non-conforming waste is removed from site and that the waste producer and carrier are informed so that appropriate action can be taken to prevent recurrence.

Non-conforming waste will be identified by either the Site Manager/Weighbridge operator at the Site Office, or by site operatives at the operational area. Non-conforming waste will be identified by visual and olfactory means, or upon failure of verification.

Visual criteria used to assess potentially unsuitable loads will be the presence of material not specifically authorised by the permit. Any odorous materials will be rejected as potentially contaminated.

8.3.1 Rejection at Site Office

Waste will be rejected from site by the Site Manager/Weighbridge operator in the following circumstances:

- if the waste does not conform to the description on the accompanying paperwork, the waste transfer note or on the sites electronic waste tracking system; or
- if the waste is delivered by an unauthorised carrier; or
- if the visual and olfactory inspection reveals the presence of unauthorised waste.

In these circumstances the details of the rejected load will be recorded and added to the EHS Management System Incident Record. The Site Office will send an email to the consignor of the waste to inform them of the reason the load was rejected.

8.3.2 Rejection at Operational Area

The internal 'Nonconforming Product Disposal' Procedure defines the system for the disposal of non-conforming product, and where applicable, the retrieval of costs incurred ensuring suitable control measures are implemented in line with industry and legislative requirements on Site in accordance with ISO 9001 and ISO 14001.

If unauthorised waste is observed by a Site Operative before or either during or after unloading, it will be dealt with in the following manner:

- The HSE Rep will update the EHS Management System Incident Record;
- The electronic waste tracking system will be updated by the HSE Rep with details including the type of nonconforming waste;
- For all nonconforming waste (apart from asbestos containing wastes) the HSE Rep will inform the S Norton representative who was responsible for sourcing of the waste who will produce a letter using the Nonconforming Product Letter Template;
- If the non-conforming waste is asbestos the HSE Rep will contact an appropriate disposal or treatment company for a quote to dispose of the waste and email the letter to the Accounts Team to request an invoice from the Sales Invoice Register. The accounts Team will then issue the invoice and letter to the supplier of the waste;
- The S Norton representative responsible for sourcing of the waste will then follow up with a telephone call to the supplier if necessary and update the HSE Rep of actions taken;
- If the supplier raises a request for support/advice the S Norton representative will contact the Environment Manager who will then contact and arrange a Duty of Care Audit with the supplier of the waste if deemed appropriate; and
- The HSE Rep will further update the EHS Management System Incident Record of the completed actions.

The proposed changes in the permit do not require any changes to these operating techniques.

8.4 Record Keeping

Records will be maintained of all waste enquiries, acceptance (and rejection) and outputs relating to the receiving site. Records as described as follows will be kept.

8.4.1 Waste Transfer Notes

All waste accepted at the Site will be accompanied by a waste transfer note (unless it is a multiple consignment) as required by the Duty of Care Regulations, which will provide the following details:

- waste description including appropriate waste classification code;
- waste origin;
- transferor and transferee; and
- signatures of transferor and transferee.

8.4.2 Hazardous Consignment Notes

All hazardous waste removed from Site will be accompanied by a consignment note. No hazardous waste will be removed from Site unless a consignment note is prepared before it is moved.

8.4.3 Records of Quantity Received

A register of the quantities and types/characteristics of waste accepted at the Site will be maintained via electronic records on S Norton's electronic waste tracking system:

- date of delivery;
- waste quantity;
- waste description and classification code; and
- waste producer and/or carrier.

A record will also be maintained of all waste that is removed from the facility.

8.4.4 Waste Information Forms, Waste Rejection Forms and Correspondence

Copies of relevant paperwork and correspondence will be maintained at the Site Office.

8.4.5 Waste Characterisation and Analysis Records

Copies of all information relating to the characterisation and analysis of waste accepted at the Site will be maintained as a digital record on S Norton's electronic waste tracking system.

8.4.6 EHS Management System Incident Record

The foregoing records will be supplemented by the EHS Management System Incident Record which will be used to record further details relating to waste acceptance and rejection including communication with the EA.

The proposed changes in the permit do not require any changes to these operating techniques.

9.0 Control of Dust and other fugitive emissions

9.1 Point Source Emissions

No point source emissions to air are associated with the existing site activities or the proposed changes in the EP variation including the processing of LDAs.

9.2 Fugitive Emissions

Potential sources of dust are associated with:

- delivery of materials to Site;
- the handling and transfer of metal wastes which includes on-site vehicle movements and the unloading of material from vehicles to stockpiles;
- material sorting and handling;
- material processing via the shear machines, other gas cutting; and
- the loading of vessels and vehicles with wastes.

It is anticipated that the risk of fugitive dust emissions from the existing handling and processing of waste and as a result of the handling of the new waste types will be low due to the nature of accepted wastes which are typically non-dusty. In addition, the new waste types will arrive at the Site without being exposed to any pre-treatment activities.

It is anticipated that the risk of fugitive dust emissions from the processing of LDAs via an existing shear will be low. LDAs after initial inspection will be directed to the LDA infeed storage bay and transferred using FLTs which will clamp the LDAs from the curtain sider vehicles and place into the infeed storage bay for temporary storage. The LDAs will be batch fed into the LeFort shear machine via grab material handler. The processed LDA will then be stored in a separate stockpile in the outfeed storage bay for temporary storage prior to being bulked up for onward processing. There will be no shredding activities of the LDAs.

The processing, using the shear is for size reduction and to facilitate onward recovery, which is not typically associated with the generation of dust emissions. Therefore, this additional activity is not considered to contribute significantly to dust re-suspension.

Other fugitive emissions other than the potential for dust are unlikely due to nature of the waste accepted on site and the type of treatments that are limited to shearing/cutting.

9.3 Dust and Emissions Management Plan

The Site will operate under a Dust and Emissions Management Plan (DEMP) (referred to by S Norton as an Aerial missions Risk Assessment and Management Plan) that includes appropriate measures and procedures to prevent emissions of dust and particulates. It demonstrates how the Site will control fugitive emissions from existing site activity and the proposed changes in the permit. The Aerial missions Risk Assessment and Management Plan is included in section 7 of this application.

9.4 Dust Mitigation Control Measures

9.4.1 Physical containment

The application of steel plating is sought where fugitive emissions can be attributed to a specific area within a process. Typical applications include bays which may receive material fractions or waste types with a small amount of incidental dust.

Use of physical containment will apply to waste types that are typically finer in nature, such as shredder feed, cast iron disc brakes and electric motors. Physical containment is often the most simple and effective technique for controlling fugitive emissions.

9.4.2 Water Suppression Systems

9.4.2.1 Mobile rain guns

Mobile rain guns otherwise known as water cannons are effective at suppressing dust/ debris which has become airborne. The water cannons can be used on site surfaces or stockpiles to manage fugitive emissions which may occur over large areas. The water spray is atomised by a splitter which cloaks the area where the dust is becoming airborne with suspended water droplets. The water droplets contact the airborne dust resulting in particle agglomeration, causing the combined particles to gather sufficient mass and fall back to the material stockpile or site surface.

Water cannons will be strategically placed around the Site nearby processes that may produce small amounts of particulates or dust. For example, water cannons will serve suppression to the two main shears (LeFort and Henschel). It will therefore provide suppression to the area of the Site that will be used for the storage and processing of LDAs.

The water cannons will be used by trained site operatives and will be subject to a routine maintenance inspection. Water cannons will be fed off the sites fresh water feed.

The location of all water cannons on Site is illustrated on Drawing 05.

9.4.2.2 Fogging cannon

During spells of warm dry periods of weather, large open areas on Site may require a fogging cannon. These mobile units use spay nozzles mounted circumferentially around the outlet head of a large, assisted barrel or nozzles mounted internally (depending on the model), together with the high velocity air from a fan to throw droplets of water many meters (typically between 40m-60m) towards the source of the dust. The droplets scatter in a plume of relatively soft spray and can capture fugitive dust before it becomes airborne and is likely to cause a nuisance.

These mobile units are not typically located on Site but may be brought on Site to be used during spells of warm dry periods of weather.

9.4.3 Site surface sweeping

The Site is equipped with a site surface sweeping unit, typically this can be attached to a FLT or a larger unit if needed. The sweeper unit physically removes dust from the site surface and is equipped with a water injection system to minimise dust generated during sweeping activities. The unit is highly effective and allows for good flexibility as its use and application can be controlled by site staff.

The proposed changes in the permit do not require any changes to these operating techniques.

9.5 Dust Mitigation Operational Techniques

9.5.1 Good site practice

The key measures implemented at the Site to assist with dust control will include:

- Waste will arrive within sheeted or enclosed vehicles, if possible, to ensure no escape of dust during transit;

- Prior to processing waste will be stored in dedicated external storage bays where practicable, which will minimise the mobilisation of dust (if any is present);
- Drop heights and double handling of materials will be kept to a minimum;
- Site access roads will be maintained and swept regularly to reduce dust generation; and
- Stockpiles will be monitored to prevent the exposure of the material to the elements and minimise the likelihood of dust/ debris becoming airborne through agitation.

In addition, the following operational measures are in place:

All plant and equipment will be subject to a programme of planned preventative maintenance which will follow the inspection and maintenance schedule recommended by the manufacturer.

The Site will be kept clean and tidy by way of a regularised housekeeping regime Daily inspections daily for dust, litter and combustible material will be recorded on S Norton's daily noise, vibration and dust inspection checksheet (EF-4.4.6-01). Sweeping of surfaces and dampening where appropriate will be undertaken as necessary in response.

No dusty wastes will be received at the Site. Waste acceptance checks will be undertaken prior to acceptance of any waste on to the Site.

Traffic calming measures are implemented to enforce speed limits and reduce emissions of dust. Speed limits will be implemented for vehicles on Site. Site surfacing will be maintained and repaired to minimise the mobilisation of dust particles.

In the event that dust is detected, investigations will be undertaken to determine the cause and appropriate remedial action.

In the event that non-conforming wastes are delivered to the Site, they will be returned on the delivery vehicle.

The Site Manager will be responsible for implementing risk management measures in accordance with these operational techniques.

9.5.2 Specialist Mobile Plant

High rise cranes are used at the Site to enable the soft loading of vessels.

9.5.3 Ship loading

During ship loading the following control measures will be implemented to mitigate air emissions:

- High Rise cranes will be used to eliminate the need to drop material into vessels to reduce the agitation of material and minimise airborne dusts;
- Water cannons and/or fogging cannons may be used to capture any airborne particulates that arise from the movement of material;
- Monitoring of fugitive emissions (subjective assessment only), including making adjustments to activities if nuisance issues are anticipated;
- Completion of pre-ship checksheet by the responsible person, to ensure that rain guns/fogging cannons will be in place prior to loading; and
- Preparation of the dockside and stockpiles, prior to the vessel reaching the berth, to minimise material handling and reduce air emissions.

9.5.4 Inspections

Inspections will be conducted on two levels, internal and external and can take many forms.

9.5.4.1 Internal audits

When applicable, internal audits will be conducted as part of the Site's compliance to ISO 14001. Internal audits are a systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which S Norton's IMS and applicable legislative criteria are being fulfilled.

9.5.4.2 External inspection

A third-party certification body will conduct inspections on all aspects of S Norton's IMS inclusive of fugitive emission management procedures. The external audit process collates evidence which is both qualitative and quantitative and identifies instances/ areas of non-compliance, which would require action and timely closure. Verification of closure is sought by the third party certification body, during surveillance visits and re-certification audits, which occur annually over a three year period.

9.5.4.3 Complaints

If actual or potential non-compliances occur on site, these will be recorded in the EHS Management System Incident Record and communicated to the Site Manager. The Site Manager will investigate each event and identify a solution to remedy it and prevent it from reoccurring. If the non-compliance event is sustained, the operations may be stopped until a solution can be found, to minimise harm to the environment.

All complaints received by the Site Manager will be investigated within one working day, with a follow up response communicated to the complainant within 10 working days.

9.5.4.4 Training

The Site Manager is responsible for day-to-day operations and compliance with the EP, and to ensure the availability of resources required to establish, implement and maintain the competence management system. This includes allowing for sufficient resources in order for staff to be trained to implement the procedures on site effectively. A training matric is maintained within S Norton's IMS and this ensures staff involved in the management and control of fugitive air emissions are appropriately trained.

9.5.5 Quantitative Monitoring

Quantitative dust monitoring may be undertaken using specialist equipment owned and maintained by S Norton or its stakeholders. S Norton will send samples for analysis, for impartiality, to an independent company/ laboratory.

Sampling suites are decided and agreed on the merit of each event; however, a typical sample analysis will conclude gravimetric values (depositional), directional data, soiling rates (% coverage) and microscopy for characterisation of particulates. Dust monitors may also be deployed at potential receptors in the locality of the Site, this will be done subject to the correct authority being granted by the receptor. Reports will be typically written in-house once analysis results have been confirmed; all reports will use the relevant EA guidance, for reference to prescribed limits. Where applicable, dust monitoring analysis results will be sent to the EA at a time scale defined within each sites EP, or as requested.

The proposed changes in the permit do not require any changes to these operating techniques.

10.0 Control of Litter, Mud, Odour and Pests

10.1 Litter

In order to maintain the Site in a tidy condition and prevent the escape of litter onto surrounding land the following measures will be in place:

- The Site will be kept clean and tidy by way of a daily housekeeping regime. Litter picking will be undertaken as necessary in response;
- Fences surrounding the Site will reduce the chance of litter blowing off Site. If necessary, additional netting will be erected to reduce the escape of wind-blown litter; and
- Litter arising from the activities will be cleared from affected areas outside the Site as soon as practicable.

The Site Manager will be responsible for monitoring the Site and maintain it free of litter. Records including any complaints the Site receives will be maintained on the EHS System Incident Record and remedial actions will be taken accordingly. The proposed changes in the permit do not require any changes to these operating techniques.

10.2 Mud and Debris

It is anticipated that the risk of mud and debris accumulating from the handling and processing will be very low due to the nature of the accepted wastes at the Site which are typically metal wastes and therefore non dusty in nature. Nonetheless, the following measures will be in place:

- The Site will be kept clean and tidy by way of a daily housekeeping regime;
- Site access roads are maintained and swept regularly to reduce accumulation of debris; and
- Areas of hardstanding will be maintained free of significant quantities of mud & debris.

The Site Manager will be responsible for monitoring the Site and maintain it free of mud and debris. Records including any complaints the Site receives will be maintained on the EHS Management System Incident Record and remedial actions will be taken accordingly. The proposed changes in the permit do not require any changes to these operating techniques.

10.3 Odour

Odour is not considered to be a significant risk from the handling and processing of wastes or from the proposed changes as part of the EP variation due to the nature of the operation and accepted wastes. Nonetheless, operatives will carry out regular odour checks using the ‘sniff survey’ approach as part of the Site’s routine daily inspections. This is in addition to implementation of the Site’s pre-waste acceptance procedures and acceptance/quarantine procedures. The proposed changes in the permit do not require any changes to these operating techniques.

10.4 Pests

It is anticipated that the risk of pests on Site will be very low due to the nature of the accepted wastes at the Site which are typically metal wastes and therefore non putrescible i.e., there is no organic biological material present. Nonetheless, the following measures will be in place:

- Waste acceptance checks including an assessment of the potential to attract pests will be undertaken prior to acceptance of any waste on to the Site;
- Operators will be required to only eat in the dedicated canteen area and food waste will be kept in enclosed waste bins; and
- The Site will be inspected daily for signs of pests. If pests are encountered, appropriate remedial action will be undertaken.

The Site Manager will be responsible for monitoring the Site. Records including any complaints the Site receives will be maintained in the EHS Management System Incident Record and remedial actions will be taken accordingly. The proposed changes in the permit do not require any changes to these operating techniques.

In addition, the following operational measures are in place for the control of odour, litter, mud/debris and pests.

All plant and equipment will be subject to a programme of planned preventative maintenance which will follow the inspection and maintenance schedule recommended by the manufacturer.

Daily inspections daily for dust, litter and combustible material will be recorded on S Norton's daily noise, vibration and dust inspection checksheet with remedial action taken accordingly and reported in the EHS Management System Incident Record where appropriate.

The proposed changes in the permit do not require any changes to these operating techniques.

11.0 Control of Noise

S Norton recognises that the Site should be operated in a manner that minimises or prevents noise and / or vibration nuisance. Existing controls and mitigation measures will be employed in order to ensure that the risk to receptors that may be affected is minimised. These are summarised below.

In addition, a qualitative risk assessment of potential noise impact has been carried out for the proposed acceptance of the new waste types and the processing of LDAs and is presented in the Environmental Risk Assessment which is included in Section 6 of this application.

11.1 Noise Mitigation and Management Measures

The qualitative risk assessment for the proposed acceptance of the new waste types and processing of LDAs concluded that no additional noise mitigation would be necessary given the relatively low level of emissions from the proposed activity that will use existing plant that is already operational for other types of ferrous metals and in consideration of the site setting and background noise levels.

Currently, there are no residential properties within 500m of the permit boundary in all directions. The nearest residential properties lie approximately 580m north east of the permit boundary. Plans have been approved however for some new residential premises to the north of the Site as part of a collaborative housing development known as Barking Riverside. The nearest homes to the Site will be located approximately 400m to the north; however, most of the Barking Riverside development will be located on the former Barking Power Station site to the east of the Site and will lie more than 500m from the Site boundary. Existing controls and mitigation measures will be employed in order to ensure that the risk to receptors that may be affected is minimised. It is deemed that these existing measures would be satisfactory in order

to ensure that the risk to receptors that may be affected by the proposed changes in the permit is minimised.

The Site will follow the below mitigation measures to ensure that the risk of impact to receptors that may be affected is minimised. The proposed changes in the permit do not require any changes to these operating techniques.

11.1.1 Operating Hours

The Site will operate between the hours 06:00 and 17:00, Monday to Friday and 06:00 to 12:00 on Saturday except for maintenance periods.

The Site will not operate Sundays or bank holidays except for emergencies.

11.1.2 Plant & Equipment Selection

Plant and equipment options with lower noise levels will be used wherever possible to ensure noise is kept to a minimum.

Plant and equipment will be maintained regularly and be subject to a programme of planned preventative maintenance which will follow the inspection and maintenance schedule recommended by the manufacturer. This will include corrosion prevention where applicable to minimise noise resulting from deterioration and inefficient operation.

All maintenance is recorded and scheduled via the CMMS. Inspection will be undertaken on a daily basis, before use, to check for faults and to ensure appropriate safeguards are in place. This procedure also covers cleaning of plant and all equipment on site.

Any faults are recorded on the CMMS and actioned accordingly. If any items of plant are found to give rise to unacceptable noise levels, consideration will be given to their replacement with quieter designs. If equipment continues to generate unacceptable noise levels, consideration will be given to modification to incorporate noise suppression equipment or replacement components.

11.1.3 Management Measures

The Site Manager will be responsible for ensuring that nuisances arising from the Site noise are minimised. All site personnel will be trained in the need to minimise site noise and will be responsible for monitoring and reporting excessive noise when carrying out their everyday duties.

11.1.4 Monitoring & Recording

Daily inspections daily for noise, along with other potential risks will be recorded on S Norton's daily noise, vibration and dust inspection checksheet (EF-4.4.6-01). Any noise problems including the recording of the circumstances and/or complaints received will be recorded in the Site's electronic diary known as the EHS Management System Incident Record.

11.1.5 Noise Action Plan

In the event that noise is found to be causing a problem, action will be taken to determine the source and to take remedial actions as follows:

- shut down, replace, service or repair equipment to reduce noise levels; and
- modify plant to incorporate noise suppression equipment.

Records relating to the management and monitoring of noise will be maintained and include:

- daily inspections undertaken;

- noise problems (including date, time, duration, prevailing weather conditions and cause of the problem);
- complaints received; and
- corrective action taken and changes to operational procedures to prevent future occurrences.

12.0 Control of Emissions to Groundwater, Surface Water and Sewer

The potential risks from the activities on Site have been considered in S Norton's Emergency Action Plan (EAP), and preventative and mitigative measures have been designed in accordance with the identified risks.

In addition, the potential risks from the additional processing of LDAs and acceptance of additional waste codes as part of this EP variation have been considered in the ERA.

The existing measures to control emissions to groundwater, surface water and sewer are presented in this section. The proposed changes in the permit do not require any changes to these operating techniques.

12.1 Point Source and Fugitive Emissions to Groundwater

There are no point source emissions to groundwater. The Site benefits from impermeable surfacing and a sealed drainage system.

All wastes will be stored on an impermeable surface with a sealed drainage system.

Accordingly, there will be no direct or indirect discharges of contaminating materials into groundwater from the Site.

12.2 Point Source and Fugitive Emissions to Surface Water

The Site including the Western Area benefits from impermeable surfacing and sealed drainage to capture and prevent percolation of potentially contaminated water into the ground.

The Site is connected to the municipal foul sewer system. Uncontaminated surface water runoff will be discharged via the on-site surface water drainage system. This run off will pass via the interceptors prior to discharge into municipal foul sewer for the wider industrial area within which the facility is located. This is a foul sewer such that uncontaminated run-off from rainfall will not be segregated but will be released, together with sanitary effluent, to the same discharge point from the Site.

Any wastes that may potentially have hazardous properties are stored within containment.

Discharges to sewer are limited to uncontaminated surface water runoff and sanitary effluent (sinks, toilets, cleaning water, etc).

Any potentially contaminated water from the Site, such as water from wash down of buildings will be passed through interceptors before discharge to foul sewer. S Norton have applied for a trade effluent discharge consent from the Site from Thames Water.

The site drainage system incorporates provision for containment and isolation in the event of a spillage or incident requiring use of firewater. The system that serves all areas including the Western Area can be isolated to prevent discharge to foul sewer. An inflatable bung would be inserted into the combined interceptor outflow, therefore, isolating any contaminated water. Any contaminated surface water will be contained and tested prior to

any release into the foul sewer system only once Thames Water have been informed of the results of testing and approved its release. Alternatively, it will be tankered off site to an appropriately regulated site for treatment if not suitable for release to sewer.

The containment measures in place at the Site are described in Section 6 of this OT. These are designed to contain accidental spillages and also firewater in the case of an incident. These measures will ensure there are no fugitive emissions to surface water.

12.3 Point Source Emissions to Sewer

The Site is connected the municipal foul sewer system. Discharges to sewer are limited to:

- sanitary effluent (sinks, toilets, cleaning water, etc). This is not considered to be a trade effluent discharge and monitoring of this discharge is not considered necessary; and
- Uncontaminated surface water runoff which is discharged via the on-site surface water drainage system. This run off will pass via an interceptor prior to discharge into municipal foul sewer for the wider industrial estate within which the facility is located.

Monitoring of the surface water discharge from the Site to sewer will be carried out in line with the procedures detailed in Section 13.3 of this OT.

12.4 Flood Risk

The site lies within a Flood Zone 3[6], defined as an area with high probability of flooding from rivers and the sea.

The proposed changes in the permit do not affect the probability of the risk of flooding.

13.0 Monitoring

The Site will be subject to a comprehensive programme of monitoring to ensure it operates to the specified design standards and does not give rise to unacceptable environmental impact.

Monitoring comprises the following:

- general observations;
- monitoring of infrastructure and equipment; and
- emissions monitoring.

The proposed changes in the permit do not require any changes to these operating techniques.

13.1 General Observations

Routine daily visual inspections of the Site and Site boundary will be undertaken by Site personnel to ensure that the Site operates correctly and without giving rise to unacceptable levels of emissions. The results of all daily monitoring are recorded on the daily noise, vibration and dust inspection checksheet. The protocol can be found within the Site EAP.

6 Flood Map for Planning, available at https://flood-map-for-planning.service.gov.uk/, accessed in March 2023

13.2 Monitoring of Infrastructure and Equipment

Infrastructure and equipment will be subject to regular visual inspection. S Norton will inspect the site surfacing including checks on the permeability of concrete bunds and signs of significant damage or wear. Inspections are undertaken on a weekly basis and the results of all weekly monitoring are recorded on the weekly environmental inspection checksheet.

In the event of deterioration or damage, appropriate remedial action will be taken to restore the infrastructure and equipment to a satisfactory condition. Details of the event including any appropriate remedial action will be recorded on the EHS Management System Incident Record.

13.3 Emissions Monitoring

13.3.1 Monitoring Emissions to Surface Water

There are no direct emissions to surface water. Rainfall run-off from roofs and site surfaces and are released to surface water via the existing foul sewer.

The EA published appropriate measures for permitted activities that are relevant to regulated facilities with an environmental permit to treat or transfer all types of WEEE.[7] Monitoring of the surface water runoff will be carried out before it is discharged offsite, and in accordance with the requirements of the relevant EA guidance as shown in Table 13-1 below:

Table 13-1: Surface Water Run-off Discharge Monitoring Schedule

Substance / parameter	Emission Limit mg/l	Monitoring Frequency	Monitoring Standard
Hydrocarbon Oil Index	10	Monthly	EN ISO 9377-2
Arsenic (As)	0.05	Monthly	Various EN standards available
Cadmium (Cd)	0.05		
Chromium (Cr)	0.15		
Copper (Cu)	0.5		
Nickel (Ni)	0.5		
Lead (Pb)	0.1		
Mercury (Hg)	0.005		
Zinc (Zn)	1.0		
PFOA	None	Once every 6 months	No EN standard
PFOA	None	Once every 6 months	No EN standard

7 Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities - Guidance - GOV.UK (www.gov.uk)

13.3.2 Monitoring Emissions to Air

There are no point source emissions to air.

13.4 Monitoring Action Plan

In the event that the monitoring identified in the sections above identifies a potentially significant release the following actions will be undertaken:

- the Site Manager will be informed immediately;
- actions to isolate and contain the source of release will be undertaken; and
- the causes of the release will be evaluated, and where possible, procedures put in place to prevent a recurrence.

In the event that abnormal monitoring results are identified, site personnel will inform the Site Manager and appropriate action will be taken to return the process to normal operating conditions. An inspection of the facility will be undertaken to identify the cause and necessary remedial action will be taken.

14.0 Contingency measures

14.1 S Norton's Business Continuity Plan

S Norton's Business Continuity Plan ensures its sites comply with permit conditions and operating procedures during maintenance or shutdowns. This includes plans and procedures for circumstances where wastes cannot be sent to other sites due to their planned or unplanned shutdown and includes procedures for alternative arrangements if wastes cannot be sent to certain sites.

The proposed changes in the permit do not require any changes to these operating techniques.

14.1.1 Site closure

In the unlikely event that the Site can no longer accept waste on a short-term basis, measures are in place so that waste can be diverted back to its source. The Site Manager or acting person of authority would ensure that the Site is closed and communicate with the holder of the waste so it could be diverted back to its source or to a suitable authorised alternative facility.

If the Site cannot accept waste for more than a day or two, then the Site Manager would ensure arrangements are in place in place to allow incoming waste to be diverted to another S Norton metal recycling facility in either Manchester (Trafford Park) or Liverpool (Bankfield).

S Norton has access to a large number of HGVs which could be brought into the Site to take waste up to Manchester or Liverpool.

14.1.2 Fire

In case of a fire, the Site Manager has 24 hour access to the S Norton management mobile numbers and will inform them immediately. The head office has access to all plans electronically via an integrated management system. Local weather conditions will be considered e.g. wind speed and direction.

In the case of a fire the Site would be cleared with additional resources provided from the other sites in Liverpool and Manchester. The interceptor would be emptied and its contents tankered away by a specialist authorised disposal company. Access to vessels (dependent

on tides) could be available to take any excess waste unburnt waste to S Norton's Southampton site.

14.1.3 Alternative outlets due to other site closures

In the unlikely event that another S Norton site that typically receives shipments or transfers of waste from the Barking facility can no longer accept waste, measures are in place so that waste can be sent to an alternative authorised facility. If the site closure was for S Norton's facility in Southampton, the Site Manager or acting person of authority would arrange for the waste to be sent to either Manchester (Trafford Park) or Liverpool (Bankfield) and so on.

15.0 Closure

15.1 Operations during the period of the Environmental Permit

The storage, handling and processing activities at the Site should not lead to a deterioration of the land by the introduction of any polluting substances due to the containment and control measures that will be implemented. The measures are in place to ensure the receipt, storage and handling of ferrous and NF material for recovery and the shearing and cutting of oversize ferrous metal to specification, including the processing of LDAs does not lead to the deterioration of the land.

In the unlikely event of a potentially polluting incident which impacts the Site, the Site Manager will record the details of the incident via the computerised maintenance management system together with any further investigation or remediation work carried out. This will ensure that there is a continuous record of the state of the Site throughout the period of the permit.

The Site Condition Report will be updated with the details of any potentially polluting incident which impacts the Site.

15.2 Design of Site

Records will be maintained of the location of facilities, services, and sub-surface structures. During any modifications or alterations on the Site, care will be taken to update these records to ensure closure of the Site.

The design ensures that:

- there are no underground tanks for the containment of potentially polluting substances;
- there is provision for the draining and clean out of vessels and pipe work prior to dismantling; and
- materials used are recyclable, if practicable (having regard for operational and other environmental protection objectives).

15.3 Site Closure Plan

Definite closure will occur when the Site stops accepting scrap metal wastes for processing. Actions that will be taken at this point to avoid pollution risk and return the Site to a satisfactory condition are set out below. These will be set out in the facility's decommissioning plan and in accordance with appropriate measures guidance for the activities operated at the facility.

15.3.1 Communication

S Norton will inform the EA in writing of the date of the cessation of waste acceptance. This will enable the EA to inspect the Site, approve the closure and agree upon the actions that should occur post-closure.

15.3.2 Access & Security

Security provision will be audited to ensure that the Site is in a secure condition and that unauthorised access is avoided. Site security will be maintained through building security measures including lockable entrances, local perimeter fencing and lockable gates. Regular inspections of the fencing and gates will be carried out, and damage will be repaired as soon as practicable. If necessary temporary repairs will be implemented until permanent repairs can be carried out.

15.3.3 Decommissioning

All wastes and substances will be removed in such a way as to protect land and groundwater from potentially harmful contents. Containers and other structures will be dismantled in such a way as to prevent pollution risk to the surrounding environment.

Storage and drainage systems will be drained and cleaned prior to dismantling, with all solid residues being contained and taken to an appropriate treatment or disposal facility.

16.0 Information

16.1 Reporting and Notifications

All relevant notifications and submissions to the EA regarding the Site will be made in writing and will quote the permit reference number and the name of the permit holder.

Records will be maintained for at least six years, however in the case of off-site environmental effects, and matters which affect the condition of land and groundwater the records will be kept until permit surrender.

16.1.1 Waste Types and Quantities

A report summarising the waste types and quantities accepted and removed from the Site for each quarter will be submitted to the EA within one month of the end of each quarter.

16.1.2 Relevant Convictions

The EA will be notified of the following events:

- the operator being convicted of any relevant offence; and
- any appeal against a conviction for a relevant offence and the results of such an appeal.

16.1.3 Notification of Change of Operator or Holder details

The EA will be notified of the following:

- any change in the operator’s trading name, registered name or registered office address; and
- any steps taken with a view to the company going into administration, entering into a company voluntary arrangement or being wound up.

16.1.4 Adverse Effects

The EA will be notified without delay following the detection of the following:

- any malfunction, breakdown or failure of equipment or techniques;
- any accident;
- fugitive emissions which have caused, is causing or may cause significant pollution; and
- any significant adverse environmental and health effect.

Appendix 01. BATc for Waste Treatment

Barking Metal Recycling Facility, Environmental Permit Variation Application

Best Available Techniques & Operating Techniques

S Norton & Co Limited

SLR Project No.: 416.064707.00001

5 September 2023

Appendix 01: Compliance with BAT Conclusions Waste Treatment

No.	BAT Conclusion	Specific Measures
GENERAL CONSIDERATIONS		
BAT 1	*In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS)*[1]	The Site is operated in accordance with an Integrated Management System ('IMS') which is ISO 14001:2015 accredited. It consists of a number of procedures and policies including an in-house Working Plan as described in Section 2 AND incorporates all of the aspects of BAT1. The proposed changes in this variation will not require changes to these procedures.
BAT 2	*In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below:* • *Set up and implement waste characterisation and pre-acceptance procedures* • *Set up and implement waste acceptance procedures* • *Set up and implement a waste tracking system and inventory* • *Set up and implement an output quality management system* • *Ensure waste segregation* • *Ensure waste compatibility prior to mixing or blending of waste* • *Sort incoming solid waste*	The Site will operate in accordance with strict waste acceptance and pre-acceptance procedures as detailed in Section 8 of the BAT-OT document to ensure that no non-conforming waste types are accepted on Site. **Waste Characterisation and Pre-acceptance Procedures** Pre-acceptance procedures are in place for consignments of waste to ensure that incoming waste is booked in advance from specific suppliers and that it is characterised, correctly classified and conforms with EWC codes authorised by the permit. The proposed changes in this variation will not require changes to these procedures. **Waste Acceptance Procedure** The Site's pre-acceptance procedures ensure that the characteristics of the waste are established before delivery to Site. Deliveries to the site will be pre-booked with checks undertaken to ensure that the site will have capacity and staff resources to receive each delivery. Waste acceptance procedures are described in Section 8 and include: • Load inspection; • Rejection procedures; • Measurement; and • Segregation procedures. Checks and inspections will be undertaken by a member of staff who is suitably qualified and trained. **Waste Tracking and Inventory System** S Norton employs a waste tracking system which stores all the information on each batch throughout the waste stream's lifecycle on Site. The proposed changes in this variation will not require changes to these procedures. **Output Quality Management System** The Site is operated in accordance with an ISO 9001:2015 QMS. This includes procedures to ensure that the separation processes are monitored and adjusted to ensure that optimum separation of plastics is affected. The proposed changes in this variation will not require changes to these procedures. **Waste Segregation** There are appropriate procedures are in place to prevent risk of contamination between types of waste including hazardous and non-hazardous fractions. Procedures are outlined in Section 4 of the BAT-OT document that describe when and where different waste types are to be stored. Waste will be

[1] Refer to the BAT Reference document for features to be incorporated in the EMS.

No.	BAT Conclusion	Specific Measures
		segregated appropriately following acceptance on Site and existing measures will continue to be followed. If it is suspected that waste which does not conform to that authorised by the permit has been received at the Site, it would be placed in the designated quarantine area and labelled accordingly. This waste would be removed within 24 hours of receipt with arrangements made to return the material to the customer. The existing and new waste storage locations as a result of the changes in the permit and quarantine locations are illustrated on Drawing 02 Permit Boundary & Site Layout. **Waste Compatibility** The Site handles non-hazardous and hazardous waste. Different waste types will be stored separately in clearly designated areas. There are no compatibility issues relating to the waste types which would present an increased risk to the environment. The proposed changes in this variation will not require changes to these procedures. **Sorting of incoming solid waste** Only waste that conforms to the permitted waste types will be accepted for processing. Visual inspections will be carried out of waste loads accepted at the Site to ensure no gross contamination is evident. The proposed changes in this variation will not require changes to these procedures.
BAT 3	*In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the following features:* *(i) information about the characteristics of the waste to be treated and the waste treatment processes, including:* *(a) simplified process flow sheets that show the origin of the emissions;* *(b) descriptions of process-integrated techniques and waste water/waste gas treatment at source including their performances;* *(ii) information about the characteristics of the waste water streams, such as:* *(a) average values and variability of flow, pH, temperature, and conductivity;* *(b) average concentration and load values of relevant substances and their variability (e.g. COD/TOC, nitrogen species, phosphorus, metals, priority substances/micropollutants);* *(c) data on bioeliminability (e.g. BOD, BOD to COD ratio, Zahn-Wellens test, biological inhibition potential (e.g. inhibition of activated sludge)) (see BAT 52);* *(iii) information about the characteristics of the waste gas streams*	The Site is connected the municipal foul sewer system. Uncontaminated surface water runoff will be discharged via the on-site surface water drainage system. This run off will pass via the interceptors prior to discharge into municipal foul sewer for the wider industrial area within which the facility is located. This is a foul sewer such that uncontaminated run-off from rainfall will not be segregated but will be released, together with sanitary effluent, to the same discharge point from the Site. Discharges to sewer are therefore limited to: • sanitary effluent (sinks, toilets, cleaning water, etc). This is not considered to be a trade effluent discharge and monitoring of this discharge is not considered necessary; and • Uncontaminated surface water runoff which is discharged via the on-site surface water drainage system. This run off will pass via an interceptor prior to discharge into municipal foul sewer for the wider industrial estate within which the facility is located. Monitoring of the surface water discharge from the Site to sewer will be carried out in line with the procedures detailed in Section 13.3 of this BAT-OT. There are no point source emissions to air or waste gas streams associated with the proposed changes in the permit.
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 locations* *b) Adequate storage capacity* *c) Safe storage operation* *d) Separate area for storage and handling of packaged hazardous waste*	Waste storage and handling procedures will change as a result of the proposed variation, because of the acceptance of new waste types with their storage on the adjacent permit that is to be consolidated. Waste storage and handling procedures will operate in line with procedures within the Site's FPP and as set out in this BAT-OT document. The FPP will include all changes associated with the permit variation, including acceptance of the new waste types, the increase in the storage of hazardous waste and the WEEE processing activity, however, it is not included with this application. The local regulatory EO provided the following advice to S Norton on 06/04/23: '*If you wanted to increase the heights prior to the issue of your a permit variation/consolidation then revised documents would need to be submitted and agreed in writing*.' S Norton wish to increase the height of the storage of the HMS stockpile prior to the permit variation/consolidation. Therefore, the FPP will be updated to reflect the change in the storage of the

No.	BAT Conclusion	Specific Measures
		HMS stockpile (in addition to the changes as part of the permit variation) and in line with EA advice, the FPP will be submitted to the local EO for formal approval separately and prior to the issue of permit variation application with all the proposed changes. **a) Optimised storage locations** Storage arrangements will continue to be optimised to minimise transport distances on Site. Waste received in separate containers and bulkers will be transferred directly to their designated storage areas and therefore any unnecessary handling is avoided. Only the new waste types being processed will change and not the current storage arrangements as a result of the additional waste types. **b) Adequate storage capacity** Storage tonnages and durations will change as a result of acceptance of the new waste types. Provisions will be in place to ensure the storage of hazardous waste above 50 tonnes is managed as in accordance with the appropriate procedures and considers the managing of waste piles, preventing fire spreading and quarantine measures. As mentioned above, the FPP will include all changes associated with the permit variation, including acceptance of the new waste types, the increase in the storage of hazardous waste and the WEEE processing activity but in line with EA advice, will be submitted to the local EO for formal approval separately and prior to the issue of this permit variation/consolidation. Section 4.3 of this BAT-OT document outlines the storage locations and outputs. Waste will continue to be stored on Site for a maximum residence time of three months. **c) Safe Storage Operation** All waste acceptance, storage, treatment and processing will continue to take place on impermeable surfacing, including the Western Area. All infrastructure on Site is resistant to materials used and stored on Site. Raw materials will continue to be stored appropriately with a bund with the capacity to store at least 110% of the capacity of each container. Section 2 of this BAT-OT document outlines measures to minimise the potential causes and consequences of accidents from potential incidents. The Site and all of its components will continue to benefit from ongoing daily inspections to ensure that all equipment is in good working order. Any defects will be repaired as soon as practicable (within a maximum of 7 days) taking into account the severity of the problem. There will be no changes to these procedures as a result of the proposed changes in the permit. **d) Separate Area for Storage and Handling of Packaged Hazardous Waste** The proposed changes in this variation will not require changes to existing procedures. Hazardous battery waste will be stored within clearly labelled storage areas separately from non-hazardous battery waste. Clear labelling will continue to be followed.
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.*	Storage tonnages and durations will change as a result of the proposed change to accept new waste types including hazardous waste. As mentioned above, the FPP will include all changes associated with the permit variation, including acceptance of the new waste types, the increase in the storage of hazardous waste and the WEEE processing activity but in line with EA advice, will be submitted to the local EO for formal approval separately and prior to the issue of this permit variation/consolidation. Containment for all the hazardous waste types including waste containing hazardous material or fluids will either be in an enclosed structure with a roof or include the use of weatherproof covering. This will

<table>
<tr><th>No.</th><th>BAT Conclusion</th><th>Specific Measures</th></tr>
<tr><td></td><td></td><td>also apply to the storage of the additional hazardous waste types to be accepted including the ELV wiring looms and cables containing hazardous substances.

New waste types accepted as part of the proposed changes in the permit will be handled and processed including the LDAs. Procedures to manage the handling and transfer of the new waste types are described in section 4.2 of the BAT-OT document.

S Norton employ a waste tracking system which stores all the information on each batch throughout the waste stream’s lifecycle on Site. The proposed changes in this variation will not require changes to these procedures.</td></tr>
<tr><td>BAT 6</td><td>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).</td><td>Monitoring of the surface water discharge from the Site to sewer will be carried out in line with the procedures detailed in Section 13.3 of this BAT-OT.</td></tr>
<tr><td>BAT 7</td><td>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.</td><td>Monitoring of the surface water discharge will be carried out prior to discharge to the site drainage system. Key parameters and frequency of monitoring are provided in Section 13.3 of this BAT-OT document.</td></tr>
<tr><td>BAT 8</td><td>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.

Table 6.3

BAT-associated emission level (BAT-AEL) for channelled dust emissions to air from the mechanical treatment of waste

<table>
<tr><th>Parameter</th><th>Unit</th><th>BAT-AEL
(Average over the sampling period)</th></tr>
<tr><td>Dust</td><td>mg/Nm³</td><td>2-5 (1)</td></tr>
</table>
(1) When a fabric filter is not applicable, the upper end of the range is 10 mg/Nm³.

Table 6.4

BAT-associated emission levels (BAT-AELs) for channelled TVOC and CFC emissions to air from the treatment of WEEE containing VFCs and/or VHCs

<table>
<tr><th>Parameter</th><th>Unit</th><th>BAT-AEL
(Average over the sampling period)</th></tr>
<tr><td>TVOC</td><td>mg/Nm³</td><td>3-15</td></tr>
<tr><td>CFCs</td><td>mg/Nm³</td><td>0,5-10</td></tr>
</table></td><td></td></tr>
<tr><td>BAT 9</td><td>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</td><td>Not relevant: the activities do not include regeneration of spent solvents, the decontamination of equipment containing POPs with solvents or the physico-chemical treatment of solvents for the recovery of their calorific value.</td></tr>
</table>

No.	BAT Conclusion	Specific Measures
	solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques given.	
BAT 10	*BAT is to periodically monitor odour emissions.*	Not relevant: Odour is not considered to be a significant risk from the handling and processing of wastes or from the proposed changes as part of the EP variation due to the nature of the operation and accepted wastes. The applicability of BAT 10 is restricted to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated. If significant odours were to be detected, S Norton would instigate investigations to determine the cause and appropriate remedial action taken.
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.*	S Norton will conduct monitoring of the annual consumption of water, energy and raw materials by recording all inputs into the process. This is done on the Site's Waste Electronic Tracking System. To aid this, an inventory and tracking system will be kept of all input and output. Monitoring will consider any significant changes relating to the process.
BAT 12	*In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:* • *a protocol containing actions and timelines;* • *a protocol for conducting odour monitoring as set out in BAT 10;* • *a protocol for response to identified odour incidents, e.g. complaints;* • *an odour prevention and reduction programme designed to identify the source(s); to characterise the contributions of the sources; and to implement prevention and/or reduction measures.*	Not relevant: Odour is not considered to be a significant risk from the handling and processing of wastes or from the proposed changes as part of the EP variation due to the nature of the operation and accepted wastes. The applicability of BAT12 is restricted to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated. If significant odours were to be detected, S Norton would instigate investigations to determine the cause and appropriate remedial action taken.
BAT 13	*In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques given below.* *a) Minimising residence times* *b) Using chemical treatment* *c) Optimising aerobic treatment*	Not relevant: Odour is not considered to be a significant risk from the handling and processing of wastes or from the proposed changes as part of the EP variation due to the nature of the operation and accepted wastes. The applicability of BAT 13 is restricted to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated. If significant odours were to be detected, S Norton would instigate investigations to determine the cause and appropriate remedial action taken.
BAT 14	*In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given below* *a) Minimising the number of potential diffuse emission sources* *b) Selection and use of high-integrity equipment* *c) Corrosion prevention* *d) Containment, collection and treatment of diffuse emissions* *e) Dampening* *f) Maintenance* *g) Cleaning of waste treatment and storage areas* *h) Leak detection and repair (LDAR) programme*	See Section 9 of the BAT-OT document for controls used to prevent fugitive emissions including dust and Section 10 of the BAT-OT document for controls used to prevent emissions of litter, mud, odour and pests from existing Site operations and from the additional processing of LDAs and acceptance of additional wastes. It is not anticipated that there will be any significant change in the risk of fugitive emissions of dust from the additional processing of LDAs. Potential fugitive dust emissions from the shearing of LDAs have been considered in Section 9 of this BAT-OT. Existing dust suppression techniques and the operating techniques detailed in Section 4.2.2 and 4.2.3 and Section 9 of this BAT-OT are considered appropriate for the additional activity in the form of the processing of LDAs. The risk remains low as the waste will continue to be non-dusty or odorous and the processing of LDAs will consist of sorting and treatment via the shear only to facilitate size reduction and onward recovery. Waste pre-acceptance and waste acceptance procedures will continue to be in place to reduce the risk of accepting non-conforming wastes and managing them in the unlikely event that they are received on Site. A Dust & Emissions Management Plan (DEMP) is included in Section 7 with this application.

No.	BAT Conclusion	Specific Measures
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*	Not relevant: the process does not include flaring.
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*	Not relevant: the process does not include flaring.
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:* *I. a protocol containing appropriate actions and timelines;* *II. a protocol for conducting noise and vibration monitoring;* *III. a protocol for response to identified noise and vibration events, e.g. complaints;* *IV. a noise and vibration reduction programme designed to identify the source(s), to measure/estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and/or reduction measures*	The applicability of BAT 17 is restricted to cases where a noise or vibration nuisance at sensitive receptors is expected and/or has been substantiated. The facility is in an area of extensive commercial and industrial activity. Currently, there are no residential properties within 500m of the permit boundary in all directions. The nearest residential properties lie approximately 580m north east of the permit boundary. Plans have been approved however for some new residential premises to the north of the Site as part of a collaborative housing development known as Barking Riverside. The nearest homes to the Site will be located approximately 400m to the north with the majority of the Barking Riverside development to be located on the former Barking Power Station site to the east of the Site and will lie more than 500m from the Site boundary. However, the proposed changes in this variation will not introduce any new equipment or increase the throughput of waste that is currently permitted. Instead, the LDAs will be processed via the shearing machines which is an existing piece of plant and existing measure are in place and considered satisfactory for the proposed changes in the permit with consideration to noise and vibration from the site. See Section 11 of the BAT-OT document for existing measures.
BAT 18	*In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques given below:* *a. Appropriate location of equipment and buildings* *b. Operational measures* *c. Low-noise equipment* *d. Noise and vibration control equipment* *e. Noise attenuation*	The qualitative risk assessment for the additional processing of LDAs concluded that no additional noise mitigation would be necessary given the relatively low level of emissions from existing plant on Site and in consideration of the site setting and background noise levels. Nonetheless, measures to minimise the noise and / or vibration nuisance from activities on Site including the additional processing of LDAs and acceptance of new waste types to ensure that the risk of impact to receptors that may be affected is minimised are detailed in Section 11 of the BAT-OT document.
BAT 19	*In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques given below.* *a. Water Management* *b. Water Recirculation* *c. Impermeable Surface* *d. Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels* *e. Roofing of waste storage and treatment areas*	a) The main uses of water at the facility are for dust suppression. Water usage on Site is not likely to significantly increase as a result of the additional processing of LDAs or acceptance of additional waste types. Other uses of mains water are in the welfare facilities and for fire-fighting. The Site has a water storage tank with a capacity of 103,800 litres (as shown on Drawing 05). There are two pumps attached to the tank (one diesel and one electric). The use of water will be regularly reviewed to ensure maximum efficiency and ensure that any further potential for reduction in consumption and recycling opportunities are identified in accordance with the EA's appropriate measures guidance[2]. The predicted average total usage is expected to be negligible as it will only be required in very small quantities in the welfare facilities and in

[2] Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities - Guidance - GOV.UK (www.gov.uk)

No.	BAT Conclusion	Specific Measures
	f. Segregation of water streams *g. Adequate drainage infrastructure* *h. Design and maintenance provisions to allow detection and repair of leaks* *i. Appropriate buffer storage capacity*	unpredictable circumstances including use for fire-fighting and ad hoc water suppression. The proposed changes in the permit do not require any changes to these operating techniques. b) The option to recirculate water from dust suppression has been considered but deemed impractical due to water losses from evaporation and absorption. However, the impact from the use of water for suppression purposes is considered low. c) Already in place. d) The raw materials on site are contained in IBC's that benefit from a bund with the capacity to store 110% of the container in case of failure. There will be no changes to these procedures as a result of the proposed changes in the permit. e) S Norton will seek to use roofing of waste storage areas for water capture where possible. f) Not relevant. The Site surface water and foul drainage discharge to combined sewer. The proposed changes do not result in any new emission points. g) The Site benefits from impermeable surfacing and sealed drainage to capture and prevent percolation of potentially contaminated water into the ground. Uncontaminated surface water runoff will be discharged via the on-site surface water drainage system. This run off will pass via the interceptors prior to discharge into municipal foul sewer for the wider industrial area within which the facility is located. h) S Norton utilise a CMMS to log findings of maintenance inspections. It also includes a preventive and reactive maintenance programme. New equipment added as part of the proposed wet separation unit is to be subject to application of the CMMS. i) The Site has buffer storage capacity to contain contaminated water. Any surges or storm water flows on the Site would drain to the interceptors due to the design of the ground contours. The system that serves all areas including the Western Area can be isolated to prevent discharge to foul sewer. An inflatable bung would be inserted into the outflow from the interceptors, therefore, isolating any contaminated water. Any contaminated surface water will be contained and tested prior to any release into the foul sewer system only once Thames Water have been informed of the results of testing and approved its release. Alternatively, it will be tankered off site to an appropriately regulated site for treatment if not suitable for release to sewer.
BAT 20	*In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques given below:* *a. Equalisation* *b. Neutralisation* *c. Physical separation* *d. Adsorption* *e. Distillation/rectification* *f. Precipitation* *g. Chemical oxidation* *h. Chemical reduction* *i. Evaporation* *j. Ion exchange* *k. Stripping* *l. Activated sludge process* *m. Membrane bioreactor* *n. Nitrification/denitrification when the treatment includes biological treatment* *o. Coagulation and flocculation* *p. Sedimentation* *q. Filtration* *r. Flotation*	Not relevant: the Site does not produce waste water or process effluent. Monitoring of the surface water discharge will be carried out prior to discharge to the site drainage system. Key parameters and frequency of monitoring are provided in Section 13.3 of this BAT-OT document.

No.	BAT Conclusion	Specific Measures
	Table 6.2: BAT-associated emission levels (BAT-AELs) for indirect discharges to a receiving water body	

Substance/Parameter		BAT-AEL (1) (2)	Waste treatment process to which the BAT-AEL applies
Hydrocarbon oil index (HOI)		0.5–10 mg/l	• Mechanical treatment in shredders of metal waste • Treatment of WEEE containing VFCs and/or VHCs • Re-refining of waste oil • Physico-chemical treatment of waste with calorific value • Water washing of excavated contaminated soil • Treatment of water-based liquid waste
Free cyanide (CN) (3)		0.02– 0.1 mg/l	• Treatment of water-based liquid waste
Adsorbable organically bound halogens (AOX) (3)		0.2–1 mg/l	• Treatment of water-based liquid waste
Metals and metalloids (4)	Arsenic (expressed as As)	0.01–0.05 mg/l	• Mechanical treatment in shredders of metal waste • Treatment of WEEE containing VFCs and/or VHCs • Mechanical biological treatment of waste • Re-refining of waste oil • Physico-chemical treatment of waste with calorific value • Physico-chemical treatment of solid and/or pasty waste • Regeneration of spent solvents • Water washing of excavated contaminated soil
	Cadmium (expressed as Cd)	0.01–0.05 mg/l	
	Chromium (expressed as Cr)	0.01–0.15 mg/l	
	Copper (expressed as Cu)	0.05–0.5 mg/l	
	Lead (expressed as Pb)	0.05–0.1 mg/l (5)	
	Nickel (expressed as Ni)	0.05–0.5 mg/l	
	Mercury (expressed as Hg)	0.5–5 µg/l	
	Zinc (expressed as Zn)	0.1–1 mg/l (6)	
	Arsenic (expressed as As)	0.01–0.1 mg/l	• Treatment of water-based liquid waste
	Cadmium (expressed as Cd)	0.01–0.1 mg/l	
	Chromium (expressed as Cr)	0.01–0.3 mg/l	
	Hexavalent chromium (expressed as Cr(VI))	0.01–0.1 mg/l	
	Copper (expressed as Cu)	0.05–0.5 mg/l	
	Lead (expressed as Pb)	0.05–0.3 mg/l	
	Nickel (expressed as Ni)	0.05–1 mg/l	
	Mercury (expressed as Hg)	1–10 µg/l	
	Zinc (expressed as Zn)	0.1–2 mg/l	

(1) The averaging periods are defined in the General considerations.
(2) The BAT-AELs may not apply if the downstream waste water treatment plant abates the pollutants concerned, provided this does not lead to a higher level of pollution in the environment.
(3) The BAT-AELs only apply when the substance concerned is identified as relevant in the waste water inventory mentioned in BAT 3.
(4) The upper end of the range is 0.3 mg/l for mechanical treatment in shredders of metal waste.
(5) The upper end of the range is 2 mg/l for mechanical treatment in shredders of metal waste.

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:* *a. Protection measures* *b. Management of incidental/accidental emissions* *c. Incident/Accident registration and assessment system*	S Norton utilise a CMMS to log findings of maintenance inspections. It also includes a preventive and reactive maintenance programme. There is no new equipment as a result of the proposed processing of LDAs. S Norton has a spillage response plan within the Site's EAP 'INCIDENT 4.1 An oil, fuel or liquid spillage has occurred on Site' that forms part of the Site's IMS and implement written procedures across the whole Site, including the Western Area. S Norton operate an 'Emergency Action Plan' (EAP) that monitors environmental performance. The following potential hazards have been identified in relation to the proposed processing of LDAs and the storage of hazardous waste above 50 tonnes:

No.	BAT Conclusion	Specific Measures
		• major fire; • minor fire; and • failure of equipment. The 'Emergency Action Plan' has been reviewed and additional relevant techniques to manage the likelihood of the potential hazards as a result of the proposed permit changes have been described in Section 2.7 of this BAT-OT document.
BAT 22	*In order to use materials efficiently, BAT is to substitute materials with waste.*	The LDAs will be processed via existing plant; it is considered that this modification will make the LDAs easier to handle, store and transport in order to facilitate their journey for onward recovery in turn ensuring that there are fewer trips than there would otherwise be. Ultimately this ensures the material is recycled, reducing CO_2 emissions due to fewer miles travelled and benefiting the circular economy. Existing operations and the acceptance of new waste types will not use significant amounts of non-waste material and therefore, it is considered that there is limited scope for replacement.
BAT 23	*In order to use energy efficiently, BAT is to use both of the techniques given below.* *a. Energy Efficiency Plan* *b. Energy Balance Record*	Energy usage will change as a result of the proposed variation, because of the additional processing of LDAs. However, this is considered to be a small increase that is considered to be outweighed by this modification that in turn will make the LDAs easier to handle, store and transport in order to facilitate their journey for onward recovery in turn ensuring that there are fewer trips than there would otherwise be. Water or raw material usage on Site is not likely to significantly increase as a result of the proposed changes. Energy efficient measures have been included in Section 7.2.2 of the BAT-OT document.
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.*	The additional processing of LDAs and acceptance of new waste types have the potential to lead to an increase in waste sent for disposal. Where possible, packaging (such as storage bags, containers and pallets) will continue to be re-used.

Appendix 02. Appropriate Measures for WEEE Treatment

Barking Metal Recycling Facility, Environmental Permit Variation Application

Best Available Techniques & Operating Techniques

S Norton & Co Limited

SLR Project No.: 416.064707.00001

5 September 2023

Appendix 02: WEEE Treatment EA Appropriate Measures

Appropriate Measure	Compliance
2. GENERAL MANAGEMENT APPROPRIATE MEASURES	
2.1 Management System *You must have and follow an up-to-date written management system. It must incorporate the following features:* • *Management commitment, including from senior lawyers* • *Environmental policy that is approved by senior managers and includes the continuous improvement of the facility's environmental performance* *You plan and establish the resources, procedures, objectives and targets needed for environmental performance alongside your financial planning and investment.* *You implement your environmental performance procedures inc:* • *staff structure and relevant responsibilities* • *staff recruitment, training, awareness and competence* • *communication (for example, of performance measures and targets)* • *employee involvement* • *documentation and records* • *effective process control* • *maintenance programmes* • *the management of change (including legislative changes and waste classification changes)* • *emergency preparedness and response* • *making sure you comply with environmental legislation* *You check environmental performance and take corrective action paying particular attention to:* • *monitoring and measurement* • *learning from incidents, near misses and mistakes, including those of other organisations* • *records maintenance* • *independent (where practicable) internal or external auditing of the management system and operations to confirm it has been properly implemented and maintained* Senior managers review the management system at least annually to check it is still suitable, adequate and effective. *You review the development of cleaner and more efficient technologies and their applicability to site operations.* *When designing new plant, you make sure that you assess the environmental impacts from the plant's operating life and eventual decommissioning.* *You consider the risks a changing climate poses to your operations. You have appropriate plans in place to assess and manage future risks.* *You compare your site's performance against relevant sector guidance and standards on a regular basis, known as sectoral benchmarking.* *You have and maintain the following documentation:* • *inventory of emissions to air and water* • *residues management plan* • *accident management plan*	The Site is operated in accordance with an Integrated Management System ('IMS') which is ISO 14001:2015 accredited that incorporates all of the identified features of appropriate measure 2.1. Procedures and policies within the IMS will be applied to the changes in the permit. No changes to the existing measures are required as a result of the proposed variation.

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• *site infrastructure plan* • *site condition report* • *fire prevention plan* *If required, you have and maintain the following documentation: odour management plan* • *noise and vibration management plan* • *dust management plan* • *pest management plan* • *climate change risk assessment*	
2.2 Staff Competence *Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence.* *The design, installation and maintenance of infrastructure, plant and equipment must be carried out by competent people.* *You must have appropriately qualified managers for your waste activity who are either:* • *qualified under a technical competence scheme* • *operating under a Competence Management System approved under a technical competence scheme* *Non-supervisory staff must be reliable and technically skilled in the activities they are responsible for and in emergency response procedures. Their skills may be based on experience and relevant training.*	S Norton will continue to operate to a Competence Management System under an approved industry scheme 'Competence Management System v4 April 2015 EU Skills Group. The scheme is recognised and approved by Defra and the Welsh Government as a method of demonstrating technical competence of permitted sites where that operator shall comply with the requirements of an approved competence scheme. The site's IMS already includes training and management procedures to ensure that the design, installation and maintenance of infrastructure, plant and equipment is carried out by competent people and that non-supervisory staff are appropriately skilled in all relevant operational and emergency response procedures. No changes to the existing measures are required as a result of the proposed variation.
2.3 Accident management plan *As part of your management system you must have a plan for dealing with any incidents or accidents that could result in pollution.* *The accident management plan must identify and assess the risks the facility poses to human health and the environment.* *Areas to consider may include:* • *waste types and the risks they pose* • *robust waste acceptance procedures to avoid receiving unwanted items, such as gas cylinders* • *failure of abatement systems* • *failure of plant and equipment (for example over-pressure of vessels and pipework, blocked drains)* • *failure of containment (for example, bund failure, or drainage sumps overfilling)* • *damaged lithium-ion batteries* • *failure to contain firefighting water* • *making the wrong connections in drains or other systems* • *checking the composition of an effluent before emission* • *vandalism and arson* • *extreme weather conditions for example flooding or very high winds* *You must assess the risk of accidents and their possible consequences. Risk is the combination of the likelihood that a hazard will occur and the severity of the impact resulting from that hazard. Having identified the hazards, you can assess the risks by addressing:* • *how likely is it that the accident will happen?* • *what may be emitted and how much?* • *where will the emission go – what are the pathways and receptors?* • *what are the consequences?* • *what is the overall significance of the risk?* • *what can you do to prevent or reduce the risk?* *In particular, you must identify any fire risks that may be caused, for example by:* • *arson or vandalism*	S Norton already operate an 'Emergency Action Plan' (EAP) that monitors environmental performance. The Site will follow measures detailed in Section 2 of this BAT-OT document to minimise the potential causes and consequences of accidents as a result of existing and new activities as part of the proposed permit changes. The following potential hazards have been identified in relation to the proposed processing of LDAs and the storage of hazardous waste above 50 tonnes: • major fire; • minor fire; and • failure of equipment. The 'Emergency Action Plan' has been reviewed and additional relevant techniques to manage the likelihood of the potential hazards as a result of the proposed permit changes have been described in Section 2.7 of this BAT-OT document. The EAP will be reviewed every three years as a minimum, and after any reportable incident on Site. The document will be continually improved in these reviews to include best practice and minimise the risk of accidents occurring. The Site will operate in line with procedures within the Site's FPP. S Norton utilise a Combined Management Maintenance System (CMMS) to log findings of maintenance inspections. It also includes a preventive and reactive maintenance programme. Equipment including plant used to process the LDAs will be subject to application of the CMMS. S Norton already has a spillage response plan within the Site's EAP 'INCIDENT 4.1 An oil, fuel or liquid spillage has occurred on site' that forms part of the Site's IMS. This will continue to be implemented on Site including the Western Area which is to be consolidated. No changes to the existing measures are required as a result of the proposed variation.

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• *self-combustion, for example the finer fractions of shredder residue* • *plant or equipment failure and electrical faults* • *naked lights and discarded smoking materials* • *hot works (for example welding or cutting), industrial heaters and hot exhausts* • *neighbouring site activities* • *sparks from loading buckets* • *hot loads deposited at the site* • *damaged Li-ion batteries in waste electronic and electrical equipment (WEEE) and light iron, heavy melting steel piles and waste from household waste recycling centres* • *batteries left connected in ELVs which can short circuit* • *batteries (storage, processing and handling)* • *ELV depollution activities (if carried out on your site)* • *deflagrations within the shredder and pre-shredders* *You must have a fire prevention plan that identifies the risks at your site and meets the requirements of our fire prevention plan guidance.* *The depth and type of accident risk assessment you carry out will depend on the characteristics of the plant and its location.* *The main factors to consider are the:* • *scale and nature of the accident hazard presented by the plant and its activities* • *risks to areas of population and the environment (the receptors)* • *nature of the plant and complexity of the activities and how difficult it is to decide and justify adequate risk control techniques* *Through your accident management plan, you must also identify the roles and responsibilities of the staff involved in managing accidents. You must provide them with clear guidance on how to manage each accident scenario.* *You must appoint one facility employee as an emergency co-ordinator who will take lead responsibility for implementing the plan. You must train your employees so they can perform their duties effectively and safely and know how to respond to an emergency.* *You must also:* • *establish how you will communicate with relevant authorities, emergency services and neighbours (as appropriate) both before, during and after an accident* • *have appropriate emergency procedures, including for safe plant shutdown and site evacuation* • *have post-accident procedures that include assessing the harm that may have been caused by an accident and the remediation actions you will take* • *test the plan by carrying out emergency drills and exercises*	
2.4 Accident prevention measures *You must take the following measures, where appropriate, to prevent events that may lead to an accident.* ***Waste acceptance and pre acceptance procedures*** *1. You must have clear and detailed procedures for pre-acceptance and acceptance of waste and for rejected and quarantined wastes.* *2. These should be produced and maintained as set out in the waste pre-acceptance, acceptance and tracking appropriate measures section.*	1. The Site will continue to be operated under appropriate pre-acceptance and waste acceptance procedures. See Section 8 for a summary of the Site's procedures. No changes to the existing measures are required as a result of the proposed variation. 2. See above. Provisions are already in place. The proposed changes in the permit including the processing of LDAs, acceptance of new waste codes with hazardous waste storage above 50 tonnes at any one time and consolidation of the two permits will not require changes to existing waste pre-acceptance, acceptance and tracking appropriate measures.
Segregating waste *3. You must keep apart incompatible wastes. Examples could include but are not limited to:* • *storing lead acid batteries separately to nickel metal hydride batteries* • *segregating flammable gas cylinders in cages away from oxygen cylinders*	Hazardous waste and non-hazardous waste will continue to be stored in separate, segregated locations. If it is suspected that waste which does not conform to that authorised by the permit has been received at the Site, it would be placed in one of the two designated quarantine areas and labelled accordingly. This waste would be removed within 14 days of receipt with arrangements made to return the material to the customer. The locations of the new additional types of hazardous and non-hazardous waste to be accepted as part of the proposed changes are shown on Drawing 02.

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	Existing measures will continue to be followed, for example segregated storage of flammable gas cylinders in cages away from oxygen cylinders. Batteries will continue to be stored in line with existing procedures as detailed in Section 4.1.1 of this BAT-OT.
Preventing accidental emissions *4. You must make sure you contain the following for off-site disposal or route to the effluent system (where necessary):* • *process waters* • *site drainage waters* • *emergency firefighting water* • *oil or chemical contaminated waters* • *spillages of oils and chemicals* *5. You must be able to contain surges and storm water flows. You must provide enough buffer storage capacity to make sure you can achieve this. You can define this capacity using a risk-based approach, for example, by considering the:* • *nature of the pollutants* • *effects of downstream waste-water treatment* • *sensitivity of the receiving environment* *6. You can only discharge waste-water from this buffer storage after you have taken appropriate measures, for example, to control, treat or reuse the water.* *7. You must have spill contingency procedures to minimise the risk of an accidental emission of raw materials, products and waste materials, and to prevent their entry into water.* *8. Your emergency firefighting water collection system must take account of additional firefighting water flows or firefighting foams. You may need emergency storage lagoons to prevent contaminated firefighting water reaching a receiving water body. This should be considered as part of your fire prevention plan.* *9. You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from:* • *Overflows* • *Vents* • *safety relief valves* • *bursting discs* *If this is not advisable on safety grounds, you must focus on reducing the probability of the emission.*	4. The Site which includes the Western Area benefits from impermeable surfacing and a sealed drainage system. Refer to the FPP for containment measures that are currently in place. The proposed changes in the permit including the additional processing of LDAs/acceptance of new waste codes and consolidation of the two permits will not require changes to existing provisions. 5. The Site has buffer storage capacity to contain contaminated water. Any surges or storm water flows on the Site would drain to the interceptors due to the design of the ground contours. The system that serves all areas including the Western Area can be isolated to prevent discharge to foul sewer. An inflatable bung would be inserted into the outflow from the interceptors, therefore, isolating any contaminated water. Any contaminated surface water will be contained and tested prior to any release into the foul sewer system only once Thames Water have been informed of the results of testing and approved its release. Alternatively, it will be tankered off site to an appropriately regulated site for treatment if not suitable for release to sewer. 6. See above. 7. The spillage response plan within the Site's EAP will continue be in place. 8. See FPP. The FPP is being updated due to changes in the storage arrangements of waste stockpiles at the Site, namely to Heavy Metal Steel (HMS). The FPP will also include the changes associated with the permit variation, including acceptance of the new waste types, the storage of hazardous waste types above 50 tonnes at any one time, the WEEE processing activity and consolidation of the 2 permits. Due to the change in storage arrangements of existing stockpiles, the FPP will be submitted to the local EO for formal approval separately to the permit variation application. 9. There will be no point source emissions to sewer from the Site as part of the proposed changes in the permit. Site run-off from rainfall will continue to be discharged to sewer. See measure 5 for abatement provisions of accidental emissions from overflows. An initial assessment of the risk of accidents and abnormal operating conditions posed to the environment and site personal is provided in the Environmental Risk Assessment (ERA), enclosed in Section 6 of this application. The mitigation measures identified within the ERA will be implemented to limit the consequences of accidents on the environment and site personnel.
Security measures *10. You must have security measures (and staff) in place to prevent:* • *Entry by intruders* • *Damage to equipment* • *Theft* • *Fly-tipping* • *Arson* *11. Facilities must use an appropriate combination of the following measures:* • *security guards* • *total enclosure (usually with fences)* • *controlled entry points* • *adequate lighting* • *warning signs* • *24-hour surveillance, such as CCTV*	10 & 11. See Section 6.4 of this BAT-OT document. No changes to the existing measures are required as a result of the proposed variation.
Fire prevention	The FPP is being updated due to changes in the storage arrangements of waste stockpiles at the Site, namely to Heavy Metal Steel (HMS). The FPP will also include the changes associated with the permit variation,

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12. There are 3 fire prevention objectives. You must: • *Minimise the likelihood of a fire happening* • *Aim for a fire to be extinguished within 4 hours* • *Minimise the spread of fire within the site and to neighbouring sites* *13. You must have appropriate systems for fire prevention, detection and suppression or extinction.*	including acceptance of the new waste types, the storage of hazardous waste types above 50 tonnes at any one time, the WEEE processing activity and consolidation of the 2 permits. Due to the change in storage arrangements of existing stockpiles, the FPP will be submitted to the local EO for formal approval separately to the permit variation application.
Other accident prevention measures *14. You must maintain plant control in an emergency using one or a combination of:* • *alarms* • *process trips and interlocks* • *automatic systems* • *manual interventions* *15. You must:* • *make sure all the measurement and control devices you would need in an emergency are easy to access and operate in an emergency situation* • *maintain the plant so it is in a good state through a preventive maintenance programme and a control and testing programme* • *use techniques such as suitable barriers to prevent moving vehicles damaging equipment* • *have procedures in place to avoid incidents due to poor communication between operating staff during shift changes and following maintenance or other engineering work* • *where relevant, use equipment and protective systems designed for use in potentially explosive atmospheres*	14 & 15. The facility's IMS include details of accident and emergency procedures. The proposed changes in the permit will not change the implementation of these procedures. See Section 2 of this BAT-OT document.
Record keeping and procedures *16. You must:* • *keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections* • *carry out investigations into accidents, incidents, near misses and abnormal events and record the steps taken to prevent their reoccurrence* • *maintain an inventory of substances, which are present (or likely to be) and which could have environmental consequences if they escape – many apparently innocuous substances can damage the environment if they escape* • *have procedures for checking raw materials and wastes to make sure they are compatible with other substances they may accidentally come into contact with* • *make sure that any documents that may be needed in the event of an incident are accessible*	These aspects are included in existing procedures in the IMS. The proposed changes in the permit will not change the implementation of these procedures. See Section 2 of this BAT-OT document.
2.5 Contingency plan and procedures *1. You must have and implement a contingency plan and management procedures to make certain you comply with all your permit conditions and operating procedures during maintenance or shutdown at your Site.* *2. Your contingency plan must also contain provisions and procedures to make sure that you:* • *do not exceed storage limits in your permit and you continue to apply appropriate measures for storing and handling waste* • *stop accepting waste unless you have a clearly defined method of recovery or disposal and enough permitted storage capacity* • *as far as possible, know in advance about any planned shutdowns at waste management facilities where you send waste* *Your contingency plan must include plans and procedures for circumstances where you cannot send your wastes to other Sites due to their planned or unplanned shutdown.*	1. S Norton's Business Continuity Plan as part of the Site's IMS ensures all S Norton sites comply with operating procedures during maintenance or shutdowns. Operational procedures for maintenance, shutdown and contingency planning are already included in procedures within the Site's IMS. 2. This is part of the Business Continuity Plan. See Section 14 of this BAT-OT document. 3. Not applicable. 4. This is included in the Business Continuity Plan. S Norton has other sites in Manchester and Liverpool that can be used. See Section 14 of this BAT-OT document. 5. This is part of the Business Continuity Plan. See Section 14 of this BAT-OT document. 6. This is part of the Business Continuity Plan. See Section 14 of this BAT-OT document. 7. The Site will continue to only make use of waste storage as authorised in the permit. 8. All aspects are included in the facility's operational procedures. Potential accidents and incidents that may arise from the additional activity in the form of the processing of LDAs, the acceptance of additional wastes and

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3. If you produce an end-of-waste material at your facility, your contingency planning must consider issues with storage capacity for end-of-waste products. *4. You must make your customers aware of your contingency plan, and of the circumstances in which you would stop accepting waste from them.* *5. You must consider whether the Sites or companies you rely on in your contingency plan:* • *can take the waste at short notice* • *are authorised to do so in the quantities and types likely to be needed – in addition to carrying out their existing activities* *6. Where circumstances mean you could exceed your permitted storage limits or compromise your storage procedures, you must look for alternative disposal or recovery options. You must not discount alternative disposal or recovery options based on extra cost or geographical distance.* *7. You must not include unauthorised capacity in your contingency plan. If your contingency plan includes using temporary storage for additional waste on your Site, then you must make sure your Site is authorised for this storage and you have the appropriate infrastructure in place.* *8. Your management procedures and contingency plan must:* • *identify known or predictable malfunctions associated with your technology and the procedures, spare parts, tools and expertise needed to deal with them* • *include a record of spare parts held, especially critical spares – or state where you can get them from and how long it would take to receive them* • *have a defined procedure to identify, review and prioritise items of plant which need a preventative regime* • *include all equipment or plant whose failure could directly or indirectly lead to an impact on the environment or human health* • *identify 'non-productive' or redundant items such as tanks, pipework, retaining walls, bunds, reusable waste containers (for example wheeled carts), ducts, filters and security systems* • *make sure you have the spare parts, tools, and competent staff needed before you start maintenance* *9. Your management system must include procedures for auditing your performance against all these contingency measures and for reporting the audit results to the Site manager.*	because of the storage of hazardous waste types above 50 tonnes at any one time have been considered. Measures to minimise the potential causes and consequences of accidents as a result of the proposed changes including techniques to manage the likelihood of potential hazards are detailed in Section 2.6 and 2.7 of this BAT-OT document. These are in addition to the existing measures identified and outlined in the 'Emergency Action Plan' (EAP) that outlines existing mitigation measures from the risk of potential accidents. The ERA enclosed in Section 6 of this application also considers potential consequences from accidents for the proposed changes and provides mitigation of risks in Table 4-1 of the ERA. 9. The Site's IMS includes the appropriate auditing procedures.
2.6 Plant decommissioning *1. You must consider the decommissioning of the plant at the design stage and make suitable plans to minimise risks during later decommissioning.* *2. For existing plant, identify potential decommissioning risks and take steps to address these. Make changes and design improvements as and when plant is upgraded, or when construction and development works are carried out at your Site. Examples of design improvements could include avoiding using underground tanks and pipework. If it is not economically possible to replace them, you must protect them by secondary containment or a suitable monitoring programme.* *3. You must have and maintain a decommissioning plan to demonstrate that:* • *plant will be decommissioned without causing pollution* • *the Site will be returned to a satisfactory condition* *4. Your decommissioning plan should include details on:* • *whether you will remove or flush out pipelines and vessels (where appropriate) and how you will empty them of any potentially harmful contents* • *Site plans showing the location of all underground pipes and vessels* • *how asbestos or other potentially harmful materials will be removed, unless we have agreed it is reasonable to leave such liabilities to future owners* • *methods for dismantling buildings and other structures, and for protecting surface water and groundwater during construction or demolition at your Site*	1 – 5. As part of the changes in the permit S Norton are proposing to include the processing of LDAs (storage and treatment in the form of shearing) and include additional waste codes to be accepted in the permit. Existing plant used to treat the LDAs will be maintained in line with the CMMS and will continue to be subject to its preventive and reactive maintenance programme. There is no additional plant required as a result of the proposed changes in the permit. If necessary, existing plant on Site can be decommissioned without causing pollution. Any design improvements made will be maintained in line with S Norton's CMMS. No changes to the existing measures are required as a result of the proposed variation.

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• *any soil testing needed to check for any pollution caused by the Site activities, and information on any remediation needed to return the Site to a satisfactory state when you cease activities, as defined by the initial Site condition report* • *the measures proposed, once activities have definitively stopped, to avoid any pollution risk and to return the Site of operation to a satisfactory state (including, where appropriate, measures relating to the design and construction of the plant)* • *the clearing of deposited residues, waste and any contamination resulting from the waste treatment activities* *5. You should make sure that equipment taken out of use is decontaminated and removed from the site.*	
3. WASTE PRE-ACCEPTANCE, ACCEPTANCE AND TRACKING APPROPRIATE MEASURES	
3.1 Waste pre-acceptance *1. Except in the case of small one-off deliveries of WEEE, for example from tradespeople, you must implement waste pre-acceptance procedures so that you know enough about a waste before it arrives at your facility. You need to do this to assess and confirm the waste is technically and legally suitable for your facility.* *Your procedures must follow a risk-based approach, considering:* • *the source and nature of the waste* • *any hazardous properties and persistent organic pollutant (POPs) content* • *potential risks to process safety, occupational safety and the environment (for example, from the presence of hazardous substances that could be dispersed during treatment)* • *knowledge about the previous waste holder* • *the type of containment used for the waste* *2. You must get the following information in writing when you receive a customer query:* • *details of the waste producer (who you are receiving the waste from) including organisation name, address and contact details* • *where the waste is coming from* • *full description of the waste including the quantity* • *the List of Waste code (European Waste Classification, EWC, code)* • *any hazardous properties or presence of any regulated chemicals, for example, POPs* • *if WEEE identified as POPs waste on the classify WEEE pages is described as not being a POPs waste, you should request evidence of the assessment demonstrating this* • *with reference to Annex VII of the WEEE Directive, details of any treatment already undertaken* *3. You should consider with your customer whether the WEEE is suitable for preparing for reuse. Where that remains a possibility, you should ensure the WEEE is handled and transported with care to avoid any damage or loss that could affect reuse.* *4. You must also obtain confirmation that the WEEE does not contain a radioactive source other than domestic smoke detectors and specialist lamps such as xenon lamps. If there is a risk of radioactive contamination, for example, in certain types of medical equipment, you must obtain confirmation that the waste is not radioactive, unless your facility is permitted to accept such waste.* *5. You must consider whether specific wastes, from among those you are permitted to receive, have properties that can pose unacceptable risks to the Site or process. For example, due to:* • a risk of explosion (for example, from gas or aerosol canisters that may be present) • a risk of fire (for example, from WEEE containing lithium-ion batteries) *You should establish a list of such wastes and procedures for managing the risks from them.* *6. You must keep pre-acceptance records following receipt of the waste. If an enquiry from a waste producer does not lead to the receipt of waste, you do not need to keep records.* *7. You must reassess the information required at pre-acceptance if the:* • *waste changes*	1 – 2. The Site will continue to only accept the waste types permitted on the existing permit or the new permit from the time of issue. The material feedstock will be sourced either from S Norton or through partnerships with third parties. Composition will vary depending upon application. Only waste that conforms to the permitted waste types will continue to be accepted for processing. Section 3 of this BAT-OT lists the proposed additional waste types that will be accepted as part of the permit variation. The Site will continue to be operated under appropriate pre-acceptance procedures. See Section 8.1 of this BAT-OT for a summary of the Site's procedures. 3. There is no acceptance of waste for the purposes of reuse. This will not change as a result of the changes in the permit. 4. This aspect is included in S Norton's pre-acceptance procedures. There is also a detector for radioactive waste at the weighbridge of the Site. 5. S Norton will continue to carry out visual inspections of the waste loads accepted at the Site to ensure no gross contamination is evident. Checks and inspections will be undertaken by a member of staff who is suitably qualified and trained. Any wastes found to be incompatible are immediately taken to one of the three quarantine areas on Site. 6. Pre-acceptance records following receipt of the waste will continue to be kept. 7 – 8. These aspects are included in S Norton's pre-acceptance procedures. See Section 8.1 of this BAT-OT document for a summary of the Site's procedures. No changes to the above existing measures are required as a result of the proposed variation.

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• *process giving rise to the waste changes* • *waste received does not conform to the pre-acceptance information* *8. In all cases you must reassess the information required at pre-acceptance on an annual basis.*	
3.2 Waste acceptance *1. You must implement waste acceptance procedures to check that the characteristics of the waste received matches the information you obtained during waste pre-acceptance. This is to confirm that the waste is as expected, and you can accept it. If it is not, you must confirm that you can accept it as a non-conforming waste, or you must reject it. If you are rejecting hazardous waste you must follow the guidance on the procedure for rejecting hazardous waste. Procedures should be documented and auditable.* *2. Your procedures must follow a risk-based approach, considering:* • the source, nature, condition and age of the waste • any hazardous properties of the waste • any persistent organic pollutant content in the waste • potential risks to process safety, occupational safety and the environment (for example, the presence of lithium-ion batteries) • knowledge about the previous waste holders *3. If, in the case of small one-off deliveries of WEEE (for example those from tradespeople) you have not received any pre-acceptance information, you must fully assess the load to make sure it is technically and legally suitable for your process.* ***Storage areas*** *4. All relevant storage areas (quarantine, reception and general) and treatment processes in your facility must have the physical capacity needed for the waste you receive. You must not receive wastes if this capacity is not available. The amount of waste you receive must also comply with storage limits in your permit.* *5. The waste offloading, reception and quarantine areas must have impermeable surfaces with a sealed drainage system. This system must collect all surface water run-off and channel it to a blind sump unless you can lawfully discharge it.* *6. You must clearly designate a materials reception area (or areas). Staff controlling the inspection, reception and validation of materials at the facility, must be trained in their respective roles.* ***Waste acceptance*** *7. You must weigh each load of waste on arrival to confirm the quantities against the accompanying paperwork, unless alternative reliable systems are available (for example, based upon volume). You must record the weight in the waste tracking system.* *8. You must visually check wastes and verify them against pre-acceptance information and transfer documentation before you accept them on Site.* *9. You must check and validate all transfer documentation and resolve discrepancies before you accept the waste. If you believe the incoming waste classification and description is incorrect or incomplete, then you must address this with the customer during waste acceptance. You must record any non-conformances. If you have assessed the waste as acceptable for on-site storage or treatment, you must document this.* *10. You must have clear criteria that you use to reject non-conforming wastes. You must also have a written procedure for recording, reporting and tracking non-conforming wastes, including notifying the relevant customer or waste producer to prevent reoccurrence.* *11. The person carrying out waste acceptance checks must be trained to effectively identify and manage any non-conformances in the loads received, complying with this guidance and your permit conditions.* *12. If there is a known risk of radioactive contamination other than the presence of smoke detectors and certain specialist lamps such as xenon lamps, you must check the waste to determine that it does not include radioactive material unless your Site is permitted to accept that type of radioactive waste.* ***Quarantine storage***	1 – 3. S Norton will continue to have appropriate waste acceptance procedures in place in accordance with these requirements that will apply to the proposed changes in the permit, as detailed in Section 8 of this BAT-OT document. S Norton already have a dedicated document 'Acceptance and Control of Waste' as part of the Site's IMS, which defines the system for the acceptance & storage of waste and outlines policies ensuring suitable control measures are implemented in line with industry and legislative requirements on Site in accordance with ISO 9001, ISO 14001 and ISO 45001. The proposed changes in this variation will not require changes to these procedures. 4. S Norton will continue to employ an electronic waste tracking system to record all waste inputs and outputs, including their weights. This is linked with tracking of capacity at the processing facility to ensure that waste is not accepted if there is no capacity available. 5 – 12. Existing measures are already in place. The proposed changes in this variation will not require changes. 13 – 16. Quarantine storage is described in Section 4.3 and the Site's Quarantine and Acceptance Procedures are detailed in Section 8.3 of this BAT-OT document. S Norton's internal 'Nonconforming Product Disposal' Procedure defines the system for the disposal of non-conforming products, and where applicable, the retrieval of costs incurred ensuring suitable control measures are implemented in line with industry and legislative requirements on Site in accordance with ISO 9001 and ISO 14001. The proposed changes in this variation will not require changes to these procedures.

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13. You must establish quarantine areas for WEEE and materials that are prohibited, awaiting full inspection, or awaiting assessment or removal. *14. Quarantine storage must be for a maximum of fourteen working days.* *15. You must have written procedures in place for dealing with wastes held in quarantine, and a maximum storage volume. For some limited and specific cases (for example, the detection of radioactivity), you can extend quarantine storage time if the Environment Agency agrees.* *16 Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.*	
3.3 Waste tracking *1. You must use a waste tracking system to hold up-to-date information about the available capacity of the waste quarantine, reception, general and bulk storage areas of your facility including treatment residues and end of waste product materials.* *2. Your waste tracking system must hold all the information generated during:* • pre-acceptance • acceptance • *non*-conformance *or rejection* • *storage* • treatment • removal *off Site* *This information must be readily accessible.* *3. You must create records and update them to reflect deliveries, on-site treatment and despatches. This can be done on a 'loads received' basis. Your tracking system will also operate as a waste inventory and stock control system. It must include this information as a minimum:* • *the date the waste arrived on-Site* • *the* producer's *details (or unique identifier)* • *a unique* reference *number* • *waste pre-acceptance and acceptance information* • *the* quantity *delivered* • *the* intended *treatment route* • *accurate* records *of the nature and quantity of wastes held on Site, including all hazards – and identifying the primary hazards and presence of any regulated chemicals such as POPs* • *where* the *waste is physically located on Site* *4. The tracking system must be able to report:* • *the total quantity of waste present on Site at any one time* • *a breakdown by type of the waste quantities you are storing pending treatment or transfer* • *the quantity of waste on Site compared with the limits authorised by your permit* • *the length of time the waste has been on Site* • *the quantity of end-of-waste product materials on Site at any one time, and, where applicable details of any non-conformances and rejections* *5. You must store back-up copies of electronic records off Site. Records must be readily accessible in an emergency.* *6. You must hold pre-acceptance and acceptance records for a minimum of 2 years after you have treated the waste or removed it off Site. You may have to keep some records for longer if they are required for other purposes, for example, hazardous waste consignment notes.*	1 – 6. S Norton will continue to employ an electronic waste tracking system, which stores all the information on each batch throughout the waste stream's lifecycle on Site. This will include all the listed requirements. No changes to the existing measures are required as a result of the proposed variation.
4. WASTE STORAGE, SEGREGATION AND HANDLING APPROPRIATE MEASURES	
4.1 General waste storage	1 – 3. Existing materials storage and handling procedures and procedures relevant to the proposed changes in the permit are described in Section 4 of the BAT-OT document. No changes to the existing measures are required as a result of the proposed variation.

Appropriate Measure	Compliance
1. You should design and operate your facility in a way that minimises the handling of waste. Waste handling must be carried out by competent staff using appropriate equipment. *2. Where possible, you should locate storage areas away from watercourses and sensitive perimeters (for example, those close to public rights of way, housing or schools).* *3. You must store all waste within the security protected area of your facility to prevent unauthorised access and vandalism*	
Storage duration and capacity *4. You must clearly establish the maximum storage capacity of the Site and designated storage areas and you must not exceed these maximum capacities.* *5. You must define capacity in pile sizes as well as tonnage. You must regularly monitor the quantity of waste stored on the Site and within the designated areas to check against the allowed maximum capacity. You must also monitor the quantities and pile sizes against those set out in your fire prevention plan.* *6. Where relevant, you must conform to Health and Safety Executive (HSE) guidance and standards.* *7. You must not accumulate waste unnecessarily. You must treat wastes, or remove them from the Site, as soon as possible.* *8. You must store all waste in a way that allows easy inspection. You must maintain safe access between piles of wastes. There must always be pedestrian and vehicular access (for example, forklift) to the whole of the storage area.* *9. You must store and handle waste in a way that prevents pests and vermin. You must have specific measures and procedures in place to identify and manage any wastes that are causing pests or vermin at your Site.* *10. Waste storage areas and stored equipment must be subject to frequent inspection to make sure that any leaks, spillages of liquids, dust or loose material are identified and managed appropriately, and fire breaks are maintained. You must keep written records of the inspections. You must rectify and log any spillages of waste.* *11. You must not carry out activities that represent a clear fire risk within any storage area. Examples include:* • *Grinding* • *welding or brazing of metalwork* • *smoking* • *parking of normal road vehicles except while unloading or loading* • *recharging forklift truck or power tool batteries* *12. You should assess areas of the Site where explosive atmospheres could occur. Where appropriate these must be classified into hazardous zones in accordance with the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR).* *13. Outdoor waste storage areas must have an impermeable surface with a sealed drainage system. It must collect all surface water run-off and channel it to a blind sump unless it may be lawfully discharged.* *14. Indoor waste storage areas must have an impermeable surface and you must provide spillage collection facilities.* *15. You must use weatherproof covering to store any items that may be reused as whole appliances or may have components recovered from them for reuse. The type of covering will depend on the types and quantities of waste but must ensure the WEEE is protected from the weather.* *16. You must also use weatherproof covering in areas used for storage of waste containing hazardous material or fluids where this is necessary to avoid contamination of surface water. This includes, but is not necessarily limited to, the storage of* • *lamps and processed fractions* • *flat panel display equipment which may contain cold-cathode fluorescent lamp (CCFL) backlights and where these are processed by shredding, the shredded fractions* • *broken cathode ray tubes (CRTs) and CRT glass*	4. Storage tonnages and durations will change as a result of acceptance of the new waste types. Provisions will be in place to ensure the storage of hazardous waste is managed as in accordance with the appropriate procedures and considers the managing of waste piles, preventing fire spreading and quarantine measures. The FPP will include changes associated with the permit variation. Existing materials storage and handling procedures and procedures relevant to the proposed changes in the permit are described in Section 4 of the BAT-OT document. 5. The proposed changes in the permit will not change the Site throughput, however the FPP will include changes associated with the permit variation, including acceptance of the new waste types, the storage of hazardous waste and the WEEE processing activity. Routine daily visual inspections of the Site including pile sizes will continue to be undertaken by Site personnel to ensure that the Site operates correctly and without giving rise to unacceptable levels of emissions. The results of all daily monitoring are recorded on the daily noise, vibration and dust inspection checksheet. The proposed changes as part of this variation will not require changes to these existing procedures. 6. HSE guidance and standards are followed where relevant (NOTE: this is not considered to be a relevant consideration for EPR). 7. S Norton's electronic waste tracking system will continue to be used to ensure waste does not accumulate or exceed duration periods. 8. Waste storage is clearly defined on the site layout drawing 02 and described in the FPP and BAT-OT. 9. The type of waste accepted at the facility will not attract pests and vermin. The proposed changes in this variation including the addition of new waste types will not change the nature of the incoming waste which are non-odorous and non-putrescible. Existing measures to manage the low risk of pests and vermin on Site will continue to be used and these are detailed in Section 10 of the BAT-OT document. 10. The proposed changes in this variation will not require changes to existing procedures. 11. These aspects are covered in the FPP. 12. There will be no requirement for a DSEAR zone. The proposed changes in the permit do not result in situations where explosive atmospheres could occur. 13 & 14. See Section 6 of the BAT-OT. 15. There will be no acceptance of waste for the purposes of reuse. This will not change as a result of the changes in the permit. 16, 17. A proposed change in this permit variation includes the addition of new waste types and some of these wastes are hazardous. Existing procedures which include the use of weatherproof covering in areas used for storage of waste containing hazardous material or fluids will also apply to the new storage of additional hazardous waste types including the ELV wiring looms and cables containing hazardous substances. 18. The spillage response plan within the Site's EAP will continue to be in place. 19. The proposed changes in this variation will not require changes to existing procedures. 20. Not relevant as a result of the proposed changes in the permit; there will be no liquids in the LDAs being processed. 21 – 23. The proposed changes in this variation will not require changes to existing procedures.

Appropriate Measure	Compliance
• *shredded WEEE or plastic containing fractions that may be POPs waste* *17. Covering may still be required even if you have a consent to discharge surface water to sewer or if water is tankered away. For example, to avoid leached chemicals such as persistent organic pollutants from WEEE plastic entering the water environment.* *18. Any spillage or leakage resulting from the storage of WEEE or processed materials must be collected without delay using equipment and procedures appropriate to the type of spillage. The collected residues must be stored in a lidded, leakproof container. Any containers or surfaces affected by the spillage must be cleaned.* *19. You must train forklift drivers in the handling of waste, to minimise forklift truck damage to the integrity of containers or individual appliances.* *20. Any liquids removed from WEEE must be collected and stored in lidded, leakproof containers. Containers must be kept closed when not being filled and must be stored within a bunded area to contain any leakage or spillage.* *21. You must store the following separately and securely from other WEEE in leakproof containers to prevent leakage and spillage. Containers must be closed or stored under cover to prevent the accumulation of rainwater* • *batteries, capacitors and other similar components which could leak* • *any components which may contain residual liquids* *22. You must clearly label containers to identify their contents.* *23. Where lithium-ion batteries are stored (either separately or as mixed batteries) these must be recognised as a fire hazard and marked and stored accordingly.*	
4.2 Additional storage requirements for specific categories of WEEE *The following appropriate measures apply to specific WEEE categories in addition to those in the general waste storage section.* • *Gas discharge lamps* • *Flat panel display (FPD) equipment* • *Cathode ray tube (CRT) equipment* • *Small mixed WEEE (SMW)* • *Photovoltaic panels*	Additional storage requirements for the listed categories of WEEE are not applicable as these materials will not be accepted at the Site.
5. WASTE TREATMENT APPROPRIATE MEASURES	
5.1 Preparing WEEE for reuse *1. You should give priority to preparing WEEE so it can be reused either as a whole or in part. If it cannot be reused, you must make sure it is recycled or recovered at a suitable permitted or exempt WEEE treatment facility.* *2. You should identify and segregate all WEEE that could be reused as soon as possible to prevent damage to it and to maximise the opportunities for reuse.* *3. You must store WEEE designated for reuse under weatherproof covering and separate from other WEEE. You must transport it securely to an appropriately permitted or exempt Site for preparing for reuse.* *4. WEEE that is POPs waste must not be prepared for reuse – follow the guidance on how to identify and destroy waste that contains POPs.* *5. You must demonstrate that any WEEE that is being prepared for reuse is fully functional and electrically safe. You should treat WEEE (both whole appliances and recovered parts) that is being prepared for reuse under a suitable standard such as BS EN 50614:2020.* *6. If you are preparing WEEE for reuse you must take precautions to make sure there is no pollution of the environment. The standards specified elsewhere in this guidance for storage of components, liquids and other materials apply equally when WEEE is being prepared for reuse.* *7. If you are removing or re-charging refrigerants that are F-gas in temperature exchange equipment you must be suitably qualified to work with F-gas.*	1 – 7. Not relevant. There will be no acceptance of waste for the purposes of reuse.

Appropriate Measure	Compliance
5.2 General waste treatment *1. Where WEEE cannot be prepared for reuse it must be treated to maximise the recycling and recovery of materials whether that is at the same facility or by further downstream processing.* *2. You must fully understand, monitor and optimise your waste treatment process to make sure you treat waste effectively and efficiently. You must not treat waste to deliberately dilute it or mix any hazardous outputs with any non-hazardous outputs.* *3. The treated output material must meet your expectations and you must fully classify and characterise them to ensure they are suitable for their intended disposal or recovery route.* *4. You must identify and characterise emissions from the process and take appropriate measures to control them at source.* *5. You must have up-to-date written details of your treatment activities, and the abatement and control equipment you are using. This should include information about the characteristics of the waste you will treat, and the waste treatment processes, including:* • *simplified process flowsheets that show the origin of any emissions* • *details of emission control and abatement techniques for emissions to air and water, including details of their performance* • *diagrams of the main plant items where they have environmental relevance – for example, storage, tanks, treatment and abatement plant design* • *details of manual dismantling processes, for example removal of cables and plugs, removal of batteries, capacitors and printer cartridges, draining of oil from radiators* • *details of physical treatment processes, for example shredding, separation, compaction, filtration, heating, cooling or washing* • *details of any chemical treatment processes* • *details of any biological treatment processes* • *details of any effluent treatment, including a description of any flocculants or coagulants used* • *an equipment inventory, detailing plant type and design parameters – for example, time, temperature, pressure* • *waste types to be subjected to the process* • *the control system philosophy and how the control system incorporates environmental monitoring information* • *process flow diagrams (schematics)* • *venting and emergency relief provisions* • *a summary of operating and maintenance procedures* • *process instrumentation diagrams* *6. You must have up to date written details of the measures you will take during abnormal operating conditions to make sure you continue to comply with permit conditions.* *Abnormal operating conditions may include:* • *unexpected releases* • *start up* • *momentary stoppages* • *shut down* *7. You should use material flow analysis for relevant contaminants in the waste to help identify their flow and fate. You should use the analysis to determine the appropriate treatment for the waste either directly at the Site or at any subsequent treatment Site.* *8. Material flow analysis considers the contaminant quantity in the:* • *waste input* • *different waste treatment outputs* • *waste treatment emissions* *9. You should use the analysis and your knowledge of the fate of the contaminants to make sure you correctly treat and either destroy or remove them.*	1. Shearing is an effective method of size reduction and ensures that the LDA can be moved to a site that will maximise the recycling and recovery of materials. 2. S Norton intend to include an additional activity for the processing of non-hazardous LDAs using the shearing machines to make them easier to handle, store and transport in order to facilitate their onward recovery. The output will not be mixed with any other non-hazardous outputs or hazardous outputs. 3. See measure above. 4. Not applicable. There will be no point source emissions to sewer from the Site nor any point source emissions to air as part of the proposed changes in the permit. 5. See BAT-OT Section 4. 6. See BAT-OT Section 14. 7 – 12. Not relevant. The processing of non-hazardous LDAs using the shearing machines to improve the storage and transport of the material will facilitate their onward recovery. The treatment will be for size reduction and facilitation only. There will be no change in the properties of the material. 13. These are part of the facility's IMS. The proposed changes in this variation will not require changes to existing procedures. 14. See BAT-OT Section 10. 15 – 16. Not relevant. There will be no acceptance of waste for the purposes of reuse. 17. Not relevant. The LDAs that will be processed via the shear machine will not remove components. The processing is for size reduction and facilitation only. 18. Following processing of the LDAs and onward transfer to another site S Norton will include a full description of the LDAs to contain the treatment activity. 19. Not relevant 20. Weight of all outputs will be recorded. The proposed changes in this variation will not require changes to existing procedures. 21 – 23. Not relevant 24 & 25. The proposed changes in this variation will not require changes to existing procedures for the sorting and storage of batteries. Materials are already stored in appropriate containers. See section 4.1.1 of the BAT-OT for existing measures for the storage of batteries. 26. Outdoor areas already have impermeable surfacing and sealed drainage. 27. Not relevant. There will be no indoor areas used for the treatment of LDAs. 28. Not relevant. LDA is considered non-hazardous and non-POPs. S Norton will not carry out a treatment operation other than the shearing of LDAs. There is no shredding and none of the components of the LDAs will be removed. It is not proportionate to require weatherproof covering for this low risk activity.

Appropriate Measure	Compliance
10. The use of material flow analysis is risk-based considering: • *the hazardous properties of the waste* • *the restricted chemicals in the waste* • *the risks posed by the waste in terms of process safety* • *occupational safety and environmental impact* • *knowledge of the previous waste holders* *11. A treatment process may destroy certain substances in the waste. It could also put substances into the air, water or the ground, or produce residues which are sent for disposal. You should minimise the weight of these outputs. The treatment process may produce residues for recovery or reuse and you should maximise the weight of these outputs.* *12. You must not proceed with the treatment if your risk assessment or material flow analysis indicates that losses from a process will cause:* • *the breach of an environmental quality standard* • *the breach of a benchmark* • *a significant environmental impact* *13. To track and control the process of change, you must have a written procedure for proposing, considering and approving changes to technical developments, or to procedural or quality changes.* *14. You must minimise the release of diffuse emissions to air from activities which may give rise to them (for example, shredding or granulating) by:* • *carrying out the activity using enclosed equipment or in an enclosed building* • *maintaining the enclosed equipment or buildings under an appropriate pressure* • *collecting and directing the emissions to an appropriate abatement system* *15. Unless you are preparing it for reuse, you must remove all fluids from WEEE along with those substances, mixtures and components listed in Annex VII of the WEEE Directive.* *16. Removal may be a staged process and may be undertaken at different facilities. You must be able to demonstrate either:* • *you have removed the substances, mixtures and components listed in Annex VII of the WEEE Directive from WEEE as required by the conditions of your permit* • *those substances, mixtures and components will be removed at a suitably authorised downstream treatment facility* *17. You must make sure that any substances, mixtures and components removed as part of your treatment process are subsequently recovered or disposed of at an appropriately permitted facility.* *18. If you transfer partially treated WEEE to another Site you must properly describe it, so the recipient knows which treatments are complete and which still need to be done.* *19. You should no longer routinely find certain hazardous items and substances that were once used in electrical appliances but are now banned. However, they may still be present on occasions.* *20. You must monitor and record the outputs of your treatment activity, including their weight. The monitoring must be used to provide evidence that the treatment and removal of these components and substances has been carried out to a satisfactory standard.* *21. When removing components, you must safely remove the whole item where breaking it up might:* • *pollute the recyclate or waste stream* • *result in unacceptable emissions* *22. Components that you must always remove whole, that is intact and identifiable, (unless this guidance states specific circumstances where you do not need to) include:* • *capacitors containing polychlorinated biphenyls (PCBs)* • *mercury containing components* • *toner cartridges* • *components with asbestos*	

Appropriate Measure	Compliance
• *components with refractory ceramic fibres* • *components with radioactive substances* • *gas discharge lamps including CCFL backlights* • *cathode ray tubes* • *electrolyte capacitors containing substances of concern that have a height and/or diameter greater than 25mm or have a proportionately similar volume* • *batteries and powerpacks* *23. Instead of removing them as whole components, you may recover the following as fragments or materials using mechanical treatment:* • *chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) or hydrofluorocarbons (HFCs), hydrocarbons (HCs)* • *external electric cables* • *printed circuit boards* • *liquid crystal displays* • *the activated coating in cathode ray tubes (CRTs)* • *plastic with brominated flame retardants (BFRs)* *24. You may either:* • *sort batteries on site* • *send batteries as a mixture of chemistry types to a specialist battery treatment operator for sorting* *25. You must pack and store lithium and lithium-ion batteries removed from WEEE during treatment in a way to minimise the likelihood of electrical shorting, physical impact and overheating.* *26. All outdoor WEEE treatment areas must have an impermeable surface with a sealed drainage system. It must collect all surface water run-off and channel it to a blind sump unless it may be lawfully discharged.* *27. Indoor WEEE treatment areas must have an impermeable surface and you must provide spillage collection facilities appropriate to the materials being handled.* *28. WEEE treatment should take place under weatherproof covering such as a roofed building. Where this is not practicable, for example, due to the large size of the plant, appropriate measures must be taken to minimise the exposure of waste to rain and wind. This may include the covering of:* • *Hoppers* • *Conveyors* • *skips of treated materials* • *storage bays containing treated materials*	
5.3 Treatment of WEEE containing BRFs and POPs *1. You must identify, separate and remove any plastic containing BFRs for further treatment.* *2. Some BFRs used in electrical appliances are POPs. An industry-led investigation identified the presence of decabromodiphenyl ether (deca BDE) and other polybrominated diphenyl ethers (PBDE) in some WEEE plastics.* *3. You must make sure that any items of WEEE and any component or material fractions derived from the treatment of WEEE that is POPs waste (as defined by Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants) are treated as required by that regulation.* *4. POPs may be present in any WEEE category. In large domestic appliance (LDA) white goods (tumble driers, washing machines, dishwashers and cookers only) and temperature exchange equipment, POPs have been shown to be present but in insufficient quantities to make the appliances themselves POPs waste.* *5. All other categories of WEEE should be regarded as POPs waste, unless you have clear evidence of the chemical composition of the cables, printed circuit boards and plastic components in the individual devices present that demonstrates it is not.*	1 – 14. The only type of WEEE that will be accepted and treated on Site will be LDAs. The LDAs will undergo sorting and treatment using the shearing machines only to facilitate size reduction and onward recovery. There will be no shredding activities of the LDAs. The material will be categorised and described appropriately when transferred to another facility for onward recovery.

Appropriate Measure	Compliance
6. Plastic removed from WEEE that is POPs waste must be managed as POPs waste. *7. Components that have been found to contain POPs above the POPs waste threshold include printed circuit boards and electrical cable.* *8. The treatment of WEEE that is not POPs waste, but which may contain POPs in some components, may result in fractions where the POPs threshold is exceeded. You must assess plastic containing fractions at each stage in the treatment process to establish whether the threshold is exceeded and, where it is, manage those fractions as POPs waste.* *9. You may treat any plastic that is POPs waste to separate the POPs containing fraction from the non-POPs containing plastic. For example, density separation can be used to separate plastic containing all BFRs from that which does not. The non-BFR plastic may then be recycled. You must demonstrate that your process reliably achieves a satisfactory separation.* *10. Other hazardous chemicals may be used as flame retardants. You must consider antimony trioxide when you are classifying any WEEE or plastic containing fraction from the treatment of WEEE.* *11. You must not repair or refurbish for reuse any WEEE that is a POPs waste – it must be treated to destroy the POP.* *12. Deca BDE was the last of the PBDEs to be banned from use in electrical equipment under the Restriction of Hazardous Substances Directive (RoHS) and came into effect during 2008. Even so, there is evidence that deca BDE is present in some appliances manufactured since then.* *13. If you prepare for reuse WEEE that may be POPs waste, you can only do so if it has an original manufacture date on or after 1 January 2009 and if it is reused within the UK.* *14. If you repair or refurbish WEEE that may be POPs waste and intend to export the equipment for reuse abroad, you must demonstrate that the equipment does not contain POPs.*	
5.4 Process monitoring *1. At least once a year, for every WEEE stream you treat, you must carry out a mass balance exercise to determine and record the mass of each individual output fraction derived from a given mass of input material. The batch size must be large enough to make sure you can assess a representative sample of typical input materials.* *2. You should compare each set of results with previous results to monitor the performance of your Site and to ensure it is performing optimally.* *3. Where process monitoring requires chemical analysis to be carried out on waste fractions and residues produced by your treatment process, this must be carried out by an independent accredited laboratory, using recognised accredited methods where they are available.* *4. You must have, and be able to provide, a full description of the material testing and analysis procedures and methods used, which provide details of the calibration methods and reference standards used.* *5. You must choose the sample containers and packaging used for storing and transporting according to the nature and requirements of the materials they will contain. For example, chemical properties, pressure and gas tightness.* *6. You must clearly label sample containers with at least the name of the treatment facility, a description of the waste material or residue contained, the waste stream it was produced from and the date of sampling.* *7. You must make sure that any required sample is representative of the waste and has been taken by someone technically competent to do so. A representative sample is one that takes account of the full variation and any partitioning of the material.* *8. Samples must be stored in a dark, cool place and dispatched to the laboratory for analysis as soon as possible, preferably within 24 hours of being taken.* *9. You must carry out sampling under normal operating conditions unless otherwise stated.* *10. If process monitoring shows that the performance of your treatment plant does not meet any of the standards stated in this guidance, you must send a report to the Environment Agency, summarising:* • *the actions you will take to improve performance in order to achieve the standards given, including any additional sampling and testing* • *the dates you will complete these actions by, including the dates for any additional sampling and testing*	1 & 2. A mass balance will be carried out at least once per year for the LDAs treated and processed on Site. S Norton will continue to monitor all inputs and outputs on an electronic waste tracking system. The proposed changes in this variation will not require changes to existing procedures. 3 – 11. Not relevant. There will not be a requirement to carry out chemical analysis on the waste fractions produced.

Appropriate Measure	Compliance
11. Wherever possible you should sample waste fractions and residues in line with relevant guidance.	
5.5 Treatment of gas discharge lamps	Not relevant. No acceptance/treatment of gas discharge lamps.
5.6 Treatment of cathode ray tube equipment	Not relevant. No acceptance/treatment of cathode ray tube equipment.
5.7 Treatment of FPD equipment	Not relevant. No acceptance/treatment of FPD equipment.
5.8 Treatment of SMW	Not relevant. No acceptance/treatment of SMW.
5.9 Treatment of IT, telecommunications and business equipment	Not relevant. No acceptance/treatment of IT, telecommunications and business equipment.
5.10 Treatment of LDA *1. LDA that may be treated in conventional metal shredders is limited to only:* • *washing machines* • *vented and condensing tumble dryers* • *dishwashers* • *cookers* *2. You must have effective procedures in place to ensure that other types of WEEE are removed from mixed loads of LDA before it is treated by shredding, especially:* • *fridges, freezers and any other temperature exchange equipment* • *heat pump tumble dryers* • *any WEEE that contains oil or other liquids* • *any WEEE that may be hazardous waste or POPs waste* *3. You must remove the following items when treating LDA, but you can do this as material streams after mechanical treatment, provided any capacitors remain whole and intact:* • *capacitors identified in Annex VII of the WEEE Directive* • *printed circuit boards if greater than 10 square centimetres in area* • *external electrical cables* • *plastics containing BFRs* • *batteries*	1. Not relevant. There will be no treatment of LDA using metal shredders. The LDAs will undergo sorting and treatment using the shearing machines only to facilitate size reduction and onward recovery. 2. LDAs will be delivered to the Site as a separate waste stream. The LDAs will be kept separate on Site at all times by means of segregation in a designated infeed storage area prior to the processing via the shear and in a designated outfeed storage area following shearing. 3. Not relevant. The LDAs will undergo sorting and treatment using the shearing machines only to facilitate size reduction and onward recovery.
5.11 Treatment of photovoltaic panels	Not relevant. No acceptance /treatment of photovoltaic panels.
5.12 Post-shredding treatments *1. You may use a range of separation technologies to further segregate and purify shredded fractions of WEEE. For example, eddy-current separators, electrostatic separators, and density separation, either at the shredding facility or elsewhere.* *2. You must fully characterise and classify fractions produced by these processes.* *3. Where materials originate from WEEE that was POPs waste, fractions of plastic containing brominated flame retardants must be managed as POPs waste.* *4. Where materials originate from WEEE that was not POPs waste, fractions of plastic containing brominated flame retardants must be assessed to determine if they are POPs waste.* *5. You must fully characterise and classify (including for POPs) process solutions and washings from density separation processes before determining suitable disposal options. Where these originate from the treatment of POPs waste, any POPs must be destroyed.*	1 – 7. Not relevant. There will be no post shredding treatments of WEEE as a result of the proposed additional processing of LDAs.

Appropriate Measure	Compliance
6. You must only use waste codes for single material outputs, for example plastic, where the treatment involved is aimed at producing a pure material fraction. Contamination by other materials must be negligible. ***Process monitoring for the separation of BRF containing plastic*** *7. You must monitor at least once every 3 months how much BFR containing plastic is present in any fraction destined for recycling.*	
5.13 Record keeping for all treatment residues *You must record in the waste tracking system:* • *that the WEEE has been treated or consigned to another WEEE treatment facility* • *what WEEE has been prepared for reuse or has been consigned to a preparing for reuse operator* • *what the treatment residues, treated components and fractions are*	S Norton will continue to record information for all treatment residues as a result of the changes in the permit on an electronic waste tracking system. No changes to the existing measures are required as a result of the proposed variation.
6. EMISSIONS CONTROL APPROPRIATE MEASURES	
6.1 Point source emissions to air *1. You must contain the waste treatment process to make sure that you collect, extract and direct all process emissions to an appropriate abatement system for treatment before release.* *2. You must identify the main chemical constituents of the Site's point source emissions as part of the Site's inventory of emissions to air. You must include the speciation of volatile organic compounds (VOCs) if you have identified them in the emissions inventory and it is practicable to do so.* *3. You must assess the fate and impact of the substances emitted to air, following the Environment Agency's air emissions risk assessment methodology.* *4. To reduce point source emissions to air (for example, dust, volatile organic compounds and odour) from the treatment of waste, you must use an appropriate combination of abatement techniques, including one or more of the following systems:* • *Adsorption* • *fabric filter* • *wet scrubbing* • *HEPA filter* • *condensation and cryogenic condensation* • *cyclone* • *electrostatic precipitator (ESP)* • *thermal oxidation* *5. You must assess and design vent and stack locations and heights to make sure dispersion capability is adequate.* *6. Where monitoring is required, including for odour, you must install a suitable monitoring point. Monitoring points will be required to meet MCERTS standards.* *7. Your procedures must make sure you correctly install, operate, monitor and maintain abatement equipment. For example, this includes monitoring and maintaining:* • *appropriate flow and chemical concentration of scrubber liquor* • *the handling and disposal or regeneration of spent scrubber or filter medium*	1 – 7. Not relevant. There will be no point source emissions to air as a result of the proposed additional processing of LDAs or from existing site operations. No changes to the existing measures are required as a result of the proposed variation.
6.2 Fugitive emissions to air (including odour) *1. You must use appropriate measures to prevent emissions of dust, mud and litter and odour.* *2. You must design, operate and maintain storage and treatment plant in a way that prevents fugitive emissions to air, including dust, organic compounds and odour. Where that is not possible, you must minimise these emissions. Storage and treatment plant includes associated equipment and infrastructure such as:* • *shredder* • *sorting equipment*	1. See Section 9 of the BAT-OT document for controls used to prevent emissions of dust and Section 10 of the BAT-OT document for controls used to prevent emissions of litter, mud, odour and pests from existing Site operations and from the additional processing of LDAs and acceptance of additional wastes. 2. It is not anticipated that there will be any significant change in the risk of fugitive emissions of dust from the additional processing of LDAs. Potential fugitive dust emissions from the shearing of LDAs have been considered in Section 9 of this BAT-OT. Existing dust suppression techniques and the operating techniques detailed in Section 4.2.2 and 4.2.3 and Section 9 of this BAT-OT are considered appropriate for the additional activity in the form of the processing of LDAs. The risk remains low as the waste will continue to be non-dusty

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• *conveyors* • *skips or containers* • *building fabric, including doors and windows* • *pipework and ducting* *3. To make sure fugitive emissions are collected and directed to appropriate abatement, your treatment plant must use high integrity components (for example, seals or gaskets).* *4. You must use your waste pre-acceptance, waste acceptance and site inspection checks and procedures to identify and manage wastes that could cause, or are causing, fugitive emissions to air. When you identify any of these wastes you must:* • *take appropriate, risk assessed measures to prevent and control emissions* • *prioritise their treatment or transfer* *5. Where necessary, to prevent fugitive emissions to air from the storage and handling of odorous or dusty wastes, you should use a combination of the following measures:* • *store and handle such wastes within a building or enclosed equipment* • *keep buildings and equipment under adequate negative pressure with an appropriate abated air circulation or extraction system* • *where possible, locate air extraction points close to potential emissions sources* • *use fully enclosed material transfer and storage systems and equipment, for example, conveyors, hoppers, containers, tanks and skips* • *keep building doors and windows shut to provide containment, other than when access is required for loading or unloading* • *minimising drop height* • *use misting systems and wind barriers* *6. Where a dust management plan is required, you must develop and implement it following our guidance on emissions management plans for dust.*	or odorous and the processing of LDAs will consist of sorting and treatment via the shear only to facilitate size reduction and onward recovery. 3. Techniques to minimise diffuse dust are provided in Section 9 of this BAT-OT document and in the ERA provided in Section 6 of this application. 4. Waste pre-acceptance and waste acceptance procedures will continue to be in place to reduce the risk of accepting non-conforming wastes and managing them in the unlikely event that they are received on Site. 5. It is not anticipated that there will be a change in the risk of fugitive emissions of dust from the additional processing of LDAs. However, techniques to minimise diffuse dust are provided in Section 9 of this BAT-OT document and in the ERA provided in Section 6 of this application. 6. A Dust & Emissions Management Plan (DEMP) is included in Section 7 with this application.
Maintenance and cleaning *7. You must set up a leak detection and repair programme. You must use it to promptly identify and mitigate any fugitive emissions from treatment plant and associated infrastructure (such as pipework, conveyors, tanks).* *8. You must regularly inspect and clean all waste storage and treatment areas, equipment (including conveyor belts) and containers. You must contain any residues collected during cleaning.* *9. Your maintenance and cleaning schedules must make sure that your plant is regularly cleaned to avoid large-scale decontamination activities.* *10. You must take measures to prevent the corrosion of plant and equipment (for example, conveyors or pipes). This includes:* • *selecting and using appropriate construction materials* • *lining or coating equipment with corrosion inhibitors* • *regularly inspecting and maintaining plant* *11. You must have an appropriate regular maintenance programme covering all buildings, plant and equipment. This must also include protective equipment such as air ventilation and extraction systems, curtains and fast-action doors used to prevent and contain fugitive releases.*	7. Routine daily visual inspections of the Site and Site boundary will continue to be undertaken by Site personnel to ensure that the Site operates correctly and without giving rise to unacceptable levels of emissions. All plant and equipment, including the shearing machines used for the processing of the LDAs continue to be subject to a programme of planned preventative maintenance which will follow the maintenance schedule recommended by the manufacturer. This will include corrosion prevention where applicable. 8. Regular housekeeping will continue to be carried out. See Section 10 of the BAT-OT which includes inspection and monitoring procedures that will continue to be carried out by Site personnel. 9. As above. 10. Appropriate design and maintenance procedures will continue to be in place to prevent the corrosion of plant and equipment. The proposed changes in this variation will not require changes to these existing procedures. 11. S Norton will continue to operate a Combined Management Maintenance System that logs and keeps a record of changes to procedures and the findings of maintenance inspections. It also includes a preventive and reactive maintenance programme. Any actions raised from the EHS (Environment, Health, and Safety) Management System Incident Record are added to 'site action' lists and these are dealt with in the reactive maintenance programme. No changes to the existing measures are required as a result of the proposed variation.
Odorous wastes *12. You must have procedures to minimise the amount of time odorous wastes spend in your storage and handling systems (for example, pipes, conveyors, hoppers, tanks). In particular, you must have provisions to manage waste during periods of peak volume.*	12 – 19. Not applicable. There will be no odorous wastes handled on site nor will the proposed changes in the permit increase the risk of the Site handling or accepting odorous wastes. Waste pre-acceptance and waste acceptance procedures will continue to be in place to reduce the risk of accepting non-conforming wastes and managing them in the unlikely event that they are received on Site. The proposed changes in this variation will not require changes to existing procedures. See Section 10 of the BAT-OT.

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13. You must have measures to contain, collect and treat odorous emissions, including using contained buildings and plant or equipment with appropriate air extraction and abatement. We do not consider masking agents to be appropriate measures for the treatment of odorous emissions. *14. You must monitor and maintain odour abatement systems to ensure optimum performance. For example, you should make sure that scrubber liquors are maintained at the correct pH and replenished or replaced at an appropriate frequency.* *15. Contaminated waters have potential for odours. You must store them in containers or enclosed tanks that are vented to an abatement system.* *16. Where you expect odour pollution at sensitive receptors, or it has been substantiated, you must periodically monitor odour emissions using European (EN) standards. For example, either:* • *dynamic olfactometry according to EN 13725 to determine the odour concentration* • *EN 16841-1 or -2 to determine the odour exposure* *17. If you are using alternative methods for which no EN standards are available (for example, estimating odour impact), you should use ISO, national or other international standards to make sure you use data of an equivalent scientific quality. You must set out the monitoring frequency in the odour management plan.* *18. Where you expect odour pollution at sensitive receptors, or it has been substantiated, you must also set up, implement and regularly review an odour management plan. It must be part of your management system and include all of the following elements:* • *actions and timelines to address any issues identified* • *a procedure for conducting odour monitoring* • *a procedure for responding to identified odour incidents, for example, complaints* • *an odour prevention and reduction programme designed to identify the source(s), to characterise the contributions of the sources and to implement prevention and reduction measures* *19. Where an odour management plan is required, you must develop and implement it following our guidance on odour management plans.*	
6.3 Emissions of noise and vibration *1. You should design the layout of the facility to locate potential sources of noise (including building exits and entrances) away from sensitive receptors and boundaries. You should locate buildings, walls, and embankments so they act as noise screens.* *2. You must use appropriate measures to control noise, for example, including:* • *adequately maintaining plant or equipment parts that may become noisier as they deteriorate – such as bearings, air handling plant, building fabric, and specific noise attenuation kit associated with plant or machinery* • *closing doors and windows of enclosed areas and buildings* • *avoiding noisy activities at night or early in the morning* • *minimising drop heights and the movement of waste and containers* • *using broadband (white noise) reversing alarms and enforcing the on-site speed limit* • *using low-noise equipment, for example, drive motors, fans, compressors and pumps* • *adequately training and supervising staff* • *where possible, providing additional noise and vibration control equipment for specific noise sources – such as noise reducers or attenuators, insulation, or sound-proof enclosures* *3. Where noise or vibration pollution at sensitive receptors is expected, or has been substantiated, you must create, use and regularly review a noise and vibration management plan. This must be part of the environmental management system, and must include:* • *actions and timelines to address any issues identified* • *a procedure for noise and vibration monitoring* • *a procedure for responding to identified noise and vibration events, for example, complaints* *4. Your noise and vibration management plan should also include a noise and vibration reduction programme designed to:*	1. The facility is in an area of extensive commercial and industrial activity. Currently, there are no residential properties within 500m of the permit boundary in all directions. The nearest residential properties lie approximately 580m north east of the permit boundary. Plans have been approved however for some new residential premises to the north of the Site as part of a collaborative housing development known as Barking Riverside. The nearest homes to the Site will be located approximately 400m to the north with the majority of the Barking Riverside development to be located on the former Barking Power Station site to the east of the Site and will lie more than 500m from the Site boundary. However, the proposed changes in this variation will not introduce any new equipment or increase the throughput of waste that is currently permitted. Instead, the LDAs will be processed via the shearing machines which is an existing piece of plant and existing measure are in place and considered satisfactory for the proposed changes in the permit with consideration to noise and vibration from the site. See Section 11 of the BAT-OT document for existing measures. 2. The qualitative risk assessment for the additional processing of LDAs concluded that no additional noise mitigation would be necessary given the relatively low level of emissions from existing plant on Site and in consideration of the site setting and background noise levels. Nonetheless, measures to minimise the noise and / or vibration nuisance from activities on Site including the additional processing of LDAs to ensure that the risk of impact to receptors that may be affected is minimised are detailed in Section 11 of the BAT-OT document. 3 – 5. Not relevant. Noise or vibration pollution at sensitive receptors is not expected and a noise and vibration management plan is not considered necessary. No changes to the existing measures are required as a result of the proposed variation.

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• *identify the sources of noise and vibration* • *measure or estimate noise and vibration exposure* • *characterise the contributions of the sources* • *implement prevention and reduction measures* *5. Where a noise and vibration management plan is required, you must develop and implement it following our guidance.*	
6.4 Point source emissions to water and sewer *1. You must identify the main chemical constituents of the site's point source emissions to water and sewer as part of the site's inventory of emissions.* *2. You must assess the fate and impact of the substances emitted to water and sewer, following the Environment Agency's risk assessment guidance.* *3. Except for uncontaminated surface water, for example roof drainage, discharges to water or sewer must comply with the conditions of an environmental permit or trade effluent consent. Relevant sources of waste-water include (but are not limited to):* • *water or condensate collected from treatment processes* • *waste compactor runoff* • *vehicle washing* • *vehicle oil and fuel leaks* • *washing of containers* • *spills and leaks in waste storage areas* • *loading and unloading areas* • *uncovered storage areas* *4. POPs may leach or wash out in particulates from some wastes, such as shredded WEEE plastic or granulated cable, if exposed to the weather. You must prevent the release of POPs to water or sewer by storing these wastes and any other shredded POPs waste under weatherproof covering.* *5. To reduce emissions to water and sewer, if you need to treat waste water before discharge or disposal, you must use an appropriate combination of treatment techniques, including one or more of the following:* • *preliminary or primary treatment – for example, equalisation, neutralisation or physical separation* • *physico-chemical treatment – for example, adsorption, distillation or rectification, precipitation, chemical oxidation or reduction, evaporation, ion exchange, or stripping* • *biological treatment – for example, activated sludge process or membrane bioreactor* • *nitrogen removal – for example, nitrification and denitrification* • *solids removal – for example, coagulation and flocculation, sedimentation, filtration or flotation*	1. See Sections 12.2 and 12.3 of the BAT-OT. The Site benefits from impermeable surfacing and run-off from rainfall will be contained in the sealed drainage system which discharges to sewer. 2. S Norton will monitor surface water discharge from the Site to sewer in line with the procedures detailed in Section 13.3 of this BAT-OT and will assess the impact of substances on a continuous basis. 3. S Norton have applied for a trade effluent discharge consent from the Site from Thames Water. The site drainage is connected to the existing system for the wider industrial area within which the facility is located. The point source and fugitive emissions to surface water and sewer are detailed in Sections 12.2 and 12.3 of the BAT-OT. See Section 13.3 of the BAT-OT document for proposed monitoring and emissions limits. 4. The only type of WEEE that will be accepted and treated on Site will be LDAs. The LDAs will undergo sorting and treatment using the shearing machines only to facilitate size reduction and onward recovery. There will be no shredding activities of the LDAs. The material will be categorised and described appropriately when transferred to another facility for onward recovery. 5. Not relevant. See above.
6.5 Fugitive emissions to land and water *1. You must use appropriate measures to control potential fugitive emissions and make sure that they do not cause pollution. See the guidance on emissions to water and leaks from containers.* *2. You must have these in all operational areas of the facility:* • *an impermeable surface* • *sealed construction joints* • *spill containment kerbs* *3. For outdoor operational areas you must also have a sealed drainage system.* *4. Your sealed drainage system must collect all surface water run-off and channel it to a blind sump unless it may be lawfully discharged to water or sewer.* *5. You must collect and treat separately each water stream generated at the facility, for example, surface run-off water or process water. Separation must be based on pollutant content and treatment required. In particular you must make sure you segregate uncontaminated water streams from those that require treatment.*	1. See Section 10 and 12 for measures taken to control potential fugitive emissions. 2. All measures described are already present at the facility. 3. The Site benefits from a sealed drainage system. 4. The Site benefits from impermeable surfacing and a sealed drainage system. All wastes will be stored on an impermeable surface with a sealed drainage system. Any potentially contaminated water from the Site, such as water from wash down of buildings will be passed through an interceptor before discharge to foul sewer. S Norton have applied for a trade effluent discharge consent from the Site from Thames Water. 5. The Site benefits from a sealed drainage system and there will be no process water. The existing drainage infrastructure is a foul sewer so segregation is not appropriate. 6. The Site benefits from a sealed drainage system. See appropriate measure 4. 7. Any surface water run-off including any potentially contaminated water from the Site, such as water from wash down of buildings will be passed through an interceptor before discharge to foul sewer. Any known contaminated surface water will be contained and tested prior to any release into the foul sewer system only

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6. You must use suitable drainage infrastructure to collect surface drainage from areas of the facility where you store, handle and treat waste. You must also collect washing water and occasional spillages. *7. Depending on the pollutant content, you must either:* • *recirculate what you have collected* • *discharge it in accordance with an environmental permit or trade discharge consent* • *send it for further treatment* *8. You must have design and maintenance provisions in place to detect and repair leaks. These must include regularly monitoring, inspecting and repairing equipment and minimising underground equipment and infrastructure.* *9. You should provide appropriate buffer storage capacity at your facility to store waste waters, taking into account:* • *potential abnormal operating scenarios and incidents* • *the nature of any polluting substances and their impact on the downstream waste water treatment plant and receiving environment* *10. You must have appropriate measures in place to monitor, treat and reuse the water held in the buffer storage before discharging.* *11. You must take measures to prevent emissions from washing and cleaning activities, including:* • *directing liquid effluent and wash-waters to foul sewer or collecting them in a sealed system for off-Site disposal – you must not discharge them to surface or storm drains* • *where possible, using biodegradable and non-corrosive washing and cleaning products* • *storing all detergents, emulsifiers and other cleaning agents in suitable bunded or containment facilities, within a locked storage area, or in a building away from any surface water drains* • *preparing cleaning or disinfection solutions in contained areas of the Site and never in areas that drain to the surface water system* *12. Where relevant, you must have measures to prevent pollution from the on-Site storage, handling and use of oils and fuels.*	once Thames Water have been informed of the results of testing and approved its release. Alternatively, it will be tankered off site to an appropriately regulated site for treatment if not suitable for release to sewer. 8. Maintenance procedures will continue to be in place. 9. The Site already has buffer storage capacity to contain contaminated water. Any surges or storm water flows on the Site would drain to the interceptors prior to discharge into municipal foul sewer for the wider industrial area within which the facility is located. One of the two interceptors has a silt storage capacity of 12,500 litres and is able to provide buffer storage capacity equivalent to an area of 6,945 m^3. An inflatable bung would be inserted into the outflow from the interceptors, therefore, isolating any contaminated water. Any contaminated surface water will be contained and tested prior to any release into the foul sewer system only once Thames Water have been informed of the results of testing and approved its release. Alternatively, it will be tankered off site to an appropriately regulated site for treatment if not suitable for release to sewer. 10. Water held in buffer storage will be tested prior to release to foul sewer or tankering off-site, depending on the test result. 11. Emissions from washing or cleaning will continue to be released to foul sewer. 12. Existing measures are in place to ensure oils and fuels are stored appropriately as detailed in Section 7.1 of this BAT-OT document.
Spill response plan *13. You must produce and implement a spillage response plan and train staff to follow it and test it.* *14. Your procedures and associated training must make sure you deal with spillages immediately.* *15. You must keep spill kits at locations close to areas where a spillage could occur and make sure relevant staff know how to use them. Make sure kits are replenished after use.* *16. You must take measures to stop spillages from entering drains, channels, gullies, watercourses and unmade ground. You must make available proprietary sorbent materials, sand or drain mats for use when required.* *17. You must make sure your spillage response plan includes information about how to recover, handle and correctly dispose of waste produced from a spillage.*	12 – 16. The Site will continue to adhere to the spillage response plant (ref: 'INCIDENT 4.1 An oil, fuel or liquid spillage has occurred on site') that includes all aspects. No changes to the existing measures are required as a result of the proposed variation.
Designing and maintaining surfacing and subsurface structures *18. For subsurface structures, you must:* • *establish and record the routing of all site drains and subsurface pipework* • *identify all sub-surface sumps and storage vessels* • *engineer systems to minimise leakages from pipes and make sure they are detected quickly if they do occur, particularly where hazardous substances are involved* • *provide secondary containment or leakage detection for sub-surface pipework, sumps and storage vessels* • *establish an inspection and maintenance programme for all subsurface structures, for example, pressure tests, leak tests, material thickness checks or CCTV* *19. For surfacing, you must design appropriate surfacing and containment or drainage facilities for all operational areas, taking into account:*	18. No existing subsurface structures. There will not be any changes as a result of the proposed changes in the permit. 19. Section 6.1 of the BAT-OT details the surfacing and containment or drainage facilities for all operational areas of the adjacent permit that is being consolidated as part of this permit variation. There will be no change to the surfacing or containment facilities of the existing Site. 20. There will be no change to the existing inspection and maintenance programme for the existing Site as a result of the proposed changes. The existing inspection and maintenance programme will also apply to impermeable surfaces and containment facilities of the adjacent permit.

Appropriate Measure	Compliance
• *collection capacities* • *surface thicknesses* • *strength and reinforcement* • *falls* • *materials of construction* • *permeability* • *resistance to chemical attack* • *inspection and maintenance procedures* *20. You must have an inspection and maintenance programme for impermeable surfaces and containment facilities.*	
Tanks and bunding *21. You must bund all above-ground tanks containing liquids whose spillage could be harmful to the environment.* *Bunds must:* • *be impermeable and resistant to the stored materials* • *have no outlet (that is, no drains or taps) and drain to a blind collection point* • *have pipework routed within bunded areas with no penetration of contained surfaces* • *be designed to catch leaks from tanks or fittings* • *have a capacity greater than 110 percent of the largest tank or 25 percent of the total tankage, whichever is the larger* • *have regular visual inspections – any contents must be pumped out or otherwise removed under manual control after checking for contamination* • *be fitted with a high-level probe and an alarm (as appropriate) if not frequently inspected* • *have tanker connection points within the bund (where possible), otherwise provide adequate containment* • *have programmed engineering inspections – normally visual, but extending to water testing if structural integrity is in doubt* • *be emptied of rainwater regularly to maintain their containment capacity*	21. See Section 6.1 of the BAT-OT details for measures.
7. EMISSIONS MONITORING AND LIMITS APPROPRIATE MEASURES	
1. Where you are required to monitor emissions to comply with the requirements of your environmental permit you must follow our monitoring your emissions guidance. *2. You must create and maintain an inventory (emissions inventory) of point source emissions to air and water (including emissions to sewer) for your facility.* ***7.1 Emissions to air*** *1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to air, such as the:* • *average values and variability of flow and temperature* • *average concentration and load values of relevant substances and their variability* • *flammability, lower and higher explosive limits and reactivity* • *presence of other substances that may affect the waste gas treatment system or plant safety – for example, oxygen, nitrogen, water vapour, dust* *2. Monitoring locations must meet MCERTS standards. Monitoring must be carried out using MCERTS qualified accredited methods and MCERTS certified staff. Further guidance can be found in our guidance M1 sampling requirements for stack emissions monitoring.* *3. You must carry out emissions monitoring when the plant is operating at or near to full treatment capacity. Information regarding the plant treatment processing rate and air flow rate at the time of monitoring must be recorded and submitted with the monitoring results.*	Not relevant. There will be no point source emissions to air as a result of the additional processing of LDAs or any other proposed changes.

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4. You must monitor point source emissions to air from your treatment plant for the following substances using the monitoring standards stated. You must monitor at the frequencies stated and meet the specified emission limits unless your permit states alternative requirements. ***Channelled emissions to air from all mechanical treatment of WEEE*** • *Dust - Emission limit – 5 mg/m³ (where it is inappropriate to fit a fabric filter due to the potential effects of deflagration on the filter, the limit is 10 mg/m³) – every 6 months* • *TVOC – every 6 months* • *Dioxin-like PCBs – every 12 months* • *PCDD/F – every 12 months* • *BFRs – every 12 months* • *Metals and metalloids excluding mercury – every 12 months*	

7.2 Emissions to water or sewer
 	
1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to water or sewer, such as:
 	
• *average values and variability of flow, pH, temperature, and conductivity*
• *average concentration and load values of relevant substances and their variability – for example, COD (chemical oxygen demand) and TOC (total organic carbon), nitrogen species, phosphorus, metals, priority substances or micropollutants*
• *data on bio-eliminability – for example, BOD (biochemical oxygen demand), BOD to COD ratio, Zahn-Wellens test, biological inhibition potential, for example, inhibition of activated sludge*
 	
2. For relevant emissions to water or sewer identified by the emissions inventory, you must monitor key process parameters (for example, waste water flow, pH, temperature, conductivity, or BOD) at key locations. For example, these could either be at the:
 	
• *inlet or outlet (or both) of the pre-treatment*
• *inlet to the final treatment*
• *point where the emission leaves the facility boundary*
 	
3. For the following types of discharges, you must monitor point source emissions to water or sewer for the substances listed using the monitoring standards stated. You must meet the specified emission limits unless your permit states otherwise.
 	
Direct discharges to a water body from all Sites carrying out the mechanical treatment of WEEE
 	
• *TOC – Emission limit 60 mg/l – every month*
• *COD – Emission limit 180 mg/l – every month*
• *Total suspended solids – Emission limit 60 mg/l – every month*
 	
Discharges to sewer or a water body from all mechanical treatment of WEEE
 	
• *Hydrocarbon oil index – Emission limit 10 mg/l – every month*
 	
Discharges to sewer or a water body from all mechanical treatment of WEEE, when the substance concerned is identified as relevant based on your facility's emissions inventory
 	
• *Metals and metalloids (frequency every month), including:*
  ○ *arsenic, 0.05 mg/l*
  ○ *cadmium, 0.05 mg/l*
  ○ *chromium, 0.15 mg/l*
  ○ *copper, 0.5 mg/l*
  ○ *lead, 0.1 mg/l*
  ○ *nickel, 0.5 mg/l*
  ○ *mercury 0.005 mg/l*
  ○ *zinc, 1.00 mg/l*
  ○ *PFOA, PFOS and deca BDE (frequency every 6 months)*
	Emissions to water will be monitored in accordance with the monitoring standards and methods detailed in Section 13 of the BAT-OT document.

Appropriate Measure	Compliance
8. PROCESS EFFICENCY APPROPRIATE MEASURES	
For your facility, you must monitor and review the annual quantity of: • *water, energy and raw materials used* • *residues and waste water produced* *You must do this at least once every year.* ***8.1 Energy efficiency*** *1. You must create and implement an energy efficiency plan at your facility. This must:* • *define and calculate the specific energy consumption of the activity (or activities) you do and waste stream(s) you treat* • *set annual key performance indicators – for example, specific energy consumption (expressed in kWh/tonne of waste processed)* • *plan periodic improvement targets and related actions* *2. You must regularly review and update your energy efficiency plan as part of your facility's management system.* *3. You must have and maintain an energy balance record for your facility. This must provide a breakdown of your energy consumption and generation (including any energy or heat exported) by the type of source (electricity, gas, conventional liquid fuels, conventional solid fuels, and waste). You should provide Sankey diagrams or energy balances to show how energy is used in your waste treatment processes.* *4. You must regularly review and update your energy balance record as part of your facility's management system, alongside the energy efficiency plan.* *5. You must have operating, maintenance and housekeeping measures in place in relevant areas, for example, for:* • *air conditioning, process refrigeration and temperature exchange systems (leaks, seals, temperature control, evaporator or condenser maintenance)* • *the operation of motors and drives* • *compressed gas systems (leaks, procedures for use)* • *steam distribution systems (leaks, traps, insulation)* • *space heating and hot water systems* • *lubrication to avoid high friction losses* • *boiler operation and maintenance, for example, optimising excess air* • *other maintenance relevant to the activities within the facility* *6. You must have measures in place to avoid gross energy inefficiencies. These should include, for example:* • *insulation* • *containment methods (such as seals and self-closing doors)* • *avoiding unnecessary discharge of heated water or air (for example, by fitting simple control systems such as timers and sensors)* *7. You should implement additional energy efficiency measures at the facility as appropriate, following our guidance on energy efficiency standards for industrial plants.*	1 – 7. See Section 7.2 of the BAT-OT. No changes to the existing measures are required as a result of the proposed variation.
8.2 Raw materials (installations only) *1. You must maintain a list of the raw materials used at your facility and their properties. This includes auxiliary materials and other substances that could have an environmental impact.* *2. You must regularly review the availability of alternative raw materials and use any suitable ones that are less hazardous or polluting. This should include, where possible, substituting raw materials with waste or waste-derived products.* *3. You must justify the continued use of any substance for which there is a less hazardous alternative.* *4. You must have quality assurance procedures in place to control the content of raw materials.*	1 – 4. See Section 7.1 of the BAT-OT. No changes to the existing measures are required as a result of the proposed variation.

Appropriate Measure	Compliance
8.3 Water use (installations only) *1. You must take measures to make sure you optimise water consumption to:* • *reduce the volume of waste water generated* • *prevent or, where that is not practicable, reduce emissions to soil and water* *2. You must take these measures:* • *implement a water saving plan (involving establishing water efficiency objectives, flow diagrams and water mass balances)* • *optimising the use of washing water (for example, dry cleaning instead of hosing down, using trigger control on all washing equipment)* • *recirculating and reusing water streams within the plant or facility, if necessary after treatment* • *reducing the use of water for vacuum generation (for example, using liquid ring pumps with high boiling point liquids) where relevant* *3. You must carry out a regular review of water use (a water efficiency audit) at least every 4 years.* *4. You must also:* • *produce flow diagrams and water mass balances for your activities* • *establish water efficiency objectives and identify constraints on reducing water use beyond a certain level (usually this will be site specific)* • *identify the opportunities for maximising reuse and minimising use of water* • *have a timetabled improvement plan for implementing additional water reduction measures* *5. To reduce water use and associated emissions to water, you should apply these general principles in sequence:* • *use water efficient techniques at source where possible* • *reuse water within the process, by treating it first if necessary – if not practicable, use it in another part of the process or facility that has a lower water quality requirement* • *If you cannot use uncontaminated roof and surface water in the process, you should keep it separate from other discharge streams – at least until after you have treated the contaminated streams in an effluent treatment system and have carried out final monitoring.* *6. You should establish the water quality requirements associated with each activity and identify whether you can substitute water from recycled sources. Where you can, include it in your improvement plan.* *7. Where there is scope for reuse (possibly after some form of treatment) you should keep less contaminated water streams, such as cooling waters, separate from more contaminated streams.* *8. You must minimise the volume of water you use for cleaning and washing down by:* • *vacuuming, scraping or mopping in preference to hosing down* • *reusing wash-water (or recycled water) where practicable* • *using trigger controls on all hoses, hand lances and washing equipment* *9. You must directly measure fresh water consumption and record it regularly at every significant usage point, ideally on a daily basis.*	1 – 9. See Section 7.1.4 of the BAT-OT. No changes to the existing measures are required as a result of the proposed variation.
8.4 Waste minimisation, recovery and disposal *1. You must have and implement a residues management plan that:* • *minimises the generation of residues arising from waste treatment* • *optimises the reuse, regeneration, recycling or energy recovery of residues, including packaging* • *makes sure you properly dispose of residues where recovery is technically or economically impractical* *2. Where you must dispose of waste, you must carry out a detailed assessment identifying the best environmental options for waste disposal.*	1 – 3. See Section 7.1 of the BAT-OT. No changes to the existing measures are required as a result of the proposed variation.

Appropriate Measure	Compliance
3. You must regularly review options for recovering and disposing of waste produced at the facility. You must do this as part of your management system to make sure you are using the best environmental options and promoting the recovery of waste where technically and economically viable.	

Appendix 03. Appropriate measures for non-hazardous and inert waste

Barking Metal Recycling Facility, Environmental Permit Variation Application

Best Available Techniques & Operating Techniques

S Norton & Co Limited

SLR Project No.: 416.064707.00001

5 September 2023

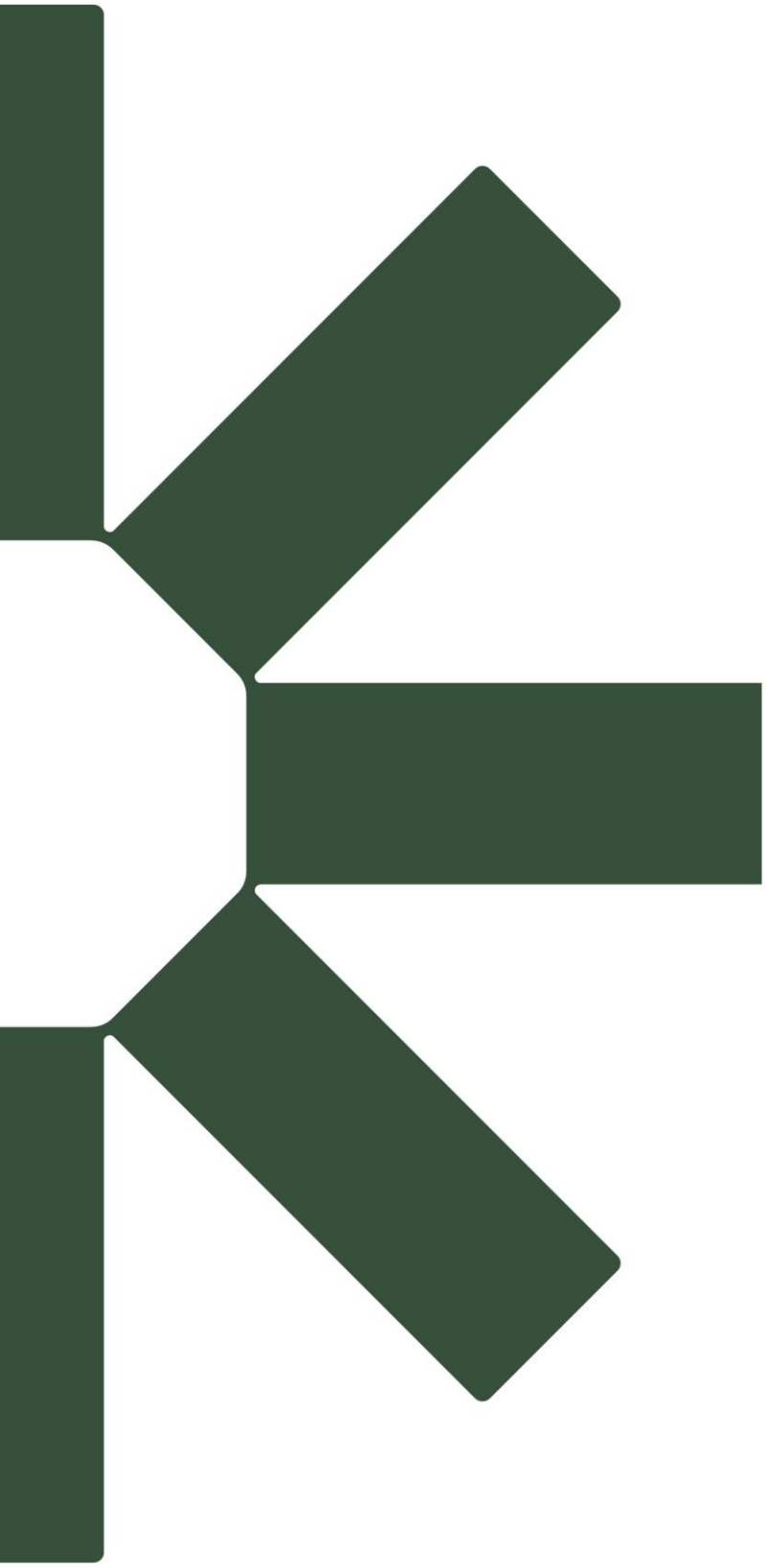
Appendix 03: Non-hazardous and Inert Waste EA Appropriate Measures

Appropriate Measure	Compliance
3. WASTE PRE-ACCEPTANCE, ACCEPTANCE AND TRACKING APPROPRIATE MEASURES	
3.3 Quarantine *1. Your facility must have a dedicated waste quarantine area or areas which you use to temporarily store waste being rejected, or non-conforming waste whilst it is being assessed. Quarantine areas must have impermeable surface with self-contained drainage if there is a risk of contaminated runoff from the quarantined waste.* *2. Where there is a risk of fugitive emissions from quarantined waste you must store it in closed or covered containers or within a building.* *3. Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.* *4. You should store the waste in quarantine in closed containers or cover it to prevent emissions if appropriate. For example, you should sheet quarantined contaminated soil or store it in a covered skip to prevent rainfall or wind from mobilising pollutants.* *5. You must have written procedures for dealing with wastes held in quarantine, including a maximum storage volume. The maximum storage time must take account of the potential for odour generation, pest infestation and storage conditions. If the waste is infested or odorous you must remove it within 24 hours or sooner.*	1. The facility has two dedicated quarantine areas which can be used to temporarily store waste being rejected, or non-conforming waste whilst it is being assessed. They have impermeable surface, and the drainage system can be isolated from these areas if there is a risk of contaminated runoff from the quarantined waste. 2. When presenting a risk of fugitive emissions from quarantined waste it will be stored in closed or covered containers. 3. Quarantine storage is separate from all other storage. 4. See appropriate measure 2 above. 5. Written quarantine procedures for dealing with wastes held in quarantine are detailed in Sections 4.4 and 8.3 of this BAT-OT.
4. WASTE STORAGE, SEGREGATION AND HANDLING APPROPRIATE MEASURES	
General waste storage *6. You should clearly mark all waste storage areas and provide signs indicating the type of waste stored there.* *8. Except for inert waste, you must follow the first-in-first-out principle, unless you need to prioritise more recently received wastes because they pose a higher risk of pollution.* *9. You must minimise refuse derived fuel (RDF) and solid recovered fuel (SRF) storage durations. You must implement an auditable bale identification system so that you can remove bales in date order.* *10. You must securely wrap bales of RDF and SRF with high-density polyethylene (HDPE) membrane or equivalent. This is to prevent water entering, access by pests and odour release. You should inspect bales regularly and rewrap any that are damaged. If they are wrapped securely, you can store them outside (unless your permit forbids this). If you store bales outside, your fire prevention plan must manage the risks from solar heating during hot weather.* *11. You must thoroughly clean storage bays and containers on a regular basis to prevent the build-up of aging waste, which will be a source of odour and attract vermin.* *12. All waste containers must be fit for purpose, that is:* • *in sound condition* • *not corroded, if metal* • *have well-fitting lids* • *suitable for the contents* • *with caps, valves and bungs in place and secure* • *within the manufacturer's designed lifespan, particularly for plastic containers*	Items 1 – 5 and item 7 are covered in responses in Appendix 02. 6. Existing materials storage and handling procedures and procedures relevant to the proposed changes in the permit are described in Section 4 of the BAT-OT document. 8. The first in first out (FIFO) principle applies to all materials received to Site with the exception of Heavy Metal Steel (HMS) as this is impractical due to the tide timetable which currently influences shipment dates and times. However, the Site can store approximately 15,000 to 20,000 tonnes of waste and stock is exported at a rate of 12,000 to 20,000 tonnes per month. This means that the average time stock is on Site for is between 4 and 5 weeks. Typically, there is no waste stored on Site for longer than 5 weeks. Exports of scrap metal are planned using a tide timetable which shows when vessels can berth alongside the quay. The FIFO principle will be used for the additional waste types including LDAs and the electric motors, cast iron brake discs, ELV wiring looms and hazardous cables. 9 – 10. Not relevant. No RDF or SRF accepted or processed on Site. 11. The Site will be kept clean and tidy by way of a regularised housekeeping regime Daily inspections daily for dust, litter and combustible material will be recorded on S Norton's daily noise, vibration and dust inspection checksheet (EF-4.4.6-01). Sweeping of surfaces and dampening where appropriate will be undertaken as necessary in response. 12. There is no change to existing provisions as a result of the proposed changes. All waste containers will continue to be inspected to ensure they are fit for purpose. Infrastructure and equipment will be subject to regular visual inspection. Inspections will be undertaken on a weekly basis and the results of all weekly monitoring will be recorded on the weekly environmental inspection checksheet.
4.1 Segregation *1. You should keep different types of waste segregated if contamination would inhibit the recovery of the waste.* *2. Where paper, plastic, metal or glass have been collected separately, they must not be mixed with other waste or material. This duty applies where you are required to keep wastes separate and to help with or improve waste recovery.*	1. Existing materials storage and handling procedures and procedures relevant to the proposed changes in the permit to ensure different types of waste continue to be segregated are described in Section 4 of the BAT-OT document. Containment for all the hazardous waste types including waste containing hazardous material or fluids will either be in an enclosed structure with a roof or include the use of weatherproof covering. This will also apply to the storage of the additional hazardous waste types to be accepted including the ELV wiring looms and cables containing hazardous substances. 2. These types of waste will not be mixed with other wastes or material.

Appropriate Measure	Compliance
5. WASTE TREATMENT APPROPRIATE MEASURES	
Waste Treatment *1. Waste treatment must have a clear and defined benefit. You must fully understand, monitor and optimise the waste treatment process to make sure you treat waste effectively and efficiently. You must not treat waste to deliberately dilute it. The treated output material must meet your expectations and be suitable for its intended disposal or recovery route. You must identify and characterise emissions from the process and take appropriate measures to control them at source.*	The overall objective of the Site is to maximise the recovery of ferrous metal via the shearing and cutting of oversize ferrous metal to specification from the waste feedstocks and the recovery of non-ferrous material from the waste feedstocks, thereby moving waste up the hierarchy and minimising the volume sent to landfill or Energy from Waste (EfW) facilities for disposal.
5.1 Soils and Inert Waste	Not relevant.
5.2 Waste treatment outputs, including fines *1. You must not make assumptions about the nature of the outputs from your waste treatment processes. You must make sure that you appropriately classify the outputs following WM3 If you do not, you may breach your Duty of Care for waste and commit an offence under the Environmental Protection Act 1990.* *This is particularly important for fines arising from shredding and trommelling processes, which generally:* • *require disposal at cost* • *contain a range of contaminants* • *are likely to be subject to a mirror entry code in the LoW, for example 19 12 11* versus 19 12 12.* *2. Any hazardous waste taken from your facility must be consigned following our guidance Dispose of hazardous waste.* *3. If an output is not waste, for example because end-of-waste criteria have been met, or the material has been produced in accordance with a Quality Protocol (resource framework), then you do not need to store the output within your permitted area. However, non-waste materials are still able to cause pollution, for which you remain liable. You must implement appropriate measures to prevent and minimise risks of pollution from non-waste and waste materials.*	1. Not relevant. There will be no shredding activities of any waste types including LDAs. The objective of the Site is to maximise the recovery of ferrous metal via the shearing and cutting of oversize ferrous metal to specification from the waste feedstocks and the recovery of non-ferrous material from the waste feedstocks. 2. All hazardous waste collected from the facility will be consigned in accordance with the Hazardous Waste (2005) Regs. 3. The HMS is transferred off Site as end-of-waste. Sampling is carried out on a 6 monthly basis to confirm quality as per End-of-Waste requirements.
5.3 Waste treatment for landfill	Not relevant.
6. EMISSIONS CONTROL APPROPRIATE MEASURES	
6.1 Enclosure within buildings *1. Enclosing activities within buildings can be an appropriate measure for preventing and minimising emissions of pollution, given that an appropriately designed building will reduce a range of types of pollutants, in particular, noise, dust and odour. A partially enclosed building may be an appropriate measure on its own, or together with other appropriate measures, depending on the site-specific circumstances.* *2. If your waste treatment activities are likely to cause (or are causing) significant pollution at sensitive receptors which cannot be addressed by alternative measures, then you must carry out that waste treatment activity within an enclosed building.* *3. You must also carry out non-treatment activities, such as storing and transferring waste (including loading and unloading) in enclosed buildings if these activities are likely to cause (or are causing) significant pollution at sensitive receptors which cannot be addressed by alternative measures.* *4. Material transfer and storage systems and equipment (for example conveyors, hoppers, containers and tanks) can extend outside the enclosed building so long as they are also fully enclosed.* *5. You must regularly assess your enclosed building's integrity. You should consider using BS EN ISO 9972:2015 to demonstrate building containment. This method is based on fan pressurisation. You should carry out a smoke test at least annually and where potential faults in building integrity are likely to be causing pollution such as odour.* *6. Enclosed buildings must be ventilated to provide a safe working environment for employees. Your building's ventilation system must be properly designed and effective in order for the building to provide adequate*	1. Some activities already occur in open warehouses and sheds on the Western Area due to the nature of activity i.e., maintenance, handling of hazardous waste (stripping cables etc). The warehouses are open, well-ventilated buildings with no enclosed spaces. Refer to Sections 11, 9 and 10 of the BAT-OT for appropriate techniques and controls to minimise the emissions of noise, dust and odour respectively. Enclosing all Site activities in buildings is not considered necessary. 2 – 3. Not relevant. The risk assessments carried out and submitted as part of this application do not show that the proposed changes in the permit are likely to cause significant pollution at sensitive receptors. 4. Measures to prevent the fugitive emissions to air from the proposed changes including the processing of LDAs are described in Section 9 of this BAT-OT document. In addition, a number of measures are already in place to minimise the risk of fugitive emissions during transfer/handling and storage of waste as detailed in Section 9 of this BAT-OT and it is considered that these would be satisfactory for the proposed changes. 5. S Norton utilise a CMMS to log findings of maintenance inspections. It also includes a preventive and reactive maintenance programme. Regular fire alarm tests are carried out. 6 – 7. Not relevant. Site activities on the Western Area of the Site in the warehouses will include sorting and grading of NF wastes, including cable sorting and stripping where appropriate and the sorting of batteries into waste types. A small hand shear is also located in the NF warehouse. The warehouse door may be open; it is not considered that there will be significant fugitive emissions such as noise, odour or dust as a result of the activities in the warehouses. 8. S Norton utilise a CMMS to log findings of maintenance inspections. It also includes a preventive and reactive maintenance programme. 9. See appropriate measure no. 6-7 above.

Appropriate Measure	Compliance
containment and prevent fugitive emissions and unacceptable noise. The engineer designing the ventilation system must be appropriately qualified. To validate the size of supply points (louvers), and the volume of dirty air that needs to be extracted, the engineer must understand and consider: • the needs of the occupants working in the building • heat release • the volume of moist gas emissions that will be generated *7. The air inside the enclosed building must be maintained under negative pressure, or you must install a localised extraction system that extracts dirty air from sources of pollution within the building. Sources that could potentially benefit from localised extraction include:* • *shredders and trommels* • *waste loading and unloading areas* • *odorous stockpiles* *8. You must regularly assess the integrity of your building for damage that could result in fugitive emissions, including noise breakthrough. You must prevent and minimise damage by implementing a maintenance programme.* *9. You must implement measures to control door opening, to make sure that the engineered ventilation system works as effectively as possible. It must direct emissions to the abatement system, rather than letting them escape as fugitive emissions through doors or windows. If you use negative pressure, it must be maintained when doors are opened, and you must monitor the pressure to demonstrate its effectiveness. Additional measures to minimise fugitive emissions may be required in some cases, for example installing an airlock entry system.* *10. To reduce emissions of noise and vibration, the building must have an appropriate minimum surface density. You must install acoustic seals on doors and windows, following advice from an acoustic specialist.*	10. Not relevant. The qualitative risk assessment for the proposed acceptance of the new waste types and processing of LDAs concluded that no additional noise mitigation would be necessary given the relatively low level of emissions and in consideration of the site setting and background noise levels.
6.6 Pests *1. You must manage waste in a way that prevents pests. For example, if you do not manage flies, rats and birds they can affect operations, be a nuisance to neighbours and pose an environmental and health hazard as a potential vector for pathogens. We have produced internal guidance for our officers on fly management. Contact us if you would like a copy.* *2. If you expect pests will cause pollution, hazard or annoyance at sensitive receptors, or if this has been substantiated, you must create, use and regularly review a pest management plan, following our guidance.* *3. Your pest management plan must include procedures for:* • *inspecting for and controlling pests* • *rejecting loads of infested waste* • *treating pest infestations promptly, and removing waste if necessary* • *storing, handling and using approved pest control products – you can get information on using chemicals at work from the Health and Safety Executive*	1 – 2. The wastes accepted at the Site will not be susceptible to pests due to negligible contamination with organic residues. The proposed changes in the permit will not change the nature of the incoming waste. 3. A pest management plan is not appropriate for this Site or as a result of the proposed changes. In the unlikely event that birds, vermin or pests are identified on Site, a specialist pest control contractor will be employed to undertake measures to remove the animals from the Site.
9. WASTE MINIMISATION, RECOVERY AND DISPOSA' APPROPRIATE MEASURES	
1. You must have and implement a residues management plan that: • *minimises the generation of residues arising from waste treatment* • *optimises the reuse, regeneration, recycling or energy recovery of residues, including packaging* • *makes sure you properly dispose of residues where recovery is technically or economically impractical* 2. Where you must dispose of waste, you must carry out a detailed assessment identifying the best environmental options for waste disposal.	1 – 2. See Section 7.1 of the BAT-OT document.

Appropriate Measure	Compliance
You must review on a regular basis options for recovering and disposing of waste produced at the facility. You must do this as part of your management system to make sure that you are still using the best environmental options and promoting the recovery of waste where technically and economically viable.	



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