

# TRAFFORD PARK ENVIRONMENTAL PERMIT VARIATION: WET SEPARATION PROCESS

**Best Available Techniques & Operating Techniques**  
Prepared for: S. Norton & Co Limited

SLR Ref: 416.V64371.00002  
Version No: 1  
September 2023

SLR 

## BASIS OF REPORT

This document has been prepared by SLR with reasonable skill, care and diligence, and taking account of the manpower, timescales and resources devoted to it by agreement with S. Norton & Co Limited (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

## CONTENTS

<b>1.0</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	Site Setting	2
1.2	Key Technical Standards	2
<b>2.0</b>	<b>MANAGEMENT</b>	<b>1</b>
2.1	Management System	1
2.2	Management Structure and Responsibilities	1
2.2.1	Staffing, Competence and Training	1
2.2.2	Communication and reporting of actual or potential non-compliances and complaints	2
2.2.3	Auditing	2
2.2.4	Reporting Non-Compliance and Taking Corrective Action	2
2.2.5	Managing documentation and records	2
2.3	Technical Competence and Training	2
2.4	Site Security	3
2.5	Permit Surrender	3
2.6	Display of Environmental Permit	3
<b>3.0</b>	<b>ACCIDENT MANAGEMENT PLAN</b>	<b>4</b>
3.1	Risk Estimation	4
3.2	Hazard Identification	4
3.2.1	Fire	4
3.2.2	Fugitive Emissions (including dust)	5
3.2.3	Equipment/Plant failure	6
3.2.4	Loss of Containment and equipment failure	7
<b>4.0</b>	<b>OPERATIONS &amp; CONTROLS</b>	<b>8</b>
4.1	Proposed changes to the activities	8
4.1.1	Installation of Wet Separation Process	8
	Regulation of the process modification	10
4.1.2	Addition of Sensor Based Sorting (SBS) plant	13
4.1.3	Inclusion of the Existing Eddy Current Separator (ECS) plant	14
4.1.4	Addition of New Waste Codes	14
4.1.5	Increase in Annual Throughput	15
4.1.6	Extension of permitted boundary area to include land to the west	16
<b>5.0</b>	<b>ASSESSMENT OF BAT &amp; APPROPRIATE MEASURES</b>	<b>17</b>

5.1	Waste Treatment Bref .....	17
5.2	WEEE Treatment.....	17
5.3	Non-hazardous and inert waste treatment.....	18
5.4	Chemical waste .....	18
<b>6.0</b>	<b>SITE INFRASTRUCTURE AND EQUIPMENT .....</b>	<b>19</b>
6.1	Plant and Equipment.....	20
6.1.1	Fixed equipment .....	20
6.1.2	Mobile plant .....	20
6.2	Site Drainage.....	21
6.2.1	Wet Separator .....	21
6.2.2	Extension of Permitted Area.....	21
6.2.3	Containment Building .....	21
<b>7.0</b>	<b>RAW MATERIALS .....</b>	<b>22</b>
7.1	Raw Materials Selection.....	22
7.1.1	Waste Minimisation (minimising the use of raw materials) .....	23
7.1.2	Water Use.....	23
<b>8.0</b>	<b>WASTE ACCEPTANCE, RECOVERY OR DISPOSAL .....</b>	<b>24</b>
8.1	POPs Regulations .....	24
<b>9.0</b>	<b>ENERGY.....</b>	<b>25</b>
9.1	Energy Consumption.....	25
9.2	Energy Management Measures .....	25
<b>10.0</b>	<b>CONTROL OF NOISE .....</b>	<b>27</b>
10.1	Noise Mitigation and Management Measures .....	27
10.1.1	Operating Hours.....	27
10.1.2	Building and Plant Design .....	27
10.1.3	Plant & Equipment Selection.....	27
10.1.4	Management Measures.....	28
<b>11.0</b>	<b>CONTROL OF EMISSIONS TO AIR .....</b>	<b>29</b>
11.1	Point Source Emissions.....	29
11.1.1	Replacement shredder.....	29
11.1.2	Initial assessment .....	31
11.1.3	Detailed dispersion modelling .....	31
	Compliance with Emissions Limits.....	31
<b>12.0</b>	<b>CONTROL OF DUST AND OTHER FUGITIVE EMISSIONS .....</b>	<b>32</b>
12.1	Fugitive Dust Emissions .....	32

12.1.1	Dust Mitigation Measures from the replacement shredder .....	32
12.1.2	Dust Mitigation Measures from the proposed wet separation process.....	33
12.2	Odour .....	33
12.3	Mud .....	33
12.4	Litter .....	33
<b>13.0</b>	<b>CONTROL OF EMISSIONS TO GROUNDWATER, SURFACE WATER AND SEWER .....</b>	<b>34</b>
13.1	Point Source and Fugitive Emissions to Groundwater.....	34
13.2	Point Source and Fugitive Emissions to Surface Water .....	34
13.3	Point Source Emissions to Sewer.....	34
13.3.1	Process Effluent Characteristics .....	35
13.3.2	Surface Water Risk Assessment .....	35
	Compliance with Emissions Limits.....	35
13.4	Flood Risk .....	36
<b>14.0</b>	<b>MONITORING.....</b>	<b>37</b>
14.1	General Observations .....	37
14.2	Monitoring of Infrastructure and Equipment.....	37
14.3	Emissions Monitoring .....	37
14.3.1	Monitoring Emissions to Surface Water .....	37
14.3.2	Monitoring Emissions to Air .....	38
14.4	Monitoring Standards and Techniques.....	39
14.4.1	Monitoring Stack Emissions.....	40
14.5	Monitoring Action Plan.....	40
14.6	Management, Reporting and Training.....	40
<b>15.0</b>	<b>ENVIRONMENTAL IMPACT.....</b>	<b>41</b>
15.1	Impact Assessments .....	41
15.2	Environmental Risk Assessment .....	41
15.3	Air Emissions Risk Assessment.....	41
15.4	Releases to Surface Water (H1) Assessment .....	41
15.5	Fire Prevention Plan .....	42
15.6	Noise Assessment.....	43

## DOCUMENT REFERENCES

### TABLES

Table 1-1	Land Uses surrounding the area.....	2
-----------	-------------------------------------	---

---

Table 4-1 Waste Storage Areas: Waste Types, Storage Times .....	9
Table 4-2 List of Additional Waste Types .....	14
Table 7-1 Raw Materials and other potential contaminating liquids: Storage Arrangements .....	22
Table 9-1 Energy Consumption .....	25
Table 11-1 Point Sources of Air Emissions .....	29
Table 11-2 Assumed Pollutant Concentrations in Emissions from shredder (reference A1).....	30
Table 14-1 Process Effluent Discharge Monitoring Schedule .....	37
Table 14-2 Emissions Limit and Monitoring Programme .....	39

## FIGURES

Figure 4-1 Schematic of Existing SMW Residue/ASR Treatment Process and Proposed New Plant .	11
Figure 4-2 Systematic of Sensor Based Sorting Plant.....	13
Figure 4-3 Systematic of Eddy Current Separator Plant.....	14
Figure 4-4 Mass balance illustrating the inputs, treatment process capacities and final outputs ....	16
Figure 6-1 Layout and location of the new equipment and treatment process .....	19

## APPENDICIES

Appendix 01: BATc for Waste Treatment	
Appendix 02: Appropriate Measures for WEEE Treatment	
Appendix 03: Appropriate Measures for Non-hazardous and Inert Waste	
Appendix 04: Appropriate Measures for Chemical Waste	

## 1.0 Introduction

S. Norton & Co Limited (S Norton) has retained SLR Consulting Limited (SLR) to prepare an Environmental Permit (EP) variation application for the Metal Recycling Facility located at Tenax Road, Trafford Park, Manchester, M17 1JT ('the Site'). The facility is currently operated under the Environmental Permitting (England and Wales) Regulations 2016 (as amended) (EPR) as an Industrial Emissions Directive (IED) installation in accordance with Environmental Permit EPR/XP3792C2 which was last varied on 31 October 2017.

The Site is permitted for the following waste operations as described in Schedule 1 of the EPR:

- Metal fragmentiser, shredding of waste – S5.4 Part A (1) (a) (iv)
- Shredder Waste Advanced Processing Plant (SWAPP) – S5.4 Part A (1) (a) (iv)
- Lead acid battery re-packaging – S5.3 Part A (1) (b) (iv)
- Treatment of waste from electrical and electronic equipment, non-ferrous plant (ECS) – S5.3 Part A (1) (a) (ii)
- Temporary storage of hazardous waste – S5.6 Part A (1) (a) (i)

The proposed changes to operations at the Site are summarised below:

- Addition of a wet separation treatment process and water treatment unit;
- Additional prescribed activity under Table S1.1 in the permit in the form of an existing mechanical separation process via a standalone Sensor-Based Sorting (SBS) Plant;
- Increase in annual waste throughput to 750,000 tpa;
- Extension of the permit boundary to include land to the west of the Site, including a new release point to sewer; and
- Addition of new EWC codes 17 04 10\*, 19 02 04\* and 19 12 11\* in the permit due to the changes in the classification of hazardous waste.

In addition, the following amendments are proposed as part of the variation:

- Amendment to the prescribed activity under Table S1.1 in the permit ref. AR6 to include mechanical separation via Eddy-Current Separation (ECS) Plant as a prescribed activity and a waste activity due to a misdescription in the existing permit; and
- Amendment to the location of an existing authorised discharge to sewer.

Installations are required to demonstrate that they are designed and operated in accordance with Best Available Techniques (BAT) as set out in the relevant BAT Reference document (Bref), which in this case is the revised Waste Treatment Bref published in August 2018. In addition, permitted facilities that store, treat or transfer (or both) non-hazardous and inert waste and that treat or transfer all types of WEEE are required to demonstrate that they are operated in accordance with the appropriate measures as set out in the relevant EA technical guidance.

This BATOT document provides a technical description of the proposed changes within this variation application and demonstrates how these will meet the relevant Best Available Techniques (BAT) and appropriate measures guidance.

The techniques described herein relate only to the proposed changes and this document has been prepared as a supplement to the techniques referenced in Table S1.2 of the current permit.

## 1.1 Site Setting

The Site is centred on National Grid Reference SJ 78827 97271, Land/premises at Tenax Road, Trafford Park, Manchester, M17 1JT and is approximately 5.5.km west of Manchester city centre and 3km southwest of Salford. The Site is accessed via a dedicated access road approximately 200m off Tenax Road.

The Site is located within a commercial estate which lies to the south of the M602 motorway and to the north of the A5081. The Site is circa 5.17 hectares in area and roughly square with a rectangular section leading to Tenax Road. The immediate land uses are shown in Table 1-1 below.

**Table 1-1**  
**Land Uses surrounding the area**

Boundary	Description
North	Commercial and industrial premises.
East	Commercial and industrial premises connected by minor roads, approximately 600m northeast is Trafford Ecology Park, with Manchester Ship Canal approximately 900m beyond.
South	Commercial property, Village Way (A5081) just beyond with further commercial and industrial premises further beyond.
West	Commercial and industrial premises, A576 road just beyond with commercial and industrial premises further beyond.

The Site's location is illustrated on Drawing 01 and the permitted area and Site Layout is illustrated on Drawing 02.

## 1.2 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;
- Chemical waste: appropriate measures for permitted facilities, gov.uk, 18 November 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

### 2.1 Management System

The Site is operated in accordance with an Integrated Management System ('IMS') which is ISO 14001:2015 accredited. S Norton also operate an in-house Working Plan. The proposed changes in activities will be operated in accordance with the procedures and policies within the IMS and Working Plan.

S Norton also comply with an externally audited 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 the IMS on a regular basis.

S Norton also operate to a Working Plan that outlines operating techniques at the Site and demonstrates conformance with the requirements of relevant and published EA Guidance and is supplemented by this document. Other procedures such as Waste Acceptance procedures and Emergency Action Plan procedures for part of the IMS and will also be applied to the changes in the permit.

### 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 functions of the organization the importance of the competence management system.

### 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 company's EHS management system incident record and communicated to the Site Manager. The Site Manager will investigate each incident and identify a solution to remedy it and prevent it from reoccurring. If the non-compliance is sustained, the operations may be stopped until a solution can be found, to minimise harm to the environment.

### 2.2.3 Auditing

The Site will benefit from regular auditing to ensure that it is compliant with the conditions of its permit. The audit will be carried out by the Site Manager, or other Technically Competent Person, 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, including:

- 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 company's 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 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 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 central 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 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 environmental permit.

## 2.4 Site Security

S Norton will continue to implement a number of security measures are in place at the Site to limit the likelihood of arson or vandalism and these include:

- Total enclosure comprising of high fencing and barbed wire;
- Single access lockable entrance gate locked out of hours;
- External security firm that patrols the Site out of hours;
- Day shift and a night shift manned by a minimum of 7 staff (min. 5 staff for S Norton and min. 3 for the SWAPP facility);
- 24-hour surveillance CCTV coverage available for viewing in Site managers office and security office. Senior management also have 24-hr access to the cameras via a mobile phone app; and
- An alarm system.

Site boundary checks are completed 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.

All inspections and any defects, damage or repairs will be recorded on the EHS management system incident record.

## 2.5 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.

## 2.6 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.

## 3.0 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 maintain an emergency action plan (EAP) which is implemented across the whole Site to ensure the Site and Site staff are fully prepared for any incidents, including the prevention of accidents. 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.

The following EAP describes the techniques that will be implemented to minimise the risks posed to the environment from the additional treatment activities including the addition of a wet separation process, and to minimise the risks posed from the increase in waste throughput. The additional waste codes are not deemed to impact the potential for accidents as the wastes are already accepted on Site and as such it is a reclassification of wastes.

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.

### 3.1 Risk Estimation

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.

### 3.2 Hazard Identification

The following potential hazards in relation to the proposed changes in the permit have been identified:

- Fire;
- Fugitive Emissions (including dust)
- Equipment/Plant failure; and
- Loss of containment - spillage and leakage.

The following sections summarise the measures necessary to minimise the potential causes and consequences of accidents from the change in activities at the Site.

#### 3.2.1 Fire

The Site, including the SWAPP facility, will operate under a Fire Prevention Plan (FPP). The FPP has current provisions in place to ensure existing activities including processing of waste and associated infrastructure are managed in accordance with the FPP and considers plant maintenance, fire detection and suppression, water supply and the management of fire water.

The proposed increase in site throughput will not result in an increase in the storage capacity of the Site. S Norton are currently replacing the shredder with a new, upgraded, more efficient shredder. The amount of waste being stored or processed on Site at any one-time will not increase. The replacement new shredder will benefit from extinguishing lines located along the primary belt exiting the shredder which can be used remotely by S Norton. The new shredder waste bays also benefit from deluge systems. Infeed material storage areas are covered by fire detection sensors and remote operated monitor cannons.

The proposed additional wet separation process is part of an existing process in SWAPP2 processing area and the inclusion of the non-ferrous processing plants (SBS systems and ECS plant) in the permit and their activities already have firefighting provisions included in the FPP.

The proposed acceptance of additional waste codes is required due to recent changes in the classification of hazardous waste in order to continue to process waste types already treated at the Site. The Site is already authorised to accept hazardous waste and appropriate controls for these wastes are already in place.

In addition, the extension of permitted boundary does not significantly change the risk of fire as there will be no new activities or wastes directly as a result of the proposed extension. Instead, there will be some re-arrangement of where existing activities occur. The FPP including the site layout plan and required mitigation and management methods will be updated for the proposed re-arrangement of existing site operations once the specific arrangements have been finalised.

The FPP will follow EA guidance for FPPs<sup>1</sup> and will detail the required 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 is enclosed as Section 10 of this application. As mentioned, the FPP will be updated with a revised site layout plan to reflect the re-arrangement of some existing site activities as a result of the proposed permit extension.

### 3.2.2 Fugitive Emissions (including dust)

There is potential for the new main shredder plant to lead to a change in the risk of fugitive dust emissions, however, the new shredder will have an improved environmental performance compared to the previous shredder. The filter system will limit dust emissions to much lower than is currently set out in the appropriate measures guidance for WEEE storage and treatment and metal shredding.

In addition, once operational, the new main shredder plant will have the following measures to control fugitive emissions to air:

- Enclosed conveyors and transfer points downstream of the mill chamber;
- Wet injection into the mill chamber for dust suppression.
- Dry bag house filter utilising cyclonic separation to abate dust to emissions limits below the appropriate measures guidance; and
- Solid rubber flaps to seal openings where movement in/out of an area is required.

There is potential for the proposed increase to the Site throughput to lead to increased risk of fugitive dust emissions. However, a number of measures are already in place to minimise the risk of dust emissions (along with mud, litter and pests) during storage, handling and treatment of waste as described below and it is considered that these would be satisfactory for the increased capacity. These include:

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

---

<sup>1</sup> Fire Prevention Plans, January 2021.

- Waste is stored in dedicated external storage bays which will minimise the mobilisation of dust (if any is present);
- All waste fractions from the shredding process will be stored within covered bays, which will mitigate re-suspension of particulates during high winds;
- Visual inspections will be carried out of waste loads accepted at the Site to ensure no gross contamination is evident;
- Existing dust suppression measures will be used on external stockpiles;
- Storage areas will benefit from regular cleaning, daily as a minimum; and
- Drop heights and double handling of materials will be kept to a minimum.

There is the potential for the inclusion of the mechanical separation of NF wastes via the sensor based sorting systems and ECS Plant in the permit to lead to increased risk of fugitive dust emissions. However, appropriate measures are in place to minimise the exposure of the NF waste to rain and wind including covering of the conveyors and all waste fractions from the shredding process will be stored within covered bays. In addition, a number of measures are already in place to minimise the risk of dust emissions (along with mud, litter and pests) during storage, handling and treatment of waste as described above, including existing dust suppression measures and daily cleaning of storage areas and it is considered that these would be satisfactory for the inclusion of the processing of the NF wastes in the NF processing plants.

There is the potential for the proposed extension to the permitted boundary area to increase the risk of fugitive dust emissions. However, in addition to the Site following the Ariel Emissions Risk Assessment and Management Plan, all storage and processing of waste in the new permitted area will be in buildings with a sealed drainage system to control fugitive emissions to air.

Existing dust suppression measures will continue to be used including misting on the perimeter edge. Daily visual inspection of the Site and Site boundary will continue to be carried out by Site personnel. It is considered that these measures would be satisfactory as measures to control fugitive emissions to air for the proposed changes.

### 3.2.3 Equipment/Plant failure

Equipment failure is identified as a potential accident risk associated with the proposed wet separation unit and the reagents it uses. The wet separation unit and the reagents it uses will be contained in bunded storage with existing sealed drainage system together with procedures to isolate Site drainage using the shut-off valve in the SWAPP facility if required.

All new equipment in the SWAPP facility and the new shredders will be inspected daily in line with the existing procedure for plant and machinery.

S Norton have contingency measures in the unlikely event of plant failure with regard to handling arrangements as a result of the increased Site throughput. 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. This includes plans and procedures for circumstances where wastes cannot be sent to other Sites due to their planned or unplanned shutdown.

In events of planned or unplanned shutdown where waste cannot be stored on Site, in the short term, depending on the level of available land, S Norton will consider storing material on land at the front of the Site (with consideration that only processed material may be stored on a non-concreted surface). If not possible, S Norton may divert wastes to Liverpool Bankfield to be processed where possible or continue to receive and weigh on Axion Polymers' weighbridge. ELV's will be diverted to the ELV depollution process at Liverpool Bankfield, along with the battery sorting and storage. These options can take materials at short notice until operations return to normal.

### 3.2.4 Loss of Containment and equipment failure

Loss of containment could lead to spillage and leakage of potentially contaminating liquids. The proposed additional wet separation activity will use a coagulant and a flocculant mixture as part of the water treatment process described under section 4.1 with controls set below. The other potential accident risk associated with the proposed wet separation unit regarding loss of containment would be of the process effluent as a result of the additional wet separation activity.

Table 7-1 includes the location and storage arrangement of all additional potentially contaminating liquids on Site as a result of the proposed changes to the permit.

To prevent loss of containment and minimise the risk and impact of releases the following measures are implemented:

- Storage vessels: storage tanks are constructed to the appropriate British Standard;
- Inspection: tanks are inspected visually on a regular basis by the Site staff to ensure the continued integrity of the tanks, and identify the requirement for any remedial action;
- Spill kits: materials suitable for absorbing and containing minor spillages are maintained on Site with spill kits available in the SWAPP facility (as shown on Drawing 02); and
- Monitoring techniques: Site staff undertake regular monitoring for evidence of spillage and leakage.

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. S Norton implement written procedures across the whole Site. The same procedure will apply to the proposed new activities, including the additional wet separation activity in the SWAPP facility and to the re-arrangement of existing activities on the land to the west of the Site as a result of the proposed permitted extension to the boundary.

## 4.0 Operations & Controls

### 4.1 Proposed changes to the activities

#### 4.1.1 Installation of Wet Separation Process

##### Waste Feedstocks

The existing SWAPP facility is used to treat Small Mixed WEEE (SMW) residue and Automotive Shredder Residue (ASR). ASR is produced from the light iron feed which has been through a shredder to produce Shredder Light Fraction so that most of the metals have been removed. The ASR is combined with Eddy Current Separator waste containing aggregate, textiles, metals, plastic and rubber. SMW residue and ASR are produced by shredding processes at S Norton's two facilities: Trafford Park and Bankfield Liverpool.

SMW residue and ASR are stored separately in external bays prior to further treatment inside the SWAPP process building. SWAPP1 processing area (SWAPP1) is mostly outdoors with the SWAPP2 processing area (SWAPP2), and the metal recovery process contained in buildings.

SMW residue is classified as hazardous and POPs waste. The EA recently confirmed ASR waste is also now classified as hazardous and S Norton will treat all ASR waste as hazardous waste.

The SMW and ASR will continue to be handled, treated and stored as separate waste streams.

SMW residue and derived plastic fractions including ASR which is designated as hazardous will be kept separate from non-hazardous material at all times.

##### Existing Process

The SWAPP facility consists of 3 stages; SWAPP1 and SWAPP2 which can operate in tandem or separately to process waste fractions; and a metal recovery plant to recover non-ferrous metal. SMW residue and ASR are fed into SWAPP2 as separate waste streams.

In SWAPP2, SMW residue and ASR are exposed to existing processes as illustrated in Figure 4.1. Fractions that are appropriate for further processing in the metal recovery plant i.e., with a metallic content are treated to recover metals and to produce waste which is primarily plastic and contains POP's when processing SMW.

The plastic rich fraction (>97% plastic and rubber) from SMW is sent to S Norton's sister company in Salford for density separation to recover recyclable polymers. This fraction still contains some POPs and the process has been proven to be effective at removing POPs plastic. ASR plastic is also sent for separation and recycling at the Salford site.

##### Proposed modification

It is proposed to add a wet separation process consisting of a vibratory screen, wet separator and water treatment plant within SWAPP2 area of the process building. Figure 4.1 illustrates how this new process will integrate with the existing separation process when it is used to treat the two separate waste streams: residues from SMW as well as ASR.

Material will first be screened to remove fines which are stored in an internal bay before being processed to recover metal in the existing metal recovery plant.

The screened material will be conveyed to a Wet Separator which uses water and gravity to concentrate metals into a "heavies" fraction.

The separator has a process capacity of over 10 tonnes per hour, producing up to 2 tonnes of heavies and 8 tonnes of 'lights'. The 'heavies' will be processed by the existing metal recovery plant with the fines produced by the screening process, to recover the non-ferrous metals. The 'lights', consisting of mainly plastic (~97%), with



some wood and rubber (coded as MAP08), will be temporarily stored in Bay 6 prior to transport to Salford for further processing.

The in-house lab will test the product quality on a regular basis and advise the production team on any process setting adjustment required. This already occurs with existing procedures to test and improve the quality of the existing plastic shredder residue prior to transfer to Salford.

A Water Treatment Unit is intended to be added to SWAPP2 as part of the proposed additional wet separation activity in the SWAPP facility. The purpose of the unit is to process dirty wash water from the proposed wet separation of screened MAP30.

Wastewater will be pre-screened at 1 mm and then chemically conditioned using coagulant and flocculant to aid the removal of solids. The effluent is then fed into a tank where the solids settle to the bottom and the clean effluent continuously overflows at a rate of approximately 10 m<sup>3</sup> /h into a small clean water tank from where water is recycled for reuse in the separation process. The sludge from the bottom of the tank is dewatered in a mechanical process to produce a dried waste cake.

The plant will enable continuous reuse of water without the need for discharge. If water is to be discharged, it will first be tested to determine if it meets the BAT emissions limits. If the water is below the limits, it will be discharged to sewer in line with our discharge consent with the utilities company. If the water does not meet the limits, it will be tankered out by an external water treatment company for treatment.

### New Processed Waste Storage Arrangements

As a result of the permit changes there will be some additional storage changes (as illustrated in table 4-1).

The resulting waste cake from the water treatment unit will be transferred and contained in a skip within the SWAPP 2 building along with the > 1 mm solids. This is a mixture of dirt and non-hazardous plastic and will be transferred for disposal off Site as a 19 12 12 waste. The plant is rated to remove 200 kg/h of fines.

The lights (MAP08) will be stored primarily Bay 6 (which is covered) prior to transfer to an alternative bay or skip ready for transport to Salford for density separation to recover recyclable plastics. The process has also been proven to be effective at removing POPs plastic. The copper fines and heavies will be stored in Bay 8 (also covered) prior to further processing by the existing delamination mill.

**Table 4-1**  
**Waste Storage Areas: Waste Types, Storage Times**

Identifier	Waste Type	Max Storage
Bay 6 (covered)	'Lights' known as 'MAP 08' (plastic rich fraction containing POPs >97% plastic and rubber)	24 hours
Bay 8 (covered)	'Heavies' (copper and other high-density material containing POPs)	24 hours
Bay 8 (covered)	Copper fines	24 hours
Skip (in SWAPP 2 building)	Waste cake (wet mixture of dirt and non-hazardous plastic)	24 hours

The proposed wet separation unit does not result in any new emission points. The small amount of cleaned effluent released will be discharged to sewer via the existing release point W1 as identified in Table S3.2 of the current permit (subject to meeting water quality standards) or alternatively, if required, tankered to a suitably

licenced facility. The SWAPP facility and all storage areas already benefit from impermeable surfacing and a sealed drainage system with connection to sewer.

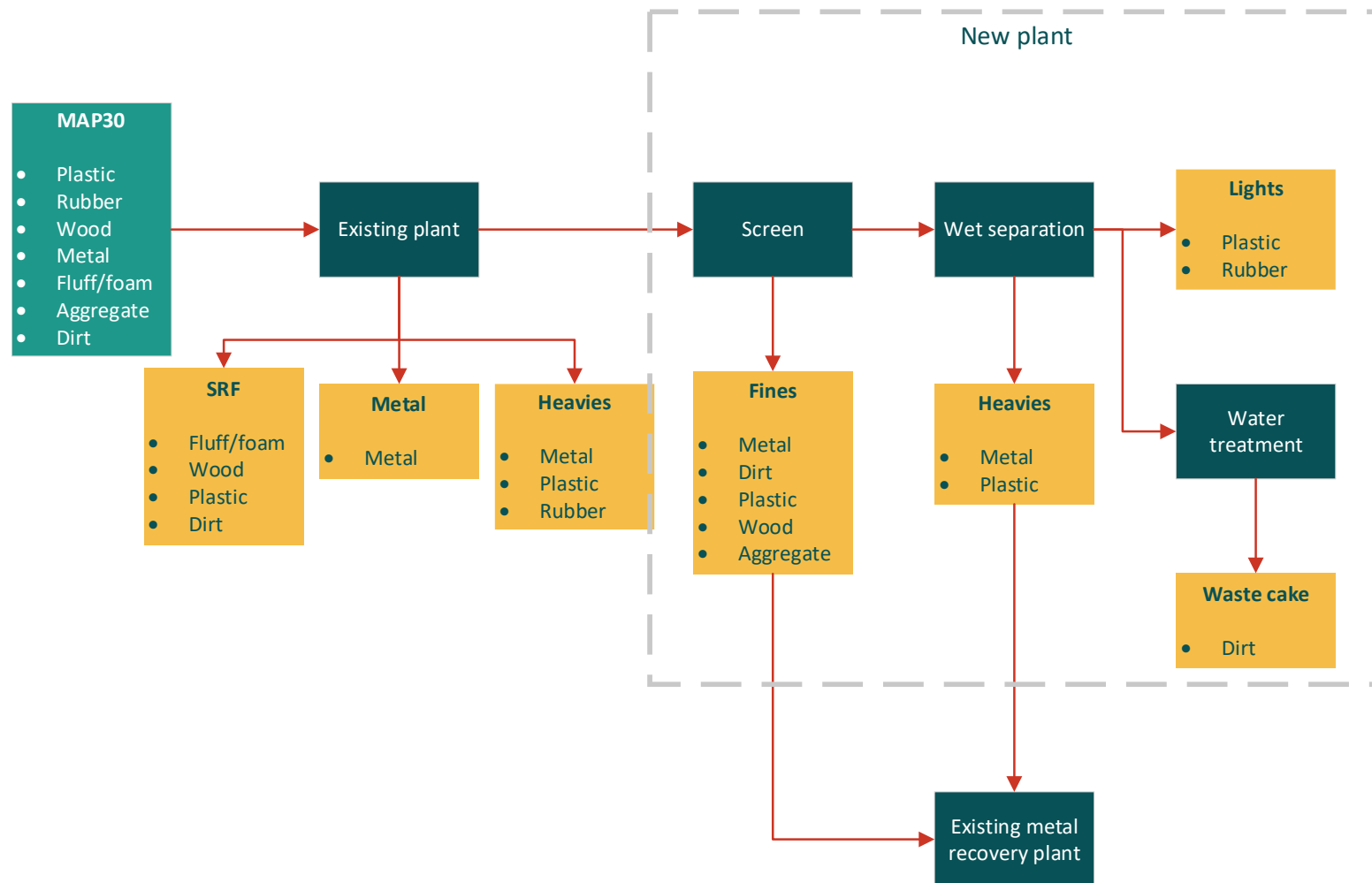
This process modification will ensure a greater amount of contamination is removed through the SWAPP process before being sent off-site for further processing. It is intended that the metals removed through this new process will improve the efficiency of the polymer recycling process at Salford. Ultimately this will result in greater quantities of material recycled, reducing CO2 emissions and benefiting the circular economy.

### Regulation of the process modification

The EA issued enhanced pre application guidance (see Appendix 01 of the NTS) confirming that the proposed addition of the wet separation process in the SWAPP facility would continue to be regulated under the following two existing prescribed activities in Table S1.1 of the permit (ie would not be a separate listed activity):

- AR3** - S5.4 A(1) (b) (iv) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving treatment in shredders of metal waste, including waste electrical and electronic equipment and end-of-life vehicles and their components; and
- AR4** - S5.3A(1) (a) (ii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.

**Figure 4-1**  
**Schematic of Existing SMW Residue/ASR Treatment Process and Proposed New Plant**



### 4.1.2 Addition of Sensor Based Sorting (SBS) plant

S Norton require the addition of a new activity for the mechanical separation of hazardous and non-hazardous waste using a sensor based sorting (SBS) Plant.

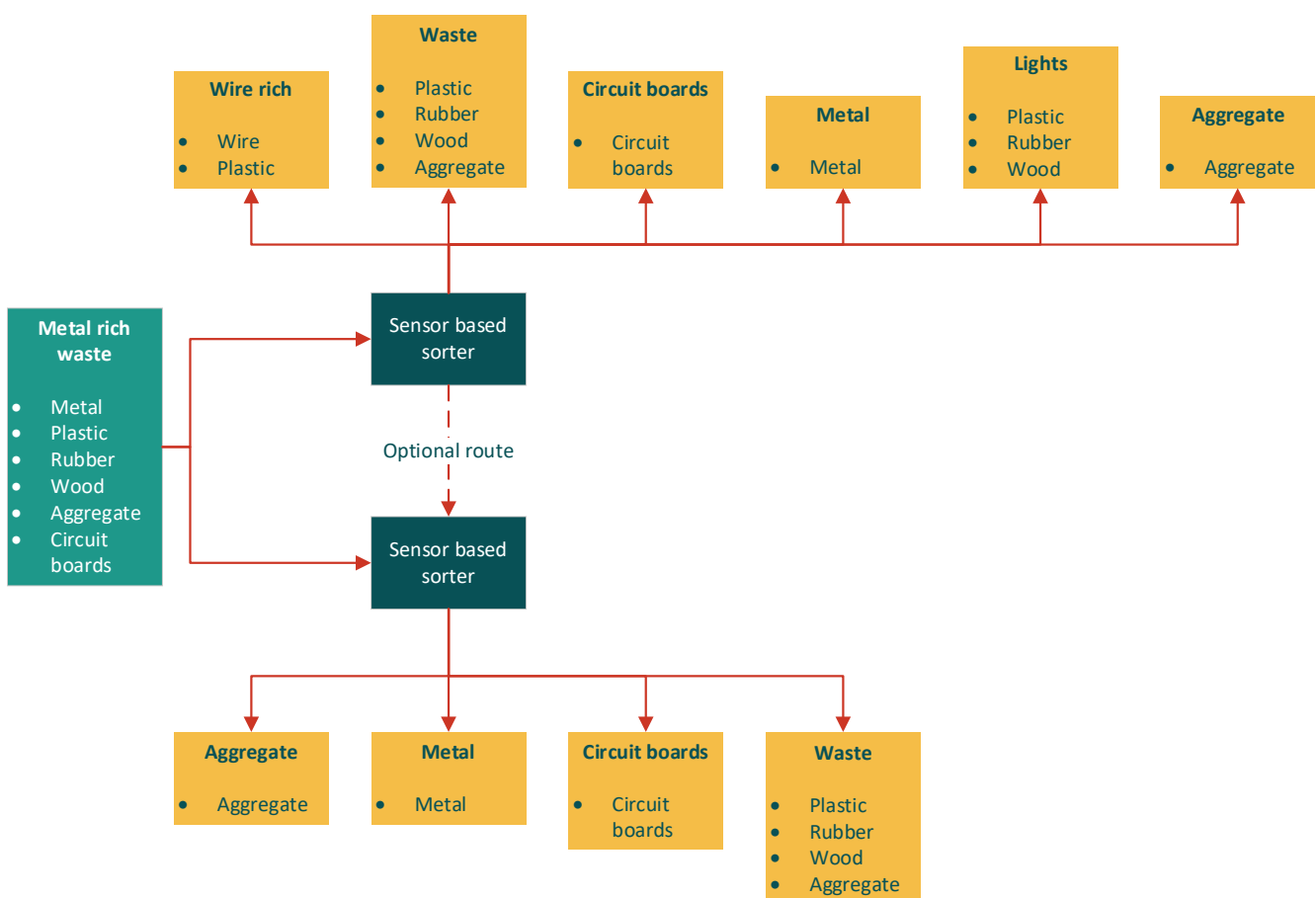
The SBS plant is a standalone treatment process that receives metal rich waste that typically contains plastic, rubber, wood, aggregate and circuit boards. All incoming wastes have EWC waste codes that are listed on the current environmental permit. Figure 4.2 illustrates this existing process with a systematic of inputs and outputs.

The SBS Plant uses a combination of two sensor based sorters which can detect metal and circuit boards using a range of sensor technology and eject these using air. The ejected metal fraction from the first sensor-based sorter is then mechanically separated based on the hardness of the material to recover a wire rich fraction. The metal with the wire removed is passed through a picking station to remove any non-target materials.

The reject fraction (containing largely plastic, rubber, stone and circuit board) from the first Sensor Based Sorter can either be fed into the second sorter to recover residual metal and circuit board, or can be sent to an air separation unit to separate “light waste” (i.e. plastic, rubber and fluff) from heavy waste which is then hand picked to recover metals, aggregate and waste.

Material can also be fed directly into the second SBS unit to eject metals and circuit boards, with the option to carry out air separation on the waste depending on the input composition.

**Figure 4-2**  
**Systematic of Sensor Based Sorting Plant**



### 4.1.3 Inclusion of the Existing Eddy Current Separator (ECS) plant

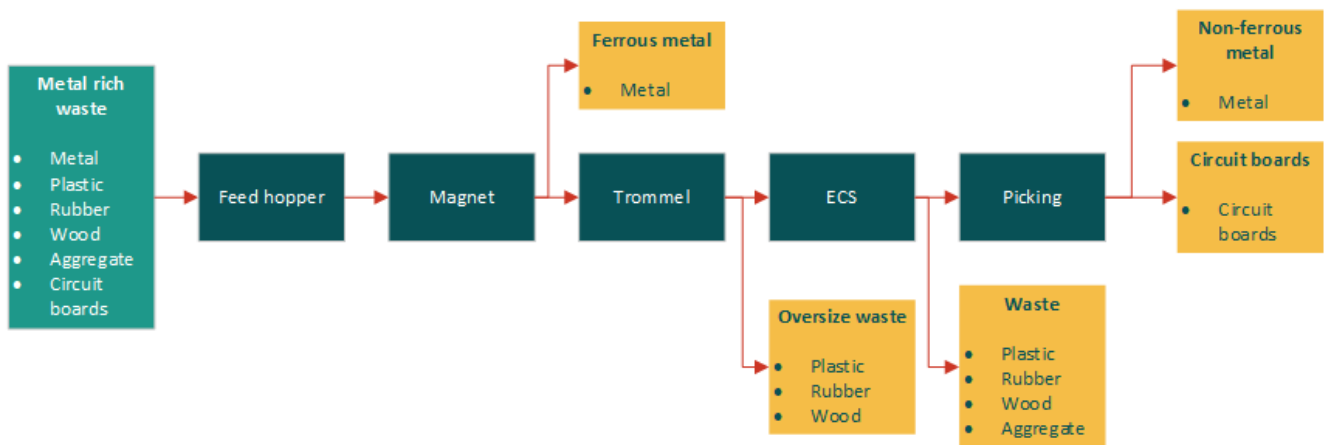
S Norton require the inclusion of the existing ECS Plant into the permit as part of the variation (this was erroneously omitted from the list of activities when the permit was last varied in 2017). Although this is not a new activity, for completeness a description is provided below.

The ESC Plant is a standalone treatment process that receives metal rich waste containing elements of plastic, rubber, wood, aggregate and circuit boards.

All incoming wastes have EWC waste codes that are listed on the current environmental permit.

The incoming metal rich waste is fed into a feed hopper. A magnet removes ferrous metal before a trommel removes oversize waste including plastic, rubber and wood. The remaining wastes undergo eddy-current separation which removes wastes containing plastic, rubber, wood and aggregate. Handpicking then removes remaining fractions including non-ferrous metals and circuit boards. Figure 4-3 illustrates this existing process with a systematic of inputs and outputs.

**Figure 4-3**  
**Systematic of Eddy Current Separator Plant**



### 4.1.4 Addition of New Waste Codes

Due to recent changes in the classification of hazardous waste, S Norton require additional waste codes to be included in the permit (illustrated in table 4-2) in order to continue to process waste types already treated at the Site. The additional wastes will include the following:

**Table 4-2**  
**List of Additional Waste Types**

Waste Description	EWC Code	EWC Code Description
Cables and wiring containing hazardous substances	17 04 10*	cables containing oil, coal tar and other hazardous substances
Processed electric wastes, namely Small Mixed WEEE	19 02 04*	premixed wastes composed of at least one hazardous waste

Waste Description	EWC Code	EWC Code Description
Shredder residue derived outputs typically containing mainly foam/fluff, plastic and rubber t	19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances

The additional waste codes listed in table 4-2 are required for the following reasons:

- 17 04 10\* – due to the re-classification of cables and wiring following recent studies carried out by the EA that found a significant number of cables to contain hazardous components.
- 19 02 04\* – due to the re-classification of some electrical wastes, namely SMW. The waste code will apply to plastic fractions with POPs, namely ‘lights’ produced as part of the SWAPP facility that will be transferred to Axion’s Salford facility for density separation.
- 19 12 11\* – due to the classification of Automotive Shredder Residue (ASR) as hazardous, some of the outputs may also contain substances above the threshold. These would primarily be the oversize fraction from the SWAPP plant which would require further shredding before it can be processed. The oversize fraction contains mainly foam/fluff, plastic and rubber.

The facility is already authorised to accept hazardous waste and there are existing appropriate controls for these wastes in place.

#### 4.1.5 Increase in Annual Throughput

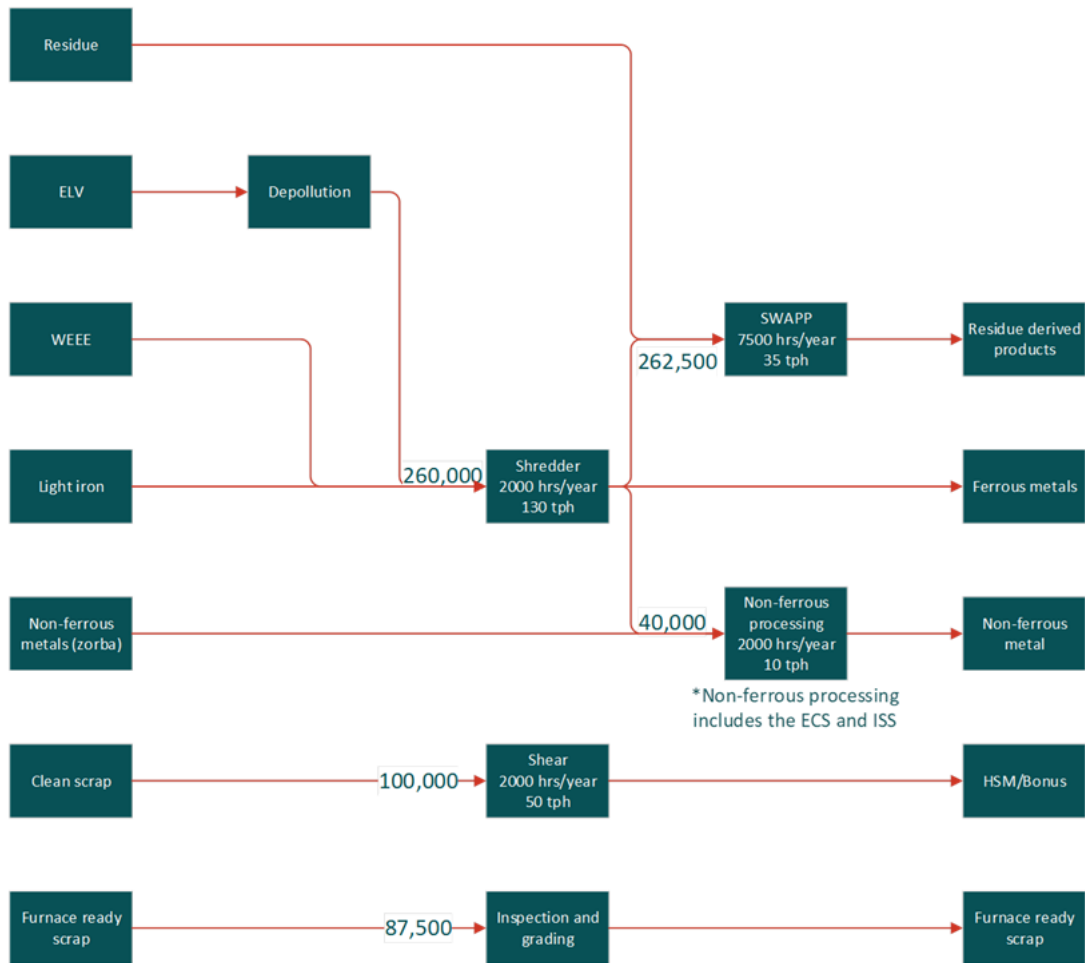
Currently, the Site is permitted to receive up to 300,000 tonnes of waste per annum. S Norton are currently replacing the shredder with a new, upgraded, more efficient shredder and seek to increase the maximum waste annual throughput for all activities at the site to 750,000 tpa. There will still be one emission point to air (ref. point A1) on the main shredder plant. An air assessment, including air screening and detailed modelling of the emission point on the replacement shredder has been carried out (see document ref. 416.V64371.00002 included as Section 7 of this application). The increase in throughput will be gradual, i.e., over a number of years rather than an immediate increase. As illustrated by Figure 4-4 the proposed treatment capacities of the combined inputs equate to 750,000 tpa.

Waste handling procedures will change as a result of the proposed variation because of the increased throughput of waste. As a result of the more efficient treatments, including the replacement shredder and processing of incoming waste at a higher rate using existing treatment processes such as the shear, the current storage arrangements for the Site will not change as a result of the increase in annual throughput. As such, maximum storage tonnages and durations will remain in line with existing procedures and as set out within the Site’s FPP.

In addition, under the proposed increase in waste throughout, the Site will receive a greater amount of processed materials that meet international sales standards for furnace ready scrap. These materials will be tipped at Trafford Park, inspected and graded at the Site to confirm quality and then re-loaded for transport to S Norton’s export facility in Liverpool. Again, these wastes will be stored in line with existing procedures within the Site’s FPP.

Risks to the environment as a result of the increased throughput of waste in the treatment processes listed above have been considered in the ERA (reference 416.64371.00002\_ERA).

**Figure 4-4**  
**Mass balance illustrating the inputs, treatment process capacities and final outputs**



#### 4.1.6 Extension of permitted boundary area to include land to the west

S Norton are seeking to extend the permit Site boundary to the west of the existing Site boundary to incorporate a small area directly adjacent to Tenax Road that currently consists of warehouse buildings and a car park (new permit boundary shown on Drawing 02).

There will be no new activities or wastes in addition to the proposed changes explained in the sections above, because of the extension of the permitted boundary, but there will be some re-arrangement of where they occur. There will be no change to existing emissions points for air or sewer, but a new release point to sewer will be located along where the new boundary runs along Tenax Road (ref. point W3). The outfall to the new release to sewer will capture uncontaminated rainfall from building structures and impermeable surfacing. The new Permit Boundary & Site Layout is shown on Drawing 02 and the Environmental Site Setting & Receptors and Cultural and Natural Heritage receptors is shown on Drawings 03 and 04.

The changes with regard to the re-arrangement of existing activities are not known at this point and therefore, the new layout, FPP and operating techniques will be updated and sent to EA for agreement in writing once the details are known. However, all storage and processing of waste in the new permitted area will be in buildings with a sealed drainage system.



## 5.0 Assessment of BAT & Appropriate Measures

The following section provides an assessment of the pollution prevention and control techniques proposed for the proposed changes in the permit listed above against the Best Available Techniques conclusions (BATc) and 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;
- Non-hazardous and inert waste: appropriate measures for permitted facilities; and
- Chemical waste: appropriate measures for permitted facilities.

### 5.1 Waste Treatment Bref

Indicative BAT for these activities are set out in the revised Waste Treatment Bref (the Bref).<sup>2</sup> This section assesses the techniques proposed for the Site against the relevant BAT Conclusions (BATc) within the Bref, which include the following:

- *General requirements (BAT 1 – BAT 24);*
- *Mechanical Treatment of Waste (BAT 25 – BAT 32); and*
- *Physico-Chemical Treatment of Waste (BAT 40 – BAT 41)*

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.<sup>3</sup> The EA uses the term ‘appropriate measures’ to cover best available techniques (BAT) for waste installations facilities, best available treatment recovery and recycling techniques (BATRR) for the treatment of WEEE and ‘proper treatment’ as referred to by the WEEE Directive.

This section assesses the techniques proposed for the Site against the relevant appropriate measures within the guidance document, which include the following:

- *General management (appropriate measures 2.1 – 2.6);*
- *Waste pre-acceptance, acceptance and tracking (appropriate measures 3.1 – 3.3);*
- *Waste storage, segregation and handling (appropriate measures 4.1 – 4.2);*
- *Waste treatment (appropriate measures 5.1 – 5.13);*
- *Emissions control (appropriate measures 6.1 – 6.5);*
- *Emissions monitoring and limits (appropriate measures 7.1 – 7.2); and*
- *Process efficiency (appropriate measures 8.1 – 8.4)*

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

<sup>3</sup> [Waste electrical and electronic equipment \(WEEE\): appropriate measures for permitted facilities - Guidance - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/waste-electrical-and-electronic-equipment-wEEE-appropriate-measures-for-permitted-facilities)

Appendix 02 demonstrates how pollution prevention and control techniques proposed for the facility will meet relevant appropriate measures in the technical guidance document ‘Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities’.

### 5.3 Non-hazardous and inert waste treatment

The EA published appropriate measures for permitted activities that are relevant to regulated facilities with an environmental permit to store, treat or transfer (or both) non-hazardous and inert waste.<sup>4</sup>

There is a degree of overlap between the appropriate measures for facilities to treat or transfer all types of WEEE in Appendix 02 and those relevant to the storage, treatment or transfer (or both) of non-hazardous and inert waste and therefore, this section assesses the techniques proposed for the Site against the relevant appropriate measures within the guidance document that are in addition to those listed in Appendix 03, and which include the following:

- *Waste pre-acceptance, acceptance and tracking (3.3 quarantine);*
- *Waste storage (4.1 segregation);*
- *Waste treatment (only 5.2 waste treatment output);*
- *Emissions control (6.1 enclosure within buildings and 6.6 pests); and*
- *Waste Minimisation, Recovery and Disposal (9.0).*

Appendix 03 demonstrates how pollution prevention and control techniques proposed for the facility will meet relevant appropriate measures in the technical guidance document ‘Non-hazardous and inert: appropriate measures for permitted facilities’.

### 5.4 Chemical waste

The EA published appropriate measures for permitted activities that are relevant to regulated facilities with an environmental permit to treat or transfer chemical waste.<sup>5</sup>

There is a large degree of overlap between both the appropriate measures for facilities to treat or transfer all types of WEEE (Appendix 02) and for facilities to store, treat or transfer non-hazardous and inert waste (Appendix 03) with the appropriate measures to treat or transfer chemical waste. In addition, the proposed changes in this permit are largely not relevant to the treatment or transfer of chemical waste and therefore, this section assesses the techniques proposed for the Site against the relevant appropriate measures that are in addition to those listed in Appendix 02 and 03, and which include the following:

- *Waste storage, segregation and handling (4.0);*
- *Waste treatment (only 5.1 general waste treatment); and*
- *Emissions control (6.2 fugitive emissions to air (including odour)).*

---

<sup>4</sup> <https://www.gov.uk/guidance/non-hazardous-and-inert-waste-appropriate-measures-for-permitted-facilities>

<sup>5</sup> <https://www.gov.uk/guidance/chemical-waste-appropriate-measures-for-permitted-facilities>

## 6.0 Site Infrastructure and Equipment

The following changes to site infrastructure and equipment are proposed as part of this permit variation:

- Addition of a wet separator to the existing SWAPP;
- Operation of a replacement, upgraded pre-shredder and main shredder at a higher throughput; and
- Addition of land to the south-west of the existing permit boundary.

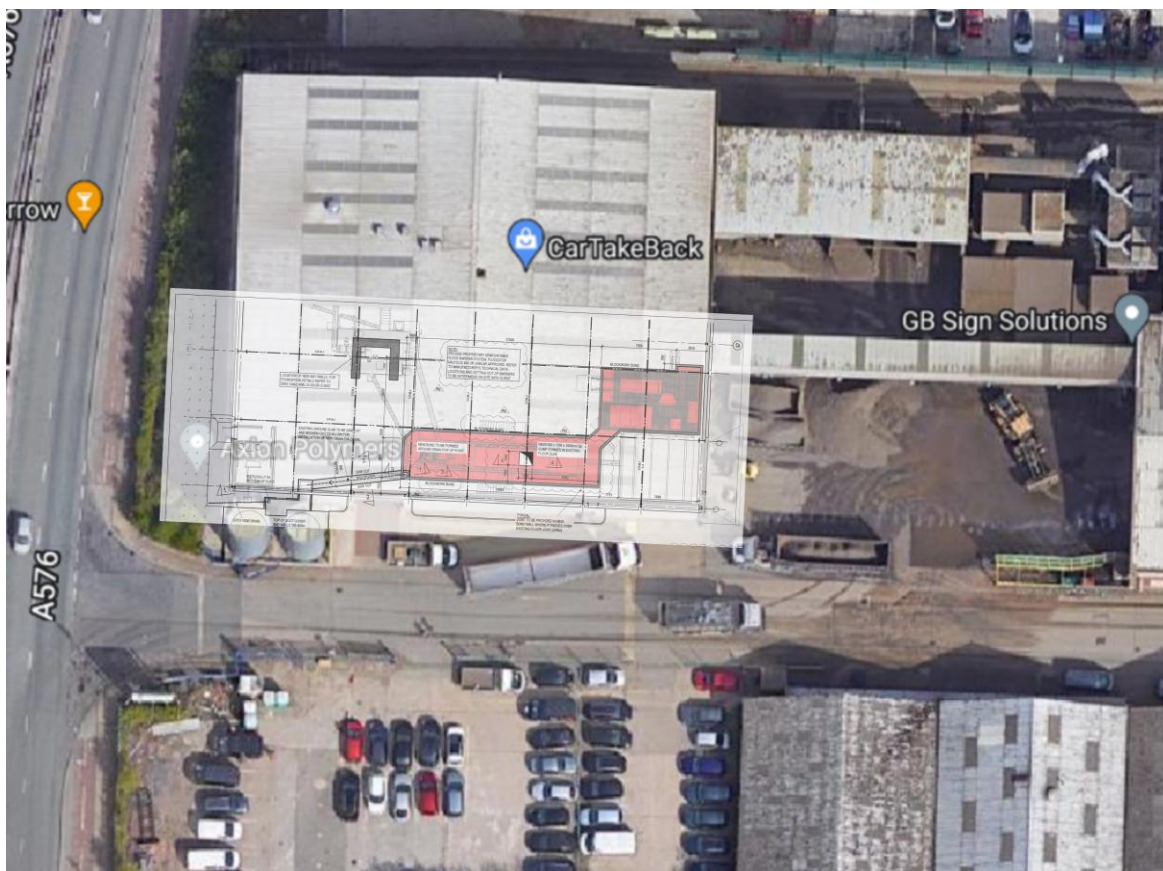
In addition, there are two existing activities which are already in operation and require authorisation as listed activities in the permit:

- An existing ECS plant which was erroneously not included as a listed activity in the 2017 permit variation; and
- An existing SBS activity.

It is proposed in future that some of the existing authorised activities will be relocated within the additional land. Once these details have been established S Norton will update the FPP and other site management plans accordingly and agree them with the local EA officer.

As part of changes to the permit the Site will construct a wet separator in the SWAPP2 processing area. This will include the addition of a water treatment unit. The location of the new plant and equipment is illustrated in figure 6-1 below. Tenax Road (A576) is located and shown to the west of the SWAPP processing building.

**Figure 6-1**  
**Layout and location of the new equipment and treatment process**



The permit variation also includes the addition of an existing activity in the permit in the form of mechanical separation of hazardous and non-hazardous waste via the Sensor Based Sorting (SBS) plant. As with the Eddy-Current Separator (ECS) plant, the SBS plant is operational (as illustrated on Drawing 02) but is not currently listed as an existing prescribed activity.

The replacement of the main shredder and pre-shredder is not classed as additional pieces of equipment but instead routine upgrades to existing plant following decommission of the previous main shredder and pre-shredder.

There will be some other changes to the Site infrastructure as a result of the proposed extension of the permitted boundary. The re-arrangement of existing site activities will include new buildings for the storage and processing of wastes and additional external areas. There will be no change to existing point source emissions points for air, but a new release point to sewer will be located along where the new boundary runs along Tenax Road (ref. point W3). The outfall to the new release to sewer will capture uncontaminated rainfall from building structures and impermeable surfacing.

## 6.1 Plant and Equipment

All Site plant and machinery are subject to a preventative maintenance schedule in line with the manufacturers' specifications.

The following provisions will continue to be implemented to any existing and new plant/equipment as part of the changes to the permit:

- Pre-use checks will be completed prior to using any plant or equipment;
- Defects will be reported and actions taken based on priorities;
- All machines in the SWAPP facility including the additional equipment will be serviced monthly with service records kept for reference;
- All vehicles onsite will be fitted with portable fire extinguishers; and
- Mobile plant will be kept away from combustible waste (by allocating areas for mobile plant for storage when not in use).

### 6.1.1 Fixed equipment

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

- *Shearing plant;*
- *Eddy Current Separator (ECS) plant;*
- *Sensor Based Sorting (SBS) plant;*
- *Pre-shredder (currently being replaced with new equipment);*
- *Shredder (currently being replaced with new equipment); and*
- *Shredder Advanced Processing Plant (SWAPP) facility;*

### 6.1.2 Mobile plant

The following items of mobile plant are held on Site:

- *Cat 325 Excavator x 3*
- *Cat 330 Excavator x 1*

- *Cat 972M Wheel loader x 5*
- *Leibherr R934C Excavator x1*
- *Linde Fork Lift H2 x 3*
- *Sennebogen 835 x 4*
- *Cherry Picker*

## 6.2 Site Drainage

The Site (including the additional land) benefits from impermeable surfacing throughout and sealed drainage for the collection of foul and surface water. All discharge is to combined sewer.

### 6.2.1 Wet Separator

There will be a connection from the new wet separator to the drain (via the existing release point 'W1') into the combined sewer in Tenax Road.

(subject to meeting the water quality standards set by the Bref/EA guidance for appropriate measures) or alternatively, if required, it will be tankered to a suitably licenced facility if the effluent does not meet the appropriate standards. As previously mentioned, the location of W1 has been incorrectly shown on the Site Plan in Schedule 7 of the permit and is actually on Tenax Road.

### 6.2.2 Extension of Permitted Area

A new release point to sewer will be located in the additional land to be incorporated into the permit where the new boundary runs along Tenax Road (ref. point W3). The outfall to the new release to sewer will capture uncontaminated rainfall from building structures and impermeable surfacing. The additional land to be incorporated into the permit will benefit from impermeable surfacing throughout and sealed drainage for the collection of foul and surface water as for the rest of the site and illustrated in Drawing 05. All discharge is to combined sewer.

The drainage system will continue to be checked periodically with different elements checked as part of routine checks, for example, drainage grids are subject to weekly checks, catchpit, interceptor and bunds monthly and penstock valve quarterly. A record of inspections and any remedial actions taken as a result of these inspections will be made in the Combined Management Maintenance System (CMMS). The proposed changes in this variation will not require changes to these procedures.

### 6.2.3 Containment Building

Liquids and chemicals, as illustrated in Table 7-1 stored as a result of the addition of the wet separator will be stored in an appropriate tank that benefits from a bund with the capacity to store 110% of the tank capacity. Bunds are:

- Impermeable and resistant to the stored materials;
- Have no outlet;
- Be designed to catch leaks from tanks or fittings;
- Have a capacity greater than 110% of the largest tank or 25% of the total tankage (whichever is greater);
- Any pipework routed within bunded areas will not penetrate the base or walls of the containment;
- Have tanker connection points within the bund; and
- Be subject to regular visual inspection.

## 7.0 Raw Materials

The raw materials associated with the proposed new activities are detailed in Table 7-1.

Coagulant and a flocculant mixture will be stored in IBC’s adjacent to the wet separator in SWAPP2 processing area. Substances will be stored in line with Control of Substances Hazardous to Health (COSHH) requirements. A COSHH assessment will be undertaken prior to the use of chemicals, and if the chemical is found to present a hazard to health, it will be added to the COSHH inventory and appropriate safeguards implemented.

A COSHH assessment will continue to be undertaken prior to the use of chemicals, and if the chemical is found to present a hazard to health, it will be added to the COSHH inventory and appropriate safeguards implemented.

Material Safety Data Sheets (MSDS) for any potentially hazardous materials or chemicals will be kept on Site together with the COSHH register. The MSDS will give information on how chemicals should be handled, stored and disposed of, and what to do in the event of an accident.

**Table 7-1**  
**Raw Materials and other potential contaminating liquids: Storage Arrangements**

Type	Consumption (tonnes per annum)	Site Storage
C50 Coagulant (The component consists of 10-30% polyaluminium chloride)	6	Contained in IBC’s that are labelled and benefit from a bund with the capacity to store at least 110% of the capacity of each container.  Storage area adjacent to the wet separator in SWAPP2 for IBC storage tank capacity = 1 m <sup>3</sup>
NA53E Flocculant (The component consists of HYDROCARBONS, C12-C15, N-ALKANES, ISOALKANES, CYCLICS, <2% AROMATICS)	0.1	Contained in IBC’s that are labelled and benefit from a bund with the capacity to store at least 110% of the capacity of each container.  Storage area adjacent to the wet separator in SWAPP2 for IBC storage tank capacity = 1 m <sup>3</sup>

See Section 3.2 of this BATOT for a description of the measures to be implemented to prevent loss of containment and minimise the risk and impact of potential releases.

### 7.1 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.

### **7.1.1 Waste Minimisation (minimising the use of raw materials)**

The addition of the wet separator will further improve the efficiency of separation and quality of the recovered waste streams. This process modification will ensure a greater amount of contamination is removed through the SWAPP process before being sent off Site for further processing.

It is intended that the metals removed through this new process will improve the efficiency of the polymer recycling process at Salford. Ultimately this will result in greater quantities of material recycled, reducing CO2 emissions and benefiting the circular economy.

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

### **7.1.2 Water Use**

Water use in the wet separator will be minimised by use of a water treatment and closed loop system.

The new plant has been designed with the intention to minimise environmental impact from the plant's operating life.

Water used for dust suppression may increase slightly as a result of the proposed additional throughput in the shredder, overall processing volumes and the larger permitted area. The option to recirculate this water has been considered but deemed impractical due to water losses from evaporation and absorption. The impact from the potential increase is considered low as the new main shredder plant will have a better environmental performance than the previous shredder, including a lower kWh/tonne and a more efficient filter system that will limit dust to much lower than is currently stated in the Bref/EA appropriate measures guidance.

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 appropriate measures guidance.

## 8.0 Waste Acceptance, Recovery or Disposal

The Site has and already operates in accordance with waste pre-acceptance, acceptance, rejection/quarantine procedures.

S Norton will continue to apply the 'Acceptance and Control of Waste' procedure 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.

Waste acceptance and quarantine procedures including waste characterisation, load inspection, waste control (which includes rejection procedures, record keeping, paperwork checks/procedures, waste tracking) and waste segregation, along with operational controls will continue to be in place and followed at all times and apply to the proposed changes in the permit. The proposed changes as part of this variation will not require changes to these procedures.

### 8.1 POPs Regulations

Wastes consisting of or containing or contaminated by POPs must be dealt with in accordance with Article 7 of Regulation (EU) 2019/1021 (POPs Regulation). Waste fractions that originate from a source that might contain POPs, such as SMW and ASR are treated as distinct waste streams and are separated from other types of waste at all times.

The proposed wet separation unit in the SWAPP facility and further treatment of SMW residue and ASR as separate waste streams will maximise the recovery of metals. The residual plastic fractions that may contain Brominated Flame Retardants (BFRs) and POPs will continue to be sent to the separately permitted Axion Polymers site at Salford for downstream processing, where density separation is used to separate POPs containing plastic from non-POPs containing plastics. The addition of the wet separator at Trafford Park will improve the efficiency of the polymer recycling process at Salford, resulting in greater quantities of material recycled and benefiting the circular economy.

Accordingly, the Site will continue to ensure that appropriate procedures are in place to prevent risk of contamination between hazardous that may contain POPs and non-hazardous fractions. Waste will be segregated appropriately following acceptance on Site and existing measures will continue to be followed.

To prevent the risk of contamination between hazardous plastic residue that may contain POPs and non-hazardous plastic residue:

- SMW will be stored in dedicated a storage area prior to pre-screening in the main shredder plant (as illustrated on Drawing 02);
- SMW residues will be stored temporarily in a covered bay, separate from other fractions, prior to transfer to the external storage bay for SMW residues adjacent to the SWAPP facility (as illustrated on Drawing 02);
- ASR will be stored temporarily in a covered bay, separate to other fractions, prior to transfer to the external ASR storage bay adjacent to the SWAPP facility (as illustrated on Drawing 02);
- Non-hazardous plastic materials will be stored in dedicated bays and segregated from other hazardous wastes including SMW residues and ASR at all times;
- Plastics such as SMW residue and ASR that are classed as hazardous will be treated in the SWAPP facility in separate batches from non-hazardous plastics; and
- Residues from the processing of hazardous plastic wastes including SMW will be segregated and stored separately from the processing of non-hazardous waste plastics.



## 9.0 Energy

### 9.1 Energy Consumption

Water, energy and raw materials usage will change as a result of the proposed variation, because of the increased throughput of the shredder and the new wet separator.

The new main shredder and pre-shredder plants will be commissioned towards the end of 2023 and their energy consumption will be recorded and monitored. However, the new main shredder plant and pre-shredder once fully constructed and operational will be more energy efficient per unit of material processed than the previous equipment.

The additional energy consumption from the new wet separation process in the SWAPP facility is provided in Table 9-1. The table also includes the existing energy consumption from the existing SWAPP facility to demonstrate its minimal impact.

**Table 9-1**  
**Energy Consumption**

Energy Source	Annual Consumption
Existing SWAPP facility (electricity)	6,374 MWh
Proposed wet separation process in the SWAPP facility including a wet separator, vibratory screen and water treatment unit (electricity)	82 MWh (additional)

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.

### 9.2 Energy Management Measures

In addition to the existing energy management measures at the site, energy efficiency has been considered as part of the selection of equipment for the new activities. The replacement shredder has a reduced kWh/tonne of material processed and the new wet separator incorporates a feature which ensures that the water treatment plant will shut off automatically when there is no demand for water to be treated.

The proposed changes in this variation will not require changes to the following procedures:

To optimise energy efficiency, equipment will be maintained and serviced as required;

- Plant and equipment will continue to 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 continue to 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; and

- Staff will undergo awareness training in energy efficient practices.

## 10.0 Control of Noise

An assessment of potential noise impact has been carried out. Details of the locations, sources, frequency and estimated noise levels that will be associated with existing and new operations at the Site have been addressed as part of the NIA. The NIA found that the cumulative impact of the proposed changes in the permit will have no noise impact at the receptors assessed.

As explained, S Norton also intend to relocate some of the site activities onto the additional area of land within the permit boundary, however, the locations are not yet known. Therefore, it is proposed that an updated NIA would be carried out when the revised layout is known and that this would be submitted separately to the EA.

### 10.1 Noise Mitigation and Management Measures

The NIA has determined that additional noise mitigation will not be necessary as a result of the proposed changes in the permit, with consideration of the location of sensitive receptors i.e., Site setting and background noise levels. Nonetheless, a Noise Management Plan will be appended to the NIA as a request by the EA and a number of general mitigation measures will continue to be employed in order to ensure that the risk of impact to receptors that may be affected is minimised.

#### 10.1.1 Operating Hours

The Site will continue to operate 24 hours a day, 7 days a week. Operating hours are restricted by planning regulations for those materials that are known to cause levels of noise & vibration, likely to cause nuisance to surrounding sensitive receptors, thus ensuring the avoidance of noisy activities such as the running of shredders at night or early in the morning.

#### 10.1.2 Building and Plant Design

Opening of doors will be kept to a minimum and roller shutter doors of the SWAPP processing area will be kept closed except when waste is being transferred.

The proposed additional wet separation process will occur in the SWAPP2 and delamination mill processing areas that are enclosed. All buildings including the SWAPP processing building have been designed to attenuate noise.

The pad of the replacement main and pre-shredder plant will be suspended to minimise vibration and the control building of the main shredder plant has been strategically placed to act as a natural noise attention barrier from the shredding activity. In addition, there are existing high walls in the northern area of the Site to protect neighbouring business from noise and vibration.

#### 10.1.3 Plant & Equipment Selection

Plant and equipment options with lower noise levels will continue to be used wherever possible to ensure noise is kept to a minimum, including drive motors, fans, compressors and pumps, in addition to using broadband (white noise) reversing alarms and enforcing the on-Site speed limit.

Plant and equipment will continue to be maintained regularly to minimise noise resulting from deterioration and inefficient operation. 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.

All machines in the SWAPP facility including new plant and equipment as part of the wet separation process will be serviced monthly with service records kept for reference.

#### **10.1.4 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.

If a complaint is received, it will be logged on the EHS Management System Incident Record. The Site Manager will be responsible for investigating the complaint and taking action to identify the source of the noise and implement remedial measures where appropriate.

## 11.0 Control of Emissions to Air

S Norton are currently replacing the shredder with a new, upgraded, more efficient shredder and seek to increase the waste annual throughput to 750,000 tpa. As a result of the more efficient treatment processes, including the replacement shredder, the incoming waste will be processed at a higher rate and the EA advised that an assessment is likely to be required to demonstrate that the emissions from the replacement shredder that is being installed will be in compliance with the BAT Conclusions for Waste Treatment.

### 11.1 Point Source Emissions

The facility has five continuous release points to air, as shown in table 11-1 below.

**Table 11-1**  
**Point Sources of Air Emissions**

Reference	Source	Change
A1	Metal shredder	Installation of replacement shredder. See Section 4.1.5 and below Section 11.1.1
A2	Exhaust gas emissions from SWAPP facility	No significant change
A3	Exhaust gas emissions from SWAPP facility	No significant change
A4	Vents from fuel Storage Bund	No significant change
A5	Vents from ELV fuel Storage Bund	No significant change

#### 11.1.1 Replacement shredder

A stack for point source emissions to air will be located on the replacement main shredder plant (A1). A cyclone will remove most of the hygroscopic particulate following the injection of water into the mill before it reaches the baghouse for release to air.

Table 11-2 sets out the assumed exhaust emissions from the replacement shredder. The Table also sets out the applicable emissions limits, as set out as BAT associated emissions levels (BAT-AEL) in the Waste Treatment Bref or as emission limits in the EA's Guidance for WEEE treatment. It is anticipated that the combined use of the cyclone will ensure that the emissions meet the required limits.

**Table 11-2**  
**Assumed Pollutant Concentrations in Emissions from shredder (reference A1)**

Pollutant	Emissions from plant <sup>6</sup> (mg/m <sup>3</sup> )	Emission Limits (mg/Nm <sup>3</sup> )
CO	Not measured	None
NOx	Not measured	None
Bromine	0.02	Monitoring only
Dioxin-like PCBs	Not measured	Monitoring only
Dust PM <sub>10</sub> (and PM <sub>2.5</sub> )	5	10 <sup>7</sup>
Copper	0.008	Monitoring only
Ni compounds	0.016	Monitoring only
Metals including:	As follows:	Monitoring only
Arsenic	0.002	
Cadmium	0.002	
Cobalt	0.001	
Coronium	0.014	
Magnesium	0.001	
Lead	0.026	
Antimony	0.001	
Selenium	0.002	
Thallium	0.001	
Vanadium	0.001	
PCDD/F (Polychlorinated dibenzo-p-dioxin/furan(s))	Not measured	Monitoring only
Total VOCs	Not measured <sup>8</sup>	3 - 15 <sup>9</sup>

<sup>6</sup> The applied emission rates have been calculated from the process emissions detailed in Table 5-1 of the AERA. The emission rates for PM10 and PM2.5 have been adopted by assuming the maximum BAT-AEL, as included in the BATc document for channelled dust emissions to air from the mechanical treatment of metal waste. The speciated metal emission concentrations are based on the maximum stack monitoring data available, as provided for Axion.

<sup>7</sup> Waste Treatment Bref (metal shredding) and EA Metals Shredding and WEEE treatment appropriate measures: when a fabric filter is not used a higher limit of 10mg/m<sup>3</sup> is appropriate.

<sup>8</sup> Not considered to be part of the Site's **emissions inventory** as no depollution of gaseous substances and types of WEEE accepted for mechanical treatment do not possess VOCs.

<sup>9</sup> Waste Treatment Bref (WEEE treatment containing organics)

### 11.1.2 Initial assessment

The screening exercise identified that emissions of speciated metals from the metal shredder are insignificant and require no further assessment in accordance with the EA's AERA guidance, however the screening exercise identified that 24 hour mean PM10 emissions exceeded the criteria for further assessment and therefore detailed modelling is required.

### 11.1.3 Detailed dispersion modelling

The maximum predicted maximum ground level concentrations (GLC) for PM10 24 Hour (90.41%ile) mean impacts is summarised in Table 6-3 of the AERA included in Section 6 of this application. The dispersion modelling found 24 hour mean PM10 GLC PC to be well below 10% of the relevant AQAL and no predicted exceedances of the AQAL.

### Compliance with Emissions Limits

The AERA included in Section 7 of this application quantified and assessed the potential air quality impacts associated with the replacement shredder as a result of the EP variation.

The detailed modelling of the environmental risk for the substance PM10 emissions found that the predicted emissions from the replacement shredder to be within the Air Quality Assessment Levels (AQAL) and therefore under the relative environmental thresholds provided in the Air Quality Standards Regulations 2010 (the AQSR) and Air Quality Strategy (AQS), as well as BAT associated emissions levels (BAT-AEL) provided by the EA, for the protection of health.

## 12.0 Control of Dust and other fugitive emissions

### 12.1 Fugitive Dust Emissions

Potential sources of dust are associated with the proposed increase to the site throughput. However, the Site operates to an existing Dust Management Plan (known to S Norton as an Aerial Emissions Risk Assessment & Management Plan) and therefore, a number of measures are already in place to minimise the risk of dust emissions during storage, handling and treatment of waste as described below and it is considered that these would be satisfactory for the increased capacity. These include:

- Waste that arrives will be within sheeted or enclosed vehicles, if possible, to ensure no escape of dust during transit;
- Waste is stored in dedicated external storage bays which will minimise the mobilisation of dust (if any is present);
- All waste fractions from the shredding process will be stored within covered bays, which will mitigate re-suspension of particulates during high winds;
- Visual inspections will be carried out of waste loads accepted at the Site to ensure no gross contamination is evident;
- Storage areas will benefit from regular cleaning, daily as a minimum;
- Drop heights and double handling of materials will be kept to a minimum; and
- Site access roads and operational areas will be maintained and swept regularly to reduce dust generation.

In addition, S Norton will undertake regular cleaning using brooms, mobile plant and wash down hoses/jet wash (if necessary) to prevent a build-up of litter and dust on Site.

The Site is inspected daily for dust and combustible material and recorded on the daily noise, vibration and dust inspection checksheet (S Norton refer to this internal document as EF-4.4.6-01). The Site is also inspected on a weekly basis and this is recorded on the weekly environmental inspection checksheet (S Norton refer to this internal document as EF-4.4.6-01-07).

Potential sources of dust are associated with the inclusion of the processing of NF wastes in the NF processing plants in the permit. The increased risk of fugitive dust emissions will be managed by the existing measures listed above in addition to appropriate measures to minimise the exposure of the NF waste to rain and wind, including covering of the conveyors and the storage of all waste fractions from the shredding process within covered bays.

#### 12.1.1 Dust Mitigation Measures from the replacement shredder

Once fully constructed and operational, the new main shredder plant will have the following measures to control fugitive emissions to air:

- Enclosed conveyors and transfer points downstream of the mill chamber;
- Wet injection into the mill chamber for dust suppression.
- Dry bag house filter utilising cyclonic separation to abate dust to emissions limits below the appropriate measures guidance; and
- Solid rubber flaps to seal openings where movement in/out of an area is required.

Mist air systems covering output bays designated for fines material



### 12.1.2 Dust Mitigation Measures from the proposed wet separation process

- The process building that contains SWAPP2 and metal recovery plant i.e., the location of the new additional wet separation activity are enclosed structures; and
- The SWAPP facility and its processing building benefit from roller shutter doors that remain closed except when waste is being transferred.
- PVC curtains will be fitted around Bay 8 (except for the front to allow access);
- Provisions have been included for flanges to be built into the screen cover to enable a dust filter extraction system to be installed in future if required; and
- The new additional wet separation activity will occur in enclosed structures and the SWAPP facility benefits from roller shutter doors that will remain closed except when waste is being transferred.

In addition, the air inside the SWAPP enclosed building is maintained under negative pressure and all air passes through dust filters before it is emitted to air. S Norton have 4 fixed dust filters that automatically dispose dust into the SRF bay. They are filtering approximately 40-45m<sup>3</sup>/h.

There is the potential for the proposed extension to the permitted boundary area to increase the risk of fugitive dust emissions. However, in addition to the Site following the Ariel Emissions Risk Assessment and Management Plan, all storage and processing of waste in the new permitted area will be in buildings with a sealed drainage system to control fugitive emissions to air.

Existing dust suppression measures will continue to be used including misting on the perimeter edge. Daily visual inspection of the Site and Site boundary will continue to be carried out by Site personnel. It is considered that these measures would be satisfactory as measures to control fugitive emissions to air for the proposed changes.

## 12.2 Odour

The changes to the permit and additional wet separation activity in SWAPP2 is intended to further process and recover materials from wastes that have always been treated at the Site. These wastes are not odorous, and the changes are not expected to affect odour at the Site.

## 12.3 Mud

The Site already has existing controls to prevent the emissions of mud. The proposed changes in this variation will not require changes to these existing procedures.

## 12.4 Litter

The Site already has existing controls to prevent the emissions of litter. The proposed changes in this variation will not require changes to these existing procedures.

## 13.0 Control of Emissions to Groundwater, Surface Water and Sewer

The potential risks from the proposed activities have been considered in the Environmental Risk Assessment, and preventative and mitigative measures have been designed in accordance with the identified risks. The control measures are presented in this section.

### 13.1 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.

The Site is operated in a manner which will prevent fugitive emissions to groundwater. The containment measures in place at the Site are described in Section 6.2 of this BATOT. The Site has provisions to isolate and contain contaminated water on Site if an incident occurs. These will ensure there are no point source or fugitive emissions to groundwater.

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

### 13.2 Point Source and Fugitive Emissions to Surface Water

There are no point source emissions to surface water. The Site benefits from impermeable surfacing and a sealed drainage system which discharges to sewer.

The containment measures in place at the Site are described in 6.2 of this BATOT. These are designed to contain accidental spillages and also firewater in the case of an incident. These measures will ensure there are no point source or fugitive emissions to surface water.

### 13.3 Point Source Emissions to Sewer

The Site benefits from impermeable surfacing and a sealed drainage system. Any potentially contaminated water from the Site, such as oil from vehicles and water from wash down of buildings will be passed through interceptors before discharge to sewer. The on-site drainage system also has provision for containment and isolation from discharge to sewer in the event of a potential pollution incident such as fire or spillage. An impermeable surface and a sealed drainage system will be in place for the new permitted area to the west of the Site.

The Site surface water and foul drainage discharge to combined sewer via release points 'W1' and 'W2' (as shown on Drawing 02). The location of W1 has been incorrectly shown on the Site Plan in Schedule 7 of the permit. S Norton propose to amend the discharge location as described in Section 4.1.6 of this BATOT. Run-off from rainfall is discharged to sewer. S Norton have two existing trade effluent discharge consents (TEDC) with United Utilities (UU). The Site drainage is connected to the existing system for the wider industrial estate within which the facility is located.

#### Extension of the permit boundary

There will be a change to the existing Site surface water and foul drainage system as a result of the proposed extension of the permit boundary, by way of an addition of a new release point to sewer that will be located along where the new boundary runs along Tenax Road. The outfall to the new release to sewer will capture uncontaminated surface water run-off from rainfall in the new area of the Site. All processing of waste in the new area will be within buildings and therefore the run-off from the external area is anticipated to be

uncontaminated prior to release to sewer. It is not considered to be trade or process effluent and monitoring of this discharge is not considered to be necessary.

### Wet separator

As part of the proposed additional wet separation activity in the SWAPP facility, a Water Treatment Unit is intended to be added to SWAPP2. The Water Treatment Unit operates as a closed loop with no need to discharge any water during normal operation. If discharge is required (i.e. to clean a tank) water will be discharged to the drain into combined sewer in Tenax Road via the existing release point 'W1' (subject to meeting the water quality standards set by the Bref/EA guidance for appropriate measures) or alternatively, if required, it will be tankered to a suitably licenced facility if the effluent does not meet the appropriate standards. The description of the treatment process is described in Section 4.1.1 of this BATOT. The proposed Water Treatment Unit does not result in any new emission points; however, as mentioned the location of W1 has been incorrectly shown on the Site Plan in the permit and S Norton propose to amend the discharge location.

At present, Table S3.2 of the permit does not include any limits or monitoring requirements. However, the plant has been designed to clean the effluent to <500ppm total suspended solids (TSS) which is much lower than the existing discharge consent limit of 2500ppm.

There will be no changes to the provision of trade effluent which will continue to be discharged to sewer under TEDCs with UU, where it will undergo further treatment at Daveyhulme Sewage Treatment Works (STW) prior to discharge into the Manchester Ship Canal (the River Irwell).

#### 13.3.1 Process Effluent Characteristics

Process effluent produced by the Site will be from the proposed additional water separation process. As discussed, the process water will be recirculated in a closed loop system. If any discharge is required, it will be discharged to sewer via release point 'W1' (subject to meeting Bref/EA appropriate measures water quality standards) or alternatively, if required, tankered to a suitably licenced facility. There are no plans to continuously release this water, although discharge consent for 15 m<sup>3</sup>/day has been allowed and this will not be exceeded.

#### 13.3.2 Surface Water Risk Assessment

A surface water risk assessment has been carried out to quantify the environmental impact of discharging the process effluent to the receiving surface watercourse (Manchester Ship Canal (the River Irwell)), via the Daveyhulme STW, to assess whether they are a risk to the environment. The assessment is provided in Section 8 of this application. The assessment was carried out in accordance with the EA's "Surface water pollution risk assessment for your environmental permit" and "H1 Annex D2 – Assessment of sanitary and other pollutants within surface water" guidance.

In total 15 contaminants were assessed, using the lower of either best available techniques assessment environmental limits (BAT-AELs) or Trade Effluent Discharge (TEDC) limits, to provide a conservative estimate of the impact of the discharge on the receiving water;

### Compliance with Emissions Limits

- All contaminants with the exception of silver were screened out by tests 2-4 in the screening process and are therefore not deemed to pose a risk to the environment;
- The maximum "passable" concentration determined for Silver was 35 µg/l. This is considerably lower than the TEDC limit of 10,000 µg/l;
- The sample analysis obtained from the pilot trial did not contain results for Silver, but it is not anticipated to be present in significant concentrations; and furthermore

- There is no BAT-AEL specified. Therefore, it is recommended that the H1 assessment should be repeated once a larger set of at least 12 samples of operational data is obtained.

## 13.4 Flood Risk

The Site lies within a Flood Zone 1<sup>10</sup>, defined as an area with low probability of flooding.

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

---

<sup>10</sup> Flood Map for Planning, available at <https://flood-map-for-planning.service.gov.uk/>, accessed in August 2022

## 14.0 Monitoring

The Site will continue to be subject to a comprehensive programme of monitoring as part of the proposed changes in the permit 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

### 14.1 General Observations

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. 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.

### 14.2 Monitoring of Infrastructure and Equipment

Infrastructure and equipment will continue to be subject to regular visual inspection. S Norton will continue to 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 Site’s EHS Management System Incident Record.

### 14.3 Emissions Monitoring

#### 14.3.1 Monitoring Emissions to Surface Water

There are no direct emissions to surface water. Rainfall run-off from roofs and Site surfaces and process effluent (subject to meeting Bref/EA water quality standards) are released to surface water via the existing combined sewer. The rainfall run-off is assumed to be uncontaminated and will not be routinely monitored.

Monitoring of the process effluent will be carried out before it is discharged into the Site drainage system at location W1 as shown on Drawing 02, and in accordance with the requirements of the Waste Treatment Bref and relevant EA guidance as shown in Table 14-1 below:

**Table 14-1**  
**Process Effluent Discharge Monitoring Schedule**

Substance / parameter	Emission Limit mg/l	Monitoring Frequency	Monitoring Standard
PFOA	None		No EN standard

Substance / parameter	Emission Limit mg/l	Monitoring Frequency	Monitoring Standard
PFOS		Once every 6 months	
COD	None	Monthly	No EN standard
Hydrocarbon Oil Index	10	Monthly	EN ISO 9377-2
Arsenic (As)	0.05	Monthly	Various EN standards available (e.g. EN ISO 11885, EN ISO 17294-2, EN ISO 15586)
Cadmium (Cd)	0.05		
Chromium (Cr)	0.15		
Copper (Cu)	0.5		
Nickel (Ni)	0.5		
Lead (Pb)	0.1		
Mercury (Hg)	5		
Zinc (Zn)	1.0		
TOC	60		
Total Suspended Solids	None	Monthly	EN 872
pH	None	Monthly	
Flow	None	Monthly	
BOD	None	Monthly	
Phosphorus	None	Monthly	

If any of the substances/parameters listed in Table 14-1 are not present in the effluent, in accordance with BAT 7 of the Waste Treatment Bref no monitoring of the absent substances will be required.

### 14.3.2 Monitoring Emissions to Air

Emissions to air will continue to be subject to a routine monitoring programme, as described below in Table 14-2. Emission limits are in line with those set out in the Waste Treatment Bref and EA appropriate measures guidance.

**Table 14-2**  
**Emissions Limit and Monitoring Programme**

Pollutant	Emission Limit (mg/Nm <sup>3</sup> )	Monitoring Frequency	Monitoring Method
Dust	10	6 monthly	EN 13284-1
TVOC	None	6 monthly	EN 12619
Brominated flame retardants	None	Annually	No EN standard available
Dioxin-like PCBs	None	Annually	EN 1948-1, -2, and -4
Copper dust	None	Annually	EN 14385
Ni Compounds	None	Annually	EN 14385
Metals including: Arsenic Cadmium Cobalt Cromium Magnesium Lead Antimony Selenium Thallium Vanadium	None	Annually	EN 14385
PCDD/F (Polychlorinated dibenzo-p-dioxin/furan(s))	None	Annually	EN 1948-1, -2, and -3

## 14.4 Monitoring Standards and Techniques

Monitoring will continue to be undertaken in compliance with recognised techniques or using standard methods. Monitoring equipment will be calibrated, serviced and maintained in line with manufacturer recommendations.

### 14.4.1 Monitoring Stack Emissions

Emissions monitoring will be undertaken in accordance with the requirements of the EA's Monitoring Stack Emissions guidance: measurement locations<sup>11</sup>. This will include provision of suitable access routes and platforms as required and the siting of sample ports in line with the requirements set out.

## 14.5 Monitoring Action Plan

In the event that the monitoring programme 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.

## 14.6 Management, Reporting and Training

All monitoring results will continue to be recorded and stored electronically. The Site Manager or their nominated deputy will inspect the monitoring records at a suitable frequency to ensure monitoring is being undertaken in accordance with procedures. Results will be examined annually as part of the Site's management review.

Staff involved in sampling and monitoring will be trained sufficiently to carry out the set procedures and will be trained in the reporting requirements of the environmental permit.

The proposed changes in this variation will not require changes to these procedures.

---

<sup>11</sup> <https://www.gov.uk/government/publications/monitoring-stack-emissions-measurement-locations>



## 15.0 Environmental Impact

### 15.1 Impact Assessments

A number of impact assessments have been undertaken in support of this application to demonstrate that the proposed changes in the permit and operation of the facility at the Site will not give rise to unacceptable impact on the environment.

The assessments carried out in line with current EA guidance are as follows;

- Environmental Risk Assessment (Section 6);
- Air Emissions Risk Assessment (Section 7); and
- Release to Surface Water Assessment (Section 8)

The conclusions of the assessments are summarised below.

### 15.2 Environmental Risk Assessment

The Environmental Risk Assessment considers numerous potential risks including, but not limited to fugitive emissions (to air and surface water) and potential for accidents and incidents. The assessment concludes that with the implementation of the risk management measures described, potential hazards from the proposed changes in the permit and operation of the facility are not likely to be significant. The Environmental Risk Assessment is enclosed as Section 6 of this application.

### 15.3 Air Emissions Risk Assessment

An Air Emissions Risk Assessment (AERA) which includes a detailed dispersion model has been carried out on 'Stack A' point source emission to air which will be located on the replacement main shredder plant (A1) in accordance with EA guidance and is provided in Section 6 of this application.

The screening exercise identified that emissions of speciated metals from the metal shredder are insignificant and require no further assessment in accordance with the EA's AERA guidance, however the screening exercise identified that 24 hour mean PM10 emissions exceeded the criteria for further assessment.

The detailed modelling subsequently found that the predicted emissions from the replacement shredder to be within the Air Quality Assessment Levels (AQAL) and therefore under the relative environmental thresholds provided in the Air Quality Standards Regulations 2010 (the AQSR) and Air Quality Strategy (AQS), as well as BAT associated emissions levels (BAT-AEL) provided by the EA, for the protection of health.

### 15.4 Releases to Surface Water (H1) Assessment

A surface water risk assessment has been carried out to quantify the environmental impact of discharging the process effluent to the receiving surface watercourse (Manchester Ship Canal (the River Irwell)), via the Daveyhulme STW, to assess whether they are a risk to the environment. The assessment is provided in Section 8 of this application.

The assessment was carried out in accordance with the EA's "*Surface water pollution risk assessment for your environmental permit*" and "*H1 Annex D2 – Assessment of sanitary and other pollutants within surface water*" guidance and the following was noted:

- In total 15 contaminants were assessed, using the lower of either best available techniques assessment environmental limits (BAT-AELs) or Trade Effluent Discharge (TEDC) limits, to provide a conservative estimate of the impact of the discharge on the receiving water.

- All contaminants with the exception of silver were screened out by tests 2-4 in the screening process and are therefore not deemed to pose a risk to the environment.
- The maximum “passable” concentration determined for Silver was 35 µg/l. This is considerably lower than the TEDC limit of 10,000 µg/l.

The sample analysis obtained from the pilot trial did not contain results for Silver and there is no BAT-AEL specified, therefore, at this stage the likely Silver concentration of the effluent discharge is not known, however it is not anticipated to be present in significant concentrations.

Therefore, it is recommended that the H1 assessment should be repeated once a larger set of at least 12 samples of operational data is obtained.

## 15.5 Fire Prevention Plan

The Site, including the SWAPP facility, will operate under a Fire Prevention Plan (FPP). The FPP will follow EA guidance for FPPs<sup>12</sup> and will detail the required 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 current provisions in place to ensure existing activities and associated infrastructure is managed as in accordance with the FPP and considers plant maintenance, fire detection and suppression, water supply and the management of fire water.

The proposed additional waste codes to be accepted as part of the changes in this variation do not affect the overall fire risk on the Site. Appropriate controls for these additional types of wastes are already in place.

The proposed increase in site throughput will not result in an increase in the storage capacity of the Site. S Norton are currently replacing the shredder with a new, upgraded, more efficient shredder. The amount of waste being stored or processed on Site at any one-time will not increase. The replacement new shredder will benefit from extinguishing lines located along the primary belt exiting the shredder which can be used remotely by S Norton. The new shredder waste bays also benefit from deluge systems. Infeed material storage areas are covered by fire detection sensors and remote operated monitor canons.

The proposed additional wet separation process is part of an existing process in SWAPP2 processing area and the inclusion of the non-ferrous processing plants (SBS systems and ECS plant) in the permit and their activities already have firefighting provisions included in the FPP.

In addition, the proposed extension of permitted boundary does not significantly change the risk of fire as there will be no new activities or wastes directly as a result of the proposed extension. In future there will be some re-arrangement of where existing activities occur. When these arrangements have been established, the FPP including the site layout plan and required mitigation and management methods will be updated and agreed with the local EA officer.

The FPP is enclosed as Section 10 of this application..

---

<sup>12</sup> Fire Prevention Plans, January 2021.

## 15.6 Noise Assessment

An assessment of potential noise impact has been carried out. The NIA found that the cumulative impact of the known proposed changes in the permit will have no noise impact at the receptors assessed and therefore, additional noise mitigation will not be necessary.

As explained, S Norton also intend to relocate some of the site activities onto the additional area of land within the permit boundary, however, the locations are not yet known. Therefore, it is proposed that an updated NIA would be carried out when the revised layout is known and that this would be submitted separately to the EA.

## APPENDIX 01

### BATc for Waste Treatment

**Appendix 01**  
**Compliance with BAT Conclusions Waste Treatment**

No.	BAT Conclusion	Specific Measures
<b>GENERAL CONSIDERATIONS</b>		
BAT 1	<i>In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS)<sup>1</sup></i>	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	<p><i>In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques given below:</i></p> <ul style="list-style-type: none"> <li>• <i>Set up and implement waste characterisation and pre-acceptance procedures</i></li> <li>• <i>Set up and implement waste acceptance procedures</i></li> <li>• <i>Set up and implement a waste tracking system and inventory</i></li> <li>• <i>Set up and implement an output quality management system</i></li> <li>• <i>Ensure waste segregation</i></li> <li>• <i>Ensure waste compatibility prior to mixing or blending of waste</i></li> <li>• <i>Sort incoming solid waste</i></li> </ul>	<p>The Site has and already operates in accordance with strict waste acceptance and pre-acceptance procedures. See Section 8 of the BAT-OT document. The proposed changes as part of this variation will not require changes to these procedures.</p> <p><b>Waste Tracking and Inventory System</b></p> <p>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.</p> <p><b>Output Quality Management System</b></p> <p>The Site is operated in accordance with an ISO 9001:2015 QMS. The proposed changes in this variation will not require changes to these procedures.</p> <p><b>Waste Segregation</b></p> <p>There are existing appropriate procedures are in place to prevent risk of contamination between types of waste including hazardous and non-hazardous fractions. Measures to prevent contamination between hazardous plastic residue that may contain POPs and non-hazardous plastic residue will be followed and are detailed in Section 8.1 of this BAT-OT document. The proposed changes in this variation will not require changes to these procedures.</p> <p>The existing and new waste storage locations as a result of the changes in the permit are illustrated on Drawing 02 Permit Boundary &amp; Site Layout.</p> <p><b>Waste Compatibility</b></p> <p>There are no compatibility issues relating to the waste types which would present an increased risk to the environment as a result of the proposed changes in this variation. The proposed changes will not require changes to existing storage and handling procedures.</p> <p><b>Sorting of incoming solid waste</b></p> <p>The proposed changes in this variation will not require changes to these procedures.</p>
BAT 3	<p><i>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></p> <p style="margin-left: 20px;"><i>(i) information about the characteristics of the waste to be treated and the waste treatment processes, including:</i></p> <p style="margin-left: 40px;"><i>(a) simplified process flow sheets that show the origin of the emissions;</i></p>	<p>The proposed additional wet separation process in the SWAPP facility will treat SMW residues and ASR waste. A Water Treatment Unit is intended to be added to SWAPP2 and there will be effluent release to combined sewer via the existing release point W1 as identified in Table S3.2 of the current permit subject to meeting Bref/EA water quality standards.</p> <p>Process description and process flow diagrams including inputs and outputs are illustrated in Section 4.1 of this BAT-OT document.</p>

<sup>1</sup> Refer to the BAT Reference document for features to be incorporated in the EMS.

No.	BAT Conclusion	Specific Measures
	<p><i>(b) descriptions of process-integrated techniques and waste water/waste gas treatment at source including their performances;</i></p> <p><i>(ii) information about the characteristics of the waste water streams, such as:</i></p> <p><i>(a) average values and variability of flow, pH, temperature, and conductivity;</i></p> <p><i>(b) average concentration and load values of relevant substances and their variability (e.g. COD/TOC, nitrogen species, phosphorus, metals, priority substances/micropollutants);</i></p> <p><i>(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);</i></p> <p><i>(iii) information about the characteristics of the waste gas streams</i></p>	<p>The risk of contamination of surface water will be increased as a result of the proposed increase in throughput. S Norton have initiated external testing of the Site's point source emission to sewer. S Norton propose that appropriate additional treatment will be procured and installed to a specification designed to meet the required Bref/EA standards.</p> <p>There is no change to waste gas streams associated with the proposed changes other than the replacement of the shredder. See Section 11 of this BAT-OT document for details of the waste gases released.</p> <p>S Norton will continue to carry out stack emissions testing of the point source emission from the SWAPP facility and main shredder plant. Section 14 of this BAT-OT document outlines monitoring.</p>
<p>BAT 4</p>	<p><i>In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below.</i></p> <p><i>a) Optimised storage locations</i></p> <p><i>b) Adequate storage capacity</i></p> <p><i>c) Safe storage operation</i></p> <p><i>d) Separate area for storage and handling of packaged hazardous waste</i></p>	<p><b>a) Adequate storage capacity</b></p> <p>There will be some additional storage areas in the SWAPP facility, as a result of the additional wet separation activity in the SWAPP2 processing area. The storage locations for the new outputs as a result of the new wet separation activity are detailed in Section 4.1.1 of this BAT-OT document and shown on Drawing 02.</p> <p>There will be some re-arrangement of existing activities due to the proposed permit extension to minimise transport distances and optimise operations. However, these changes are not known at this point and therefore, the new layout and relevant procedures in the FPP will be updated and sent to the EA for agreement in writing once the details are known.</p> <p>The other proposed changes in the permit will not result in a change in existing storage and handling procedures and the Site will operate in line with those procedures within the Site's FPP.</p> <p><b>b) Adequate storage capacity</b></p> <p>The storage capacity and handling procedures will not change as a result of the proposed changes in this variation.</p> <p><b>c) Safe Storage Operation</b></p> <p>Raw materials including coagulant and flocculant used as part of the new wet separation process will be stored within IBC's that benefit from a bund with the capacity to store at least 110% of the capacity of each container. Section 3 of this BAT-OT document outlines measures to minimise the potential causes and consequences of accidents from potential incidents as a result of the proposed changes in the permit.</p> <p><b>d) Separate Area for Storage and Handling of Packaged Hazardous Waste</b></p> <p>The proposed changes in this variation will not require changes to existing procedures. S Norton will ensure that all waste will be segregated appropriately following acceptance on Site and existing measures such as clear labelling will continue to be followed.</p>
<p>BAT 5</p>	<p><i>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.</i></p>	<p>Storage tonnages and durations will remain the same in line with existing procedures within the Site's FPP.</p> <p>The increase in waste throughput as a result of the proposed variation will lead to a change of the handling and transfer of waste from the Site. Waste will be processed at a higher rate as a result of the replacement, more efficient main shredder and pre-shredder and increased handling via existing treatment processes including the shear and non-ferrous processing plants. The proposed treatment capacities of the combined inputs equate to 750,000 tpa. Section 4.1.5 of this BAT-OT document illustrates a mass balance detailing the inputs, treatment process capacities and final outputs.</p> <p>There will be no new activities or wastes as a direct result of the extension of the permitted boundary, but there will be some re-arrangement of where they occur in future. There will be no processing of waste</p>

No.	BAT Conclusion	Specific Measures						
		<p>outside of buildings in the new area and all processing of waste in the new area will be in a building with a sealed drainage system.</p> <p>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.</p> <p>S Norton will continue to only accept waste at the Site if the description in the accompanying documentation is in accordance with the EP and that on-Site inspection confirms the waste is consistent with the description provided.</p> <p>S Norton will continue to minimise the environmental risks associated with the change in handling and transfer of waste and will adhere to existing procedures in the Site's IMS including:</p> <ul style="list-style-type: none"> <li>• All Site operatives will receive training associated with conformity with the requirements of the competence management system including on Site handling and transfer procedures, with periodic refreshments; and</li> <li>• All training records will be maintained within the company training matrix</li> </ul>						
BAT 6	<p><i>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).</i></p>	<p>Monitoring of the process effluent released to sewer (subject to meeting Bref/EA appropriate measures water quality standards) will be carried out at the discharge point W1 prior to discharge to the Site drainage system. Key parameters and frequency of monitoring are provided in Section 14.3 Table 14.1 of this BATOT document.</p>						
BAT 7	<p><i>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.</i></p>	<p>Emissions to water will be monitored in accordance with the monitoring standards and methods detailed in Section 14.3.1 of this BAT-OT document.</p>						
BAT 8	<p><i>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.</i></p> <p style="text-align: center;"><i>Table 6.3</i></p> <p style="text-align: center;"><b>BAT-associated emission level (BAT-AEL) for channelled dust emissions to air from the mechanical treatment of waste</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Parameter</th> <th style="width: 33%;">Unit</th> <th style="width: 33%;">BAT-AEL (Average over the sampling period)</th> </tr> </thead> <tbody> <tr> <td>Dust</td> <td>mg/Nm<sup>3</sup></td> <td>2-5 <sup>(1)</sup></td> </tr> </tbody> </table> <p><sup>(1)</sup> When a fabric filter is not applicable, the upper end of the range is 10 mg/Nm<sup>3</sup>.</p>	Parameter	Unit	BAT-AEL (Average over the sampling period)	Dust	mg/Nm <sup>3</sup>	2-5 <sup>(1)</sup>	<p>Emissions to air will be monitored in accordance with the monitoring standards and methods detailed in Section 14.3.2 of this BATOT document.</p>
Parameter	Unit	BAT-AEL (Average over the sampling period)						
Dust	mg/Nm <sup>3</sup>	2-5 <sup>(1)</sup>						

No.	BAT Conclusion	Specific Measures									
	<p style="text-align: center;"><i>Table 6.4</i></p> <p style="text-align: center;"><b>BAT-associated emission levels (BAT-AELs) for channelled TVOC and CFC emissions to air from the treatment of WEEE containing VFCs and/or VHCs</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Parameter</th> <th style="width: 33%;">Unit</th> <th style="width: 33%;">BAT-AEL (Average over the sampling period)</th> </tr> </thead> <tbody> <tr> <td>TVOC</td> <td>mg/Nm<sup>3</sup></td> <td>3-15</td> </tr> <tr> <td>CFCs</td> <td>mg/Nm<sup>3</sup></td> <td>0,5-10</td> </tr> </tbody> </table>	Parameter	Unit	BAT-AEL (Average over the sampling period)	TVOC	mg/Nm <sup>3</sup>	3-15	CFCs	mg/Nm <sup>3</sup>	0,5-10	
Parameter	Unit	BAT-AEL (Average over the sampling period)									
TVOC	mg/Nm <sup>3</sup>	3-15									
CFCs	mg/Nm <sup>3</sup>	0,5-10									
BAT 9	<p><i>BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques given.</i></p>	<p>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.</p>									
BAT 10	<p><i>BAT is to periodically monitor odour emissions.</i></p>	<p>Not applicable. The types of waste to be treated by processes as part of the permit variation are not odorous. The variation includes the addition of EWC codes for WEEE from sources of waste already permitted for acceptance on Site. Currently, the wastes accepted for treatment are presently not odorous in nature.</p> <p>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.</p>									
BAT 11	<p><i>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.</i></p>	<p>S Norton will conduct monitoring of the annual consumption of water, energy and raw materials by recording all inputs into the process.</p> <p>Monitoring will also be conducted for the annual generation of residues via the recording of all output. 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.</p> <p>Furthermore, monitoring of the energy consumption of any new equipment will also be maintained.</p>									
BAT 12	<p><i>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:</i></p> <ul style="list-style-type: none"> <li>• <i>a protocol containing actions and timelines;</i></li> <li>• <i>a protocol for conducting odour monitoring as set out in BAT 10;</i></li> <li>• <i>a protocol for response to identified odour incidents, e.g. complaints;</i></li> <li>• <i>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.</i></li> </ul>	<p>Not applicable. The types of waste to be treated by processes as part of the permit variation are not odorous. The variation includes the addition of EWC codes for WEEE from sources of waste already permitted for acceptance on Site. Currently, the wastes accepted for treatment are presently not odorous in nature.</p> <p>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.</p>									
BAT 13	<p><i>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.</i></p> <ol style="list-style-type: none"> <li><i>a) Minimising residence times</i></li> <li><i>b) Using chemical treatment</i></li> </ol>	<p>Not applicable. The types of waste to be treated by processes as part of the permit variation are not odorous. The variation includes the addition of EWC codes for WEEE from sources of waste already permitted for acceptance on Site. Currently, the wastes accepted for treatment are presently not odorous in nature.</p>									



No.	BAT Conclusion	Specific Measures
	<p>c) <i>Optimising aerobic treatment</i></p>	<p>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.</p>
<p>BAT 14</p>	<p><i>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</i></p> <p>a) <i>Minimising the number of potential diffuse emission sources</i></p> <p>b) <i>Selection and use of high-integrity equipment</i></p> <p>c) <i>Corrosion prevention</i></p> <p>d) <i>Containment, collection and treatment of diffuse emissions</i></p> <p>e) <i>Dampening</i></p> <p>f) <i>Maintenance</i></p> <p>g) <i>Cleaning of waste treatment and storage areas</i></p> <p>h) <i>Leak detection and repair (LDAR) programme</i></p>	<p>The risk of diffuse emissions to air of dust, organic compounds and odour from the proposed wet separator is low as it uses a wet process, the waste is not odorous and does not contain volatile components.</p> <p>The increase in throughput of waste at the site has the potential to increase the risk of fugitive dust emissions. Mitigation measures to control fugitive emissions to air from these proposed changes in the permit have been considered in section 12.1 of this BAT-OT.</p> <p>In addition, a number of measures are already in place as described below and it is considered that the proposed and existing measures would be satisfactory to minimise fugitive emissions to air of dust from the proposed changes in the permit:</p> <p>a) Incoming waste is delivered in enclosed vehicles in loose or bagged form. Loose waste and bags are stored in bays to minimise wind-borne dust. Stockpiles of open waste including light iron will be managed in line with procedures listed in the Site's FPP and in line with policies and procedures on S Norton's IMS including the 'Management of Stockpile Heights' procedure. The new wet separation process will take place within SWAPP2 which is enclosed. The 'lights' consisting mainly plastic (~95%), with some wood and rubber (coded as MAP08), produced from the wet separation process will be stored in a covered bay. Other outputs including non-ferrous metals and heavies (high density material from the separation process) will also be stored in a covered bay prior to further treatment through the existing metal recovery process.</p> <p>b) Not applicable; the process does not generate odorous emissions.</p> <p>c) S Norton utilise a Combined Management Maintenance System (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 will be subject to application of the CMMS.</p> <p>d) Proposed changes in the permit have the potential to increase the risk of fugitive dust emissions. However, mitigation measures to control fugitive emissions to air from these proposed changes in the permit have been considered in section 12.1 of this BAT-OT. In addition, a number of measures are already in place, and it is considered that these would be satisfactory for the proposed changes.</p> <p>e) Existing dust suppression measures are used on external stockpiles and misting on the perimeter edge. It is considered that these measures would be satisfactory as a dampening measure for the increased capacity.</p> <p>f) 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.</p> <p>g) The proposed changes in this variation will not require changes to these procedures.</p> <p>h) Not applicable. The process does not generate odorous emissions.</p>
<p>BAT 15</p>	<p><i>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:</i></p> <p>a. <i>Correct plant design</i></p> <p>b. <i>Plant management</i></p>	<p>Not applicable: the process does not include flaring.</p>
<p>BAT 16</p>	<p><i>In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given below:</i></p>	<p>Not applicable: the process does not include flaring.</p>

No.	BAT Conclusion	Specific Measures
	<ul style="list-style-type: none"> <li>a. <i>Correct design of flaring devices</i></li> <li>b. <i>Monitoring and recording as part of flare management</i></li> </ul>	
BAT 17	<p><i>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></p> <ul style="list-style-type: none"> <li><i>I. a protocol containing appropriate actions and timelines;</i></li> <li><i>II. a protocol for conducting noise and vibration monitoring;</i></li> <li><i>III. a protocol for response to identified noise and vibration events, e.g. complaints;</i></li> <li><i>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</i></li> </ul>	<p>The Site is located within an industrial estate and not within 500m of residential receptors. 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.</p> <p>As outlined, due to the specific re-arrangement of some activities as a result of the permit extension not yet being finalised, the Noise Impact Assessment for all the proposed changes to site operations will be submitted to the EA separately following submission of this application.</p> <p>As a request by the EA, the NIA will determine whether additional noise mitigation will be necessary as a result of the proposed changes in the permit. A Noise Management Plan will be appended to the NIA as a request by the EA and a number of general mitigation measures will continue to be employed in order to ensure that the risk of impact to receptors that may be affected is minimised.</p>
BAT 18	<p><i>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:</i></p> <ul style="list-style-type: none"> <li><i>a. Appropriate location of equipment and buildings</i></li> <li><i>b. Operational measures</i></li> <li><i>c. Low-noise equipment</i></li> <li><i>d. Noise and vibration control equipment</i></li> <li><i>e. Noise attenuation</i></li> </ul>	<p>The risk of noise impact from the Site is low as there are minimal sensitive receptors in close proximity, including no residential locations within 1km of the Site boundary. Also, the new equipment is not expected to significantly increase noise levels from the SWAPP processing building due to the current sound level from existing equipment and because it is located within the SWAPP2 processing area which is enclosed. However, noise will be minimised through existing and new measures described in Section 10.1 of this BAT-OT document and in the Noise Management Plan that will include existing measures and new measures as a result of the replacement main shredder plant and pre-shredder that will be submitted separately with the NIA following submission of this application:</p> <ul style="list-style-type: none"> <li>• Strategic placing of the control building of the new main shredder plant to act as a natural barrier</li> <li>• Concrete pad of the pre-shredder and main shredder plant suspended to minimise vibration</li> <li>• Operations including loading and sorting screened by bay walls</li> <li>• Hours of operation restricted by planning regulations, i.e., avoidance of noisy activities such as running of shredders at night or early in the morning</li> <li>• Closing windows and roller shutter doors of SWAPP processing area except when waste is being transferred</li> <li>• Using broadband (white noise) reversing alarms and enforcing the on-Site speed limit</li> <li>• Using low-noise equipment, for example, drive motors, fans, compressors and pumps</li> </ul> <p>The Site also has high walls in the north area of the Site to protect neighbouring business from noise and vibration.</p>
BAT 19	<p><i>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.</i></p> <ul style="list-style-type: none"> <li><i>a. Water Management</i></li> <li><i>b. Water Recirculation</i></li> <li><i>c. Impermeable Surface</i></li> <li><i>d. Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels</i></li> <li><i>e. Roofing of waste storage and treatment areas</i></li> </ul>	<p>a) Water use has been considered as part of the design of the proposed wet separation process and consumption is optimised by:</p> <ul style="list-style-type: none"> <li>• Water mass balances including the monitoring of water usage for the water treatment unit and effluent flow from the separation activity; and</li> <li>• Reuse of washing water in the new activity through recirculation of treated clean water.</li> </ul> <p>Other water usage on Site is likely to slightly increase as a result of the proposed additional throughput which may increase the dust suppression requirements. The option to recirculate this water has been considered but deemed impractical due to water losses from evaporation and absorption. The impact from the potential increase is considered low as the new main shredder plant and new pre-shredder has an improved environmental performance compared to the</p>

No.	BAT Conclusion	Specific Measures
	<ul style="list-style-type: none"> <li>f. Segregation of water streams</li> <li>g. Adequate drainage infrastructure</li> <li>h. Design and maintenance provisions to allow detection and repair of leaks</li> <li>i. Appropriate buffer storage capacity</li> </ul>	<p>previous plant, including a lower kWh/tonne and a more efficient filter system that will limit dust to much lower than is currently stated in the Bref/EA appropriate measures guidance.</p> <ul style="list-style-type: none"> <li>b) The proposed wet separation process recirculates treated cleaned water to the main clean water balance tank for reuse in the washing process. The water treatment unit processes wash water from the washing and separation of screened plastic residues from SMW and ASR. Process water is to be taken from the main sump and pre-screened at 1 mm. It is then cleaned through coagulation, flocculation and settlement of particulate contaminants and returned as cleaned water to the main clean water balance tank for reuse in the washing process. Most of the water is reused in the process.</li> <li>c) An impermeable surface is already in place across the whole Site and will be in place for the new area to the west of the Site as a result of the permit extension.</li> <li>d) The wet separation process and the reagents it uses are contained in bunded storage with existing sealed drainage system together with procedures to isolate Site drainage using the shut-off valve if required. In addition, the separation activity uses a coagulant and a flocculant mixture as part of the water treatment process. The raw materials are contained in IBC's that benefit from a bund with the capacity to store 110% of the container in case of failure.</li> <li>e) The proposed wet separation activity is in an enclosed building in the SWAPP2 processing area. Outputs from the processed SMW residue, screened ASR, non-ferrous metals and 'heavies' consisting of high density materials are stored in covered bays.</li> <li>f) The Site surface water and foul drainage discharge to combined sewer. There is an additional effluent release to combined sewer via the existing release point W1 as identified in Table S3.2 of the current permit as a result of the proposed wet separation activity (subject to Bref/EA appropriate measures water quality standards). This activity does not result in any new emission points, however there will be a new surface water discharge point to sewer as a result of the extension of the permit boundary.</li> <li>g) The Site surface is impermeable, and the perimeter is kerbed to prevent overflow and discharge to surface water drainage. An impermeable surface and a sealed drainage system will be in place for the new area to the west of the Site as a result of the extension of the permitted boundary.</li> <li>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.</li> </ul> <p>Buffer storage capacity is not required as treated water from the proposed wet separation activity in the SWAPP facility is recirculated with only a small amount discharged to the drain as required subject to meeting Bref/EA water quality standards. However, the Site and the SWAPP facility benefit from sealed drainage systems, with isolation valves, capable of containing any spillages or contaminated surface water (e.g., in the event of a fire incident) from leaving the Site.</p>
BAT 20	<p><i>In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques given below:</i></p> <ul style="list-style-type: none"> <li>a. Equalisation</li> <li>b. Neutralisation</li> <li>c. Physical separation</li> <li>d. Adsorption</li> <li>e. Distillation/rectification</li> <li>f. Precipitation</li> <li>g. Chemical oxidation</li> <li>h. Chemical reduction</li> <li>i. Evaporation</li> <li>j. Ion exchange</li> </ul>	<p>Waste water from the new wet separation process in the SWAPP facility will be treated as described in Section 4.1.1 of this BAT-OT. A Water Treatment Unit is intended to be added to SWAPP2 to process dirty wash water from the proposed wet separation of screened MAP30.</p> <p>Wastewater will be pre-screened at 1 mm and then chemically conditioned using coagulant and flocculant to aid the removal of solids. The effluent is then fed into a tank where the solids settle to the bottom and the clean effluent continuously overflows at a rate of approximately 10 m<sup>3</sup> /h into a small clean water tank from where water is recycled for reuse in the separation process. The sludge from the bottom of the tank is dewatered in a mechanical process to produce a dried waste cake.</p> <p>The plant will enable continuous reuse of water however there may be a need for a small amount of discharge of the process water. If process water is to be discharged, it will first be tested to determine if it meets the BAT emissions limits. If the water is below the limits, it will be discharged to sewer in line with</p>

No.	BAT Conclusion	Specific Measures																																																		
	<p>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</p> <p><b>Table 6.2: BAT-associated emission levels (BAT-AELs) for indirect discharges to a receiving water body</b></p> <table border="1"> <thead> <tr> <th data-bbox="359 642 721 693">Substance/Parameter</th> <th data-bbox="721 642 869 693">BAT-AEL (<sup>1</sup>) (<sup>2</sup>)</th> <th data-bbox="869 642 1190 693">Waste treatment process to which the BAT-AEL applies</th> </tr> </thead> <tbody> <tr> <td data-bbox="359 699 721 951">Hydrocarbon oil index (HOI)</td> <td data-bbox="721 699 869 951">0.5–10 mg/l</td> <td data-bbox="869 699 1190 951"> <ul style="list-style-type: none"> <li>Mechanical treatment in shredders of metal waste</li> <li>Treatment of WEEE containing VFCs and/or VHCs</li> <li>Re-refining of waste oil</li> <li>Physico-chemical treatment of waste with calorific value</li> <li>Water washing of excavated contaminated soil</li> <li>Treatment of water-based liquid waste</li> </ul> </td> </tr> <tr> <td data-bbox="359 957 721 997">Free cyanide (CN) (<sup>3</sup>)</td> <td data-bbox="721 957 869 997">0.02–0.1 mg/l</td> <td data-bbox="869 957 1190 997"> <ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul> </td> </tr> <tr> <td data-bbox="359 1003 721 1043">Adsorbable organically bound halogens (AOX) (<sup>4</sup>)</td> <td data-bbox="721 1003 869 1043">0.2–1 mg/l</td> <td data-bbox="869 1003 1190 1043"> <ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul> </td> </tr> <tr> <td data-bbox="359 1050 468 1455" rowspan="7">Metals and metalloids (<sup>5</sup>)</td> <td data-bbox="468 1050 721 1092">Arsenic (expressed as As)</td> <td data-bbox="721 1050 869 1092">0.01–0.05 mg/l</td> <td data-bbox="869 1050 1190 1455" rowspan="7"> <ul style="list-style-type: none"> <li>Mechanical treatment in shredders of metal waste</li> <li>Treatment of WEEE containing VFCs and/or VHCs</li> <li>Mechanical biological treatment of waste</li> <li>Re-refining of waste oil</li> <li>Physico-chemical treatment of waste with calorific value</li> <li>Physico-chemical treatment of solid and/or pasty waste</li> <li>Regeneration of spent solvents</li> <li>Water washing of excavated contaminated soil</li> </ul> </td> </tr> <tr> <td data-bbox="468 1098 721 1140">Cadmium (expressed as Cd)</td> <td data-bbox="721 1098 869 1140">0.01–0.05 mg/l</td> </tr> <tr> <td data-bbox="468 1146 721 1188">Chromium (expressed as Cr)</td> <td data-bbox="721 1146 869 1188">0.01–0.15 mg/l</td> </tr> <tr> <td data-bbox="468 1194 721 1236">Copper (expressed as Cu)</td> <td data-bbox="721 1194 869 1236">0.05–0.5 mg/l</td> </tr> <tr> <td data-bbox="468 1243 721 1285">Lead (expressed as Pb)</td> <td data-bbox="721 1243 869 1285">0.05–0.1 mg/l (<sup>6</sup>)</td> </tr> <tr> <td data-bbox="468 1291 721 1333">Nickel (expressed as Ni)</td> <td data-bbox="721 1291 869 1333">0.05–0.5 mg/l</td> </tr> <tr> <td data-bbox="468 1339 721 1381">Mercury (expressed as Hg)</td> <td data-bbox="721 1339 869 1381">0.5–5 µg/l</td> </tr> <tr> <td data-bbox="468 1388 721 1430">Zinc (expressed as Zn)</td> <td data-bbox="721 1388 869 1430">0.1–1 mg/l (<sup>7</sup>)</td> </tr> <tr> <td data-bbox="359 1461 468 1692" rowspan="8"></td> <td data-bbox="468 1461 721 1503">Arsenic (expressed as As)</td> <td data-bbox="721 1461 869 1503">0.01–0.1 mg/l</td> <td data-bbox="869 1461 1190 1692" rowspan="8"> <ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul> </td> </tr> <tr> <td data-bbox="468 1509 721 1551">Cadmium (expressed as Cd)</td> <td data-bbox="721 1509 869 1551">0.01–0.1 mg/l</td> </tr> <tr> <td data-bbox="468 1558 721 1600">Chromium (expressed as Cr)</td> <td data-bbox="721 1558 869 1600">0.01–0.3 mg/l</td> </tr> <tr> <td data-bbox="468 1606 721 1648">Hexavalent chromium (expressed as Cr(VI))</td> <td data-bbox="721 1606 869 1648">0.01–0.1 mg/l</td> </tr> <tr> <td data-bbox="468 1654 721 1696">Copper (expressed as Cu)</td> <td data-bbox="721 1654 869 1696">0.05–0.5 mg/l</td> </tr> <tr> <td data-bbox="468 1703 721 1745">Lead (expressed as Pb)</td> <td data-bbox="721 1703 869 1745">0.05–0.3 mg/l</td> </tr> <tr> <td data-bbox="468 1751 721 1793">Nickel (expressed as Ni)</td> <td data-bbox="721 1751 869 1793">0.05–1 mg/l</td> </tr> <tr> <td data-bbox="468 1799 721 1841">Mercury (expressed as Hg)</td> <td data-bbox="721 1799 869 1841">1–10 µg/l</td> </tr> <tr> <td data-bbox="468 1848 721 1890">Zinc (expressed as Zn)</td> <td data-bbox="721 1848 869 1890">0.1–2 mg/l</td> </tr> </tbody> </table> <p>(<sup>1</sup>) The averaging periods are defined in the General considerations.                      (<sup>2</sup>) 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.                      (<sup>3</sup>) The BAT-AELs only apply when the substance concerned is identified as relevant in the waste water inventory mentioned in BAT 3.                      (<sup>4</sup>) The upper end of the range is 0.3 mg/l for mechanical treatment in shredders of metal waste.                      (<sup>5</sup>) The upper end of the range is 2 mg/l for mechanical treatment in shredders of metal waste.</p>	Substance/Parameter	BAT-AEL ( <sup>1</sup> ) ( <sup>2</sup> )	Waste treatment process to which the BAT-AEL applies	Hydrocarbon oil index (HOI)	0.5–10 mg/l	<ul style="list-style-type: none"> <li>Mechanical treatment in shredders of metal waste</li> <li>Treatment of WEEE containing VFCs and/or VHCs</li> <li>Re-refining of waste oil</li> <li>Physico-chemical treatment of waste with calorific value</li> <li>Water washing of excavated contaminated soil</li> <li>Treatment of water-based liquid waste</li> </ul>	Free cyanide (CN) ( <sup>3</sup> )	0.02–0.1 mg/l	<ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul>	Adsorbable organically bound halogens (AOX) ( <sup>4</sup> )	0.2–1 mg/l	<ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul>	Metals and metalloids ( <sup>5</sup> )	Arsenic (expressed as As)	0.01–0.05 mg/l	<ul style="list-style-type: none"> <li>Mechanical treatment in shredders of metal waste</li> <li>Treatment of WEEE containing VFCs and/or VHCs</li> <li>Mechanical biological treatment of waste</li> <li>Re-refining of waste oil</li> <li>Physico-chemical treatment of waste with calorific value</li> <li>Physico-chemical treatment of solid and/or pasty waste</li> <li>Regeneration of spent solvents</li> <li>Water washing of excavated contaminated soil</li> </ul>	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 ( <sup>6</sup> )	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 ( <sup>7</sup> )		Arsenic (expressed as As)	0.01–0.1 mg/l	<ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul>	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	<p>our discharge consent with the utilities company. If the water does not meet the limits, it will be tankered out by an external water treatment company for treatment.</p> <p>The proposed Water Treatment Unit does not result in any new emission points; however, the location of W1 has been incorrectly shown on the Site Plan in Schedule 7 of the permit. S Norton propose to amend the discharge location as part of this variation.</p> <p>A surface water risk assessment was carried out 15 contaminants, using the lower of either best available techniques assessment environmental limits (BAT-AELs) or Trade Effluent Discharge (TEDC) limits, to provide a conservative estimate of the impact of the discharge on the receiving water. All contaminants with the exception of silver were screened out by tests 2–4 in the screening process and are therefore not deemed to pose a risk to the environment. The maximum “passable” concentration determined for Silver was 35 µg/l. This is considerably lower than the TEDC limit of 10,000 µg/l.</p> <p>The sample analysis obtained from the pilot trial did not contain results for Silver and there is no BAT-AEL specified, therefore, at this stage the likely Silver concentration of the effluent discharge is not known, however it is not anticipated to be present in significant concentrations.</p> <p>The Site will be operated in accordance with the emissions limits proposed in Table 14.1, or as modified by the environmental permit.</p>
Substance/Parameter	BAT-AEL ( <sup>1</sup> ) ( <sup>2</sup> )	Waste treatment process to which the BAT-AEL applies																																																		
Hydrocarbon oil index (HOI)	0.5–10 mg/l	<ul style="list-style-type: none"> <li>Mechanical treatment in shredders of metal waste</li> <li>Treatment of WEEE containing VFCs and/or VHCs</li> <li>Re-refining of waste oil</li> <li>Physico-chemical treatment of waste with calorific value</li> <li>Water washing of excavated contaminated soil</li> <li>Treatment of water-based liquid waste</li> </ul>																																																		
Free cyanide (CN) ( <sup>3</sup> )	0.02–0.1 mg/l	<ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul>																																																		
Adsorbable organically bound halogens (AOX) ( <sup>4</sup> )	0.2–1 mg/l	<ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul>																																																		
Metals and metalloids ( <sup>5</sup> )	Arsenic (expressed as As)	0.01–0.05 mg/l	<ul style="list-style-type: none"> <li>Mechanical treatment in shredders of metal waste</li> <li>Treatment of WEEE containing VFCs and/or VHCs</li> <li>Mechanical biological treatment of waste</li> <li>Re-refining of waste oil</li> <li>Physico-chemical treatment of waste with calorific value</li> <li>Physico-chemical treatment of solid and/or pasty waste</li> <li>Regeneration of spent solvents</li> <li>Water washing of excavated contaminated soil</li> </ul>																																																	
	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 ( <sup>6</sup> )																																																		
	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 ( <sup>7</sup> )																																																			
	Arsenic (expressed as As)	0.01–0.1 mg/l	<ul style="list-style-type: none"> <li>Treatment of water-based liquid waste</li> </ul>																																																	
	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																																																			

No.	BAT Conclusion	Specific Measures
Bat 21	<p><i>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:</i></p> <ol style="list-style-type: none"> <li><i>a. Protection measures</i></li> <li><i>b. Management of incidental/accidental emissions</i></li> <li><i>c. Incident/Accident registration and assessment system</i></li> </ol>	<p>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.</p> <p>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. The same procedure will apply to the proposed additional wet separation activity in SWAPP facility and in the unlikely event that any incidents arise.</p> <p>S Norton operate an 'Emergency Action Plan' (EAP) that monitors environmental performance. The following potential hazards have been identified in relation to the proposed additional throughput of waste, the new activity in the SWAPP, the acceptance of new waste codes, the processing of wastes in the non-ferrous processing plants and the extension of the permitted boundary:</p> <ul style="list-style-type: none"> <li>• Fire;</li> <li>• Fugitive Emissions (including dust, litter and pests)</li> <li>• Equipment/Plant failure; and</li> <li>• Loss of containment - spillage and leakage.</li> </ul> <p>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 3 of this BAT-OT document.</p>
BAT 22	<p><i>In order to use materials efficiently, BAT is to substitute materials with waste.</i></p>	<p>The proposed additional processing stage in the SWAPP facility is to further improve the separation process and quality of the recovered waste streams.</p> <p>The water treatment unit uses only a small amount of flocculant and coagulant and other processes (existing and proposed as part of the changes in the permit) do not use significant amounts of non-waste material and therefore, it is considered that there is limited scope for replacement.</p>
BAT 23	<p><i>In order to use energy efficiently, BAT is to use both of the techniques given below.</i></p> <ol style="list-style-type: none"> <li><i>a. Energy Efficiency Plan</i></li> <li><i>b. Energy Balance Record</i></li> </ol>	<p>Water, energy and raw materials usage will change as a result of the proposed variation, because of the increased throughput of the new shredders, the new activity in the SWAPP facility and as a result of the extension of the permitted boundary.</p> <p>The new main shredder plant and pre-shredder once fully constructed and operational will be more energy efficient than the previous equipment and will process material at a lower kWh/tonne than the previous plant.</p> <p>Energy efficiency has been considered in the selection of the new main shredder and pre-shredder (lower kWh/tonne processed) and also the wet separator, where the water treatment plant will shut off automatically when there is no demand for water to be treated.</p> <p>S Norton will monitor records of energy consumption for the proposed additional processes under the permit variation, including monitoring of electricity, gas and fuel usage. Ultimately this will result in greater quantities of material recycled, reducing CO2 emissions and benefiting the circular economy.</p> <p>See Section 7 and 9 of this BAT-OT document.</p>
BAT 24	<p><i>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.</i></p>	<p>The increased throughput of waste treated at the Site has 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. See Section 7.1.1 of this BAT-OT document.</p>

No.	BAT Conclusion	Specific Measures						
BAT 25	<p><i>In order to reduce emissions to air of dust, and of particulate-bound metals, PCDD/F and dioxin-like PCBs, BAT is to apply BAT 14d and to use one or a combination of the techniques given below.</i></p> <ol style="list-style-type: none"> <li><i>Cyclone</i></li> <li><i>Fabric filter</i></li> <li><i>Wet scrubbing</i></li> <li><i>Water injection into the shredder</i></li> </ol> <p style="text-align: center;"><i>Table 6.3</i></p> <p style="text-align: center;"><b>BAT-associated emission level (BAT-AEL) for channelled dust emissions to air from the mechanical treatment of waste</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Parameter</th> <th style="width: 33%;">Unit</th> <th style="width: 33%;">BAT-AEL (Average over the sampling period)</th> </tr> </thead> <tbody> <tr> <td>Dust</td> <td>mg/Nm<sup>3</sup></td> <td>2-5 <sup>(1)</sup></td> </tr> </tbody> </table> <p><sup>(1)</sup> When a fabric filter is not applicable, the upper end of the range is 10 mg/Nm<sup>3</sup>.</p> <p>The associated monitoring is given in BAT 8.</p>	Parameter	Unit	BAT-AEL (Average over the sampling period)	Dust	mg/Nm <sup>3</sup>	2-5 <sup>(1)</sup>	<p>The volume of point source emissions to air will increase as a result of the proposed variation, because of the increased throughput of the new main shredder and pre-shredder. However, the new shredders will have a better environmental performance per tonne of material processed than the previous plant. A cyclone will remove most of the hydroscopic particulate following the injection of water into the mill before it reaches the baghouse. The filter system will limit dust to much lower than the BAT-AEL for channelled dust emissions to air BAT standard.</p> <p>Also, the main shredder plant will include:</p> <ul style="list-style-type: none"> <li>Enclosed conveyors and transfer points downstream of the mill chamber;</li> <li>Wet injection into the mill chamber for dust suppression; and</li> <li>Solid rubber flaps to seal openings where movement in/out of an area is required.</li> </ul> <p>The risk of diffuse emissions to air of dust and organic compounds from the proposed wet separator is low as it uses a wet process/does not contain volatile components, although the new screen and fines storage bay have the potential to cause fugitive dust emissions. To mitigate this risk, the screen will be enclosed, and PVC curtains will be fitted around Bay 8 (except for the front access). Flanges will be built into the screen cover to enable a dust filter extraction system to be installed in future if required</p> <p>Section 14.3.2 of this BAT-OT document outlines monitoring of point source emissions to air.</p>
Parameter	Unit	BAT-AEL (Average over the sampling period)						
Dust	mg/Nm <sup>3</sup>	2-5 <sup>(1)</sup>						
BAT 26	<p><i>In order to improve the overall environmental performance, and to prevent emissions due to accidents and incidents, BAT is to use BAT 14g and all of the techniques given below:</i></p> <ol style="list-style-type: none"> <li><i>implementation of a detailed inspection procedure for baled waste before shredding;</i></li> <li><i>removal of dangerous items from the waste input stream and their safe disposal (e.g. gas cylinders, nondepolluted EoLVs, non-depolluted WEEE, items contaminated with PCBs or mercury, radioactive items);</i></li> <li><i>treatment of containers only when accompanied by a declaration of cleanliness;</i></li> </ol>	<p>S Norton will continue to carry out daily visual inspection of the Site and Site boundary by Site personnel, including inspection of plant and equipment. The results of all daily monitoring will continue to be recorded on the daily noise, vibration and dust inspection checksheet. The protocol can be found within the Site EAP.</p> <ol style="list-style-type: none"> <li>There is no acceptance of baled waste on Site with the exception of baled ELVs. All ELVs are processed through the pre-shredder to mitigate any deflagration events from hidden cylinders. If any suspect material (asbestos, cylinders etc) is discovered in the output the supplier is traced and a formal warning is issued alongside a fine / knock against the customer's account. Repeated offences will result in the supplier being banned from site. It is deemed these waste pre-acceptance and acceptance procedures are deemed satisfactory for the acceptance and subsequent shredding of baled ELVs.</li> <li>As detailed within the Site's 'Acceptance and Control of Waste' procedure, Site staff inspect all incoming waste to ensure that any potentially incompatible wastes are identified as soon as practically possible. Staff are trained in the Site's 'Nonconforming Product Disposal' Procedure and any wastes found to be incompatible are immediately taken to one of the two quarantine areas on Site where they remain until removal or safe disposal to a suitably licensed facility. Staff are trained in the depollution of ELVs and follow the appropriate procedure. Wastes that carry a risk of explosion for example gas bottles and cylinders are segregated from any other wastes in a designated area in the west of the Site at least 6 meters from other wastes or Site buildings.</li> <li>There is no acceptance of containerised waste on Site.</li> </ol>						
BAT 27	<p><i>In order to prevent deflagrations and to reduce emissions when deflagrations occur, BAT is to use technique a. and one or both of the techniques b. and c. given below.</i></p> <ol style="list-style-type: none"> <li><i>Deflagration management plan;</i></li> <li><i>Pressure relief dampers</i></li> <li><i>Pre-shredding</i></li> </ol>	<p>S Norton has existing pre-acceptance procedures and feedstock specifications in place for incoming waste to be processed, including consignments of hazardous plastic residues into the SWAPP facility. Waste pre-acceptance procedures will continue to be in place and followed at all times and apply to the proposed wet separation process in the SWAPP facility.</p> <p>S Norton will continue to carry out strict acceptance procedures to ensure any non-conforming wastes such as lithium-ion batteries, cable wires and other electronics that may contain fluids or possess highly</p>						

No.	BAT Conclusion	Specific Measures									
		<p>flammable materials are identified and segregated prior to acceptance as SMW and removed for transfer to a suitably authorised downstream treatment facility.</p> <p>S Norton are replacing the shredder with a more efficient main shredder and pre-shredder. The function of the pre-shredder is to maintain more of a stable operation of the main shredder by keeping the feed stable. Furthermore, shredding will be carried out in nitrogen blanketed equipment and the shredder is further protected with fire extinguishing systems.</p> <p>These measures form part of S Norton's procedures within the Site's IMS and will continue to be followed as part of the proposed changes in the permit.</p>									
BAT 28	<p><i>In order to use energy efficiently, BAT is to keep the shredder feed stable.</i></p>	<p>S Norton are replacing the shredder with a more efficient main shredder and pre-shredder. The function of the pre-shredder is to maintain more of a stable operation of the main shredder by keeping the feed stable.</p>									
BAT 29	<p><i>In order to prevent or, where that is not practicable, to reduce emissions of organic compounds to air, BAT is to apply BAT 14d, BAT 14h and to use technique a. and one or both of the techniques b. and c. given below.</i></p> <p><i>a. Optimised removal and capture of refrigerants and oils</i>  <i>b. Cryogenic condensation</i>  <i>c. Adsorption</i></p> <p style="text-align: center;"><i>Table 6.4</i></p> <p style="text-align: center;"><b>BAT-associated emission levels (BAT-AELs) for channelled TVOC and CFC emissions to air from the treatment of WEEE containing VFCs and/or VHCs</b></p> <table border="1" data-bbox="311 1104 1495 1329"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>BAT-AEL (Average over the sampling period)</th> </tr> </thead> <tbody> <tr> <td>TVOC</td> <td>mg/Nm<sup>3</sup></td> <td>3-15</td> </tr> <tr> <td>CFCs</td> <td>mg/Nm<sup>3</sup></td> <td>0,5-10</td> </tr> </tbody> </table> <p>The associated monitoring is given in BAT 8.</p>	Parameter	Unit	BAT-AEL (Average over the sampling period)	TVOC	mg/Nm <sup>3</sup>	3-15	CFCs	mg/Nm <sup>3</sup>	0,5-10	<p>Not applicable as no mechanical treatment of waste containing VFCs and/or VHCs.</p>
Parameter	Unit	BAT-AEL (Average over the sampling period)									
TVOC	mg/Nm <sup>3</sup>	3-15									
CFCs	mg/Nm <sup>3</sup>	0,5-10									
BAT 30	<p><i>In order to prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs, BAT is to use either of the techniques given below.</i></p> <p><i>a. Inert atmosphere</i>  <i>b. Forced ventilation</i></p>	<p>Not applicable as no mechanical treatment of waste containing VFCs and/or VHCs.</p>									
BAT 31	<p><i>In order to reduce emissions to air of organic compounds, BAT is to apply BAT 14d and to use one or a combination of the techniques given below.</i></p> <p><i>a. Adsorption</i>  <i>b. Biofilter</i>  <i>c. Thermal oxidation</i>  <i>d. Wet scrubbing</i></p>	<p>Not applicable as the Site does not process waste for incineration or co-incineration.</p>									
BAT 32	<p><i>In order to reduce mercury emissions to air, BAT is to collect mercury emissions at source, to send them to abatement and to carry out adequate monitoring.</i></p>	<p>Not applicable as no mechanical treatment of waste containing mercury.</p>									
<p><b>PHYSICO-CHEMICAL TREATMENT OF SOLID AND/OR PASTY WASTE</b></p>											

No.	BAT Conclusion	Specific Measures
BAT 40	<p><i>In order to improve the overall environmental performance, BAT is to monitor the waste input as part of the waste pre-acceptance and acceptance procedures (see BAT 2).</i></p> <p><i>Monitoring the waste input, e.g. in terms of:</i></p> <ul style="list-style-type: none"> <li>- <i>content of organics, oxidising agents, metals (e.g. mercury), salts, odorous compounds;</i></li> <li>- <i>H2 formation potential upon mixing of flue-gas treatment residues, e.g. fly ashes, with water.</i></li> </ul>	<p>There is no acceptance of wastes containing organics, oxidising agents, mercury, salts or odorous compounds, or fly ashes. Nonetheless:</p> <p>S Norton will continue to implement waste pre-acceptance checks and feedstock specifications are in place with suppliers to ensure that the waste has been characterised and classified appropriately before consignment to the Site.</p> <p>Incoming loads including SMW will be inspected visually as they arrive on Site. Loads will be compared visually with the waste types included on transfer documentation. Checks and inspections will be undertaken by a member of staff who is suitably qualified and trained. S Norton employ a waste tracking system to track waste intended for receipt at the Site. The proposed changes in this variation will not require changes to these procedures.</p> <p>The process is designed to recover as much metal as possible and the operator will assess performance of the process by monitoring the recovery rate in comparison with the mass of the in-feed.</p>
BAT 41	<p>In order to reduce emissions of dust, organic compounds and NH3 to air, BAT is to apply BAT 14d and to use one or a combination of the techniques given below.</p> <ul style="list-style-type: none"> <li>a. <i>Adsorption</i></li> <li>b. <i>Biofilter</i></li> <li>c. <i>Thermal oxidation</i></li> <li>d. <i>Wet scrubbing</i></li> </ul>	<p>As well as application of the techniques listed under BAT 14d to reduce emissions of dust, organic compounds and NH3 to air, the new main shredder and pre-shredder will have a better environmental performance than the previous plant. A cyclone will remove most of the hydroscopic particulate following the injection of water into the mill before it reaches the baghouse. The filter system will limit dust to much lower than the BAT-AEL for channelled dust emissions to air BAT standard.</p> <p>The main shredder plant will include:</p> <ul style="list-style-type: none"> <li>• Enclosed conveyors and transfer points downstream of the mill chamber;</li> <li>• Wet injection into the mill chamber for dust suppression.</li> <li>• Dust extraction system via a dry bag house filter utilising cyclonic separation; and</li> <li>• Solid rubber flaps to seal openings where movement in/out of an area is required.</li> </ul>



## APPENDIX 02

# Appropriate Measures for WEEE Treatment

**Appendix 02**  
**WEEE Treatment EA Appropriate Measures**

Appropriate Measure	Compliance
<b>2. GENERAL MANAGEMENT APPROPRIATE MEASURES</b>	
<p><b><u>2.1 Management System</u></b>  <i>You must have and follow an up-to-date written management system. It must incorporate the following features:</i></p> <ul style="list-style-type: none"> <li>• <i>Management commitment, including from senior lawyers</i></li> <li>• <i>Environmental policy that is approved by senior managers and includes the continuous improvement of the facility's environmental performance</i></li> </ul> <p><i>You plan and establish the resources, procedures, objectives and targets needed for environmental performance alongside your financial planning and investment.</i></p> <p><i>You implement your environmental performance procedures inc:</i></p> <ul style="list-style-type: none"> <li>• <i>staff structure and relevant responsibilities</i></li> <li>• <i>staff recruitment, training, awareness and competence</i></li> <li>• <i>communication (for example, of performance measures and targets)</i></li> <li>• <i>employee involvement</i></li> <li>• <i>documentation and records</i></li> <li>• <i>effective process control</i></li> <li>• <i>maintenance programmes</i></li> <li>• <i>the management of change (including legislative changes and waste classification changes)</i></li> <li>• <i>emergency preparedness and response</i></li> <li>• <i>making sure you comply with environmental legislation</i></li> </ul> <p><i>You check environmental performance and take corrective action paying particular attention to:</i></p> <ul style="list-style-type: none"> <li>• <i>monitoring and measurement</i></li> <li>• <i>learning from incidents, near misses and mistakes, including those of other organisations</i></li> <li>• <i>records maintenance</i></li> <li>• <i>independent (where practicable) internal or external auditing of the management system and operations to confirm it has been properly implemented and maintained</i></li> </ul> <p>Senior managers review the management system at least annually to check it is still suitable, adequate and effective.</p> <p><i>You review the development of cleaner and more efficient technologies and their applicability to site operations.</i></p> <p><i>When designing new plant, you make sure that you assess the environmental impacts from the plant's operating life and eventual decommissioning.</i></p> <p><i>You consider the risks a changing climate poses to your operations. You have appropriate plans in place to assess and manage future risks.</i></p> <p><i>You compare your site's performance against relevant sector guidance and standards on a regular basis, known as sectoral benchmarking.</i></p>	<p>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. The proposed changes in this variation will not require changes to these procedures.</p>

Appropriate Measure	Compliance
<p><i>You have and maintain the following documentation:</i></p> <ul style="list-style-type: none"> <li>• <i>inventory of emissions to air and water</i></li> <li>• <i>residues management plan</i></li> <li>• <i>accident management plan</i></li> <li>• <i>site infrastructure plan</i></li> <li>• <i>site condition report</i></li> <li>• <i>fire prevention plan</i></li> </ul> <p><i>If required, you have and maintain the following documentation: odour management plan</i></p> <ul style="list-style-type: none"> <li>• <i>noise and vibration management plan</i></li> <li>• <i>dust management plan</i></li> <li>• <i>pest management plan</i></li> <li>• <i>climate change risk assessment</i></li> </ul>	
<p><b><u>2.2 Staff Competence</u></b></p> <p><i>Your site must be operated at all times by an adequate number of staff with appropriate qualifications and competence.</i></p> <p><i>The design, installation and maintenance of infrastructure, plant and equipment must be carried out by competent people.</i></p> <p><i>You must have appropriately qualified managers for your waste activity who are either:</i></p> <ul style="list-style-type: none"> <li>• <i>qualified under a technical competence scheme</i></li> <li>• <i>operating under a Competence Management System approved under a technical competence scheme</i></li> </ul> <p><i>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.</i></p>	<p>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.</p> <p>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. The proposed changes in this variation will not require changes to these procedures.</p>
<p><b><u>2.3 Accident management plan</u></b></p> <p><i>As part of your management system you must have a plan for dealing with any incidents or accidents that could result in pollution.</i></p> <p><i>The accident management plan must identify and assess the risks the facility poses to human health and the environment.</i></p> <p><i>Areas to consider may include:</i></p> <ul style="list-style-type: none"> <li>• <i>waste types and the risks they pose</i></li> <li>• <i>robust waste acceptance procedures to avoid receiving unwanted items, such as gas cylinders</i></li> <li>• <i>failure of abatement systems</i></li> <li>• <i>failure of plant and equipment (for example over-pressure of vessels and pipework, blocked drains)</i></li> <li>• <i>failure of containment (for example, bund failure, or drainage sumps overflowing)</i></li> <li>• <i>damaged lithium-ion batteries</i></li> <li>• <i>failure to contain firefighting water</i></li> <li>• <i>making the wrong connections in drains or other systems</i></li> <li>• <i>checking the composition of an effluent before emission</i></li> <li>• <i>vandalism and arson</i></li> <li>• <i>extreme weather conditions for example flooding or very high winds</i></li> </ul>	<p>S Norton already operates an 'Emergency Action Plan' (EAP) that monitors environmental performance.</p> <p>The Site will follow measures detailed in Section 3 of this BAT-OT document to minimise the potential causes and consequences of accidents, including techniques to manage the likelihood of potential hazards as a result of the proposed permit changes.</p> <p>The following potential hazards in relation to the proposed additional throughput of waste, the new activity in the SWAPP facility, the acceptance of new waste codes, the processing of wastes in the non-ferrous processing plants and the extension of the permitted boundary; measures/techniques to manage the likelihood of these potential hazards are included in Section 3 of this BAT-OT document.</p> <ul style="list-style-type: none"> <li>• Fire;</li> <li>• Fugitive Emissions (including dust)</li> <li>• Equipment/Plant failure; and</li> <li>• Loss of containment - spillage and leakage.</li> </ul> <p>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.</p>

Appropriate Measure	Compliance
<p><i>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:</i></p> <ul style="list-style-type: none"> <li>• <i>how likely is it that the accident will happen?</i></li> <li>• <i>what may be emitted and how much?</i></li> <li>• <i>where will the emission go – what are the pathways and receptors?</i></li> <li>• <i>what are the consequences?</i></li> <li>• <i>what is the overall significance of the risk?</i></li> <li>• <i>what can you do to prevent or reduce the risk?</i></li> </ul> <p><i>In particular, you must identify any fire risks that may be caused, for example by:</i></p> <ul style="list-style-type: none"> <li>• <i>arson or vandalism</i></li> <li>• <i>self-combustion, for example the finer fractions of shredder residue</i></li> <li>• <i>plant or equipment failure and electrical faults</i></li> <li>• <i>naked lights and discarded smoking materials</i></li> <li>• <i>hot works (for example welding or cutting), industrial heaters and hot exhausts</i></li> <li>• <i>neighbouring site activities</i></li> <li>• <i>sparks from loading buckets</i></li> <li>• <i>hot loads deposited at the site</i></li> <li>• <i>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</i></li> <li>• <i>batteries left connected in ELVs which can short circuit</i></li> <li>• <i>batteries (storage, processing and handling)</i></li> <li>• <i>ELV depollution activities (if carried out on your site)</i></li> <li>• <i>deflagrations within the shredder and pre-shredders</i></li> </ul> <p><i>You must have a fire prevention plan that identifies the risks at your site and meets the requirements of our fire prevention plan guidance.</i></p> <p><i>The depth and type of accident risk assessment you carry out will depend on the characteristics of the plant and its location.</i></p> <p><i>The main factors to consider are the:</i></p> <ul style="list-style-type: none"> <li>• <i>scale and nature of the accident hazard presented by the plant and its activities</i></li> <li>• <i>risks to areas of population and the environment (the receptors)</i></li> <li>• <i>nature of the plant and complexity of the activities and how difficult it is to decide and justify adequate risk control techniques</i></li> </ul> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>You must also:</i></p> <ul style="list-style-type: none"> <li>• <i>establish how you will communicate with relevant authorities, emergency services and neighbours (as appropriate) both before, during and after an accident</i></li> <li>• <i>have appropriate emergency procedures, including for safe plant shutdown and site evacuation</i></li> <li>• <i>have post-accident procedures that include assessing the harm that may have been caused by an accident and the remediation actions you will take</i></li> </ul>	<p>The Site will operate in line with procedures within the Site’s FPP. The FPP is enclosed as Section 9 of this application. As mentioned, the FPP will be updated with a revised site layout plan to reflect the re-arrangement of some existing site activities as a result of the proposed permit extension and sent to EA for agreement in writing once the details are known.</p> <p>S Norton utilise a Combined Management Maintenance System (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.</p> <p>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. The same procedure will apply to the proposed additional wet separation activity in SWAPP facility and in the unlikely event that any incidents arise.</p>

Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>test the plan by carrying out emergency drills and exercises</li> </ul>	
<p><b>2.4 Accident prevention measures</b>  <i>You must take the following measures, where appropriate, to prevent events that may lead to an accident.</i></p> <p><b>Waste acceptance and pre acceptance procedures</b></p> <ol style="list-style-type: none"> <li><i>You must have clear and detailed procedures for pre-acceptance and acceptance of waste and for rejected and quarantined wastes.</i></li> <li><i>These should be produced and maintained as set out in the waste pre-acceptance, acceptance and tracking appropriate measures section.</i></li> </ol>	<ol style="list-style-type: none"> <li>The Site has and already operates in accordance with strict waste acceptance and pre-acceptance procedures. See Section 8 of the BAT-OT document. The proposed changes as part of this variation will not require changes to these procedures.</li> <li>The Site will continue to only accept the waste codes listed in the permit. The additional EWC codes to be added as part of the variation are as a result of the re-classification of some wastes to hazardous and as a result of proposed wet separation process in the SWAPP facility.</li> </ol> <p>Waste storage (existing and new area) and quarantine locations are illustrated on Drawing 02 Permit Boundary &amp; Site Layout.</p>
<p><b>Segregating waste</b></p> <ol style="list-style-type: none"> <li><i>You must keep apart incompatible wastes. Examples could include but are not limited to:</i> <ul style="list-style-type: none"> <li>storing lead acid batteries separately to nickel metal hydride batteries</li> <li>segregating flammable gas cylinders in cages away from oxygen cylinders</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>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 24 hours of receipt with arrangements made to return the material to the customer.</li> </ol> <p>Existing measures will continue to be followed, for example segregated storage of flammable gas cylinders in cages away from oxygen cylinders.</p>
<p><b>Preventing accidental emissions</b></p> <ol style="list-style-type: none"> <li><i>You must make sure you contain the following for off-site disposal or route to the effluent system (where necessary):</i> <ul style="list-style-type: none"> <li>process waters</li> <li>site drainage waters</li> <li>emergency firefighting water</li> <li>oil or chemical contaminated waters</li> <li>spillages of oils and chemicals</li> </ul> </li> <li><i>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:</i> <ul style="list-style-type: none"> <li>nature of the pollutants</li> <li>effects of downstream waste-water treatment</li> <li>sensitivity of the receiving environment</li> </ul> </li> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>You must consider and, if appropriate, plan for the possibility that you need to contain or abate accidental emissions from:</i> <ul style="list-style-type: none"> <li>Overflows</li> <li>Vents</li> <li>safety relief valves</li> <li>bursting discs</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>The Site benefits from impermeable surfacing and a sealed drainage system. An impermeable surface and a sealed drainage system will be in place for the new area to the west of the Site. The Site boundary is kerbed around areas where there is a risk from spillage or fire and the drainage system incorporates provision for full containment and isolation in the event of a spillage or an incident requiring use of firewater.</li> <li>The Site already has buffer storage capacity to contain contaminated water.</li> <li>In the event of contamination of drainage by spillage or firewater, the system in the main yard including the new area and the separate system in the SWAPP facility can be isolated to prevent discharge to sewer by the way of a penstock valve. If the effluent is too contaminated to release to sewer, it will be tankered off-Site to an appropriately regulate Site for treatment.</li> <li>The spillage response plan within the Site's EAP will continue be in place.</li> <li>See FPP.</li> <li>Dust filters on replacement shredder contain explosion relief vents, which would shut off in the event of being activated and would consequently vent to atmosphere. Also, any accidental liquid release from vents on fuel storage tanks would be captured by secondary bunding containment.</li> </ol> <p>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.</p> <p>The mitigation measures identified within the ERA will be implemented to limit the consequences of accidents on the environment and Site personnel.</p>

Appropriate Measure	Compliance
<p><i>If this is not advisable on safety grounds, you must focus on reducing the probability of the emission.</i></p>	
<p><b>Security measures</b></p> <p>10. You must have security measures (and staff) in place to prevent:</p> <ul style="list-style-type: none"> <li>• Entry by intruders</li> <li>• Damage to equipment</li> <li>• Theft</li> <li>• Fly-tipping</li> <li>• Arson</li> </ul> <p>11. Facilities must use an appropriate combination of the following measures:</p> <ul style="list-style-type: none"> <li>• security guards</li> <li>• total enclosure (usually with fences)</li> <li>• controlled entry points</li> <li>• adequate lighting</li> <li>• warning signs</li> <li>• 24-hour surveillance, such as CCTV</li> </ul>	<p>10 &amp; 11. See Section 2.4 of this BAT-OT document.</p>
<p><b>Fire prevention</b></p> <p>12. There are 3 fire prevention objectives. You must:</p> <ul style="list-style-type: none"> <li>• Minimise the likelihood of a fire happening</li> <li>• Aim for a fire to be extinguished within 4 hours</li> <li>• Minimise the spread of fire within the site and to neighbouring sites</li> </ul> <p>13. You must have appropriate systems for fire prevention, detection and suppression or extinction.</p>	<p>See FPP.</p>
<p><b>Other accident prevention measures</b></p> <p>14. You must maintain plant control in an emergency using one or a combination of:</p> <ul style="list-style-type: none"> <li>• alarms</li> <li>• process trips and interlocks</li> <li>• automatic systems</li> <li>• manual interventions</li> </ul> <p>15. You must:</p> <ul style="list-style-type: none"> <li>• make sure all the measurement and control devices you would need in an emergency are easy to access and operate in an emergency situation</li> <li>• maintain the plant so it is in a good state through a preventive maintenance programme and a control and testing programme</li> <li>• use techniques such as suitable barriers to prevent moving vehicles damaging equipment</li> <li>• have procedures in place to avoid incidents due to poor communication between operating staff during shift changes and following maintenance or other engineering work</li> <li>• where relevant, use equipment and protective systems designed for use in potentially explosive atmospheres</li> </ul>	<p>14 &amp; 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.</p>
<p><b>Record keeping and procedures</b></p> <p>16. You must:</p>	<p>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.</p>

Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• <i>keep an up-to-date record of all accidents, incidents, near misses, changes to procedures, abnormal events, and the findings of maintenance inspections</i></li> <li>• <i>carry out investigations into accidents, incidents, near misses and abnormal events and record the steps taken to prevent their reoccurrence</i></li> <li>• <i>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</i></li> <li>• <i>have procedures for checking raw materials and wastes to make sure they are compatible with other substances they may accidentally come into contact with</i></li> <li>• <i>make sure that any documents that may be needed in the event of an incident are accessible</i></li> </ul>	
<p><b><u>2.5 Contingency plan and procedures</u></b></p> <p>1. <i>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.</i></p> <p>2. <i>Your contingency plan must also contain provisions and procedures to make sure that you:</i></p> <ul style="list-style-type: none"> <li>• <i>do not exceed storage limits in your permit and you continue to apply appropriate measures for storing and handling waste</i></li> <li>• <i>stop accepting waste unless you have a clearly defined method of recovery or disposal and enough permitted storage capacity</i></li> <li>• <i>as far as possible, know in advance about any planned shutdowns at waste management facilities where you send waste</i></li> </ul> <p><i>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.</i></p> <p>3. <i>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.</i></p> <p>4. <i>You must make your customers aware of your contingency plan, and of the circumstances in which you would stop accepting waste from them.</i></p> <p>5. <i>You must consider whether the Sites or companies you rely on in your contingency plan:</i></p> <ul style="list-style-type: none"> <li>• <i>can take the waste at short notice</i></li> <li>• <i>are authorised to do so in the quantities and types likely to be needed – in addition to carrying out their existing activities</i></li> </ul> <p>6. <i>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.</i></p> <p>7. <i>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.</i></p> <p>8. <i>Your management procedures and contingency plan must:</i></p> <ul style="list-style-type: none"> <li>• <i>identify known or predictable malfunctions associated with your technology and the procedures, spare parts, tools and expertise needed to deal with them</i></li> <li>• <i>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</i></li> </ul>	<p>1. Operational procedures for maintenance, shutdown and contingency planning are already included in procedures within the Site's IMS.</p> <p>2. S Norton has pre-acceptance, waste acceptance procedures in place as well as a tracking system. Together these are used to monitor inventory and duration of waste on Site to ensure that waste is only accepted if there is capacity available.</p> <p>3. The facility's 'Business Continuity Plan' ensures S Norton complies 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.</p> <p>4. This is included in the Business Continuity Plan. S Norton has other Sites in Manchester and Liverpool that can be used.</p> <p>5. This is part of the Business Continuity Plan.</p> <p>6. This is part of the Business Continuity Plan.</p> <p>7. The Site will continue to only make use of waste storage as authorised in the permit.</p> <p>8. All aspects are included in the facility's operational procedures. Potential accidents and incidents that may arise from the new wet separation process in the SWAPP facility 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 3 of this BAT-OT document. These are in addition to the existing measures identified and outlined in S Norton's 'Emergency Action Plan' (EAP) that outlines existing mitigation measures from the risk of potential accidents.</p> <p>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.</p> <p>9. The Site's IMS includes the appropriate auditing procedures.</p>

Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• have a defined procedure to identify, review and prioritise items of plant which need a preventative regime</li> <li>• include all equipment or plant whose failure could directly or indirectly lead to an impact on the environment or human health</li> <li>• 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</li> <li>• make sure you have the spare parts, tools, and competent staff needed before you start maintenance</li> </ul> <p>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.</p>	
<p><b><u>2.6 Plant decommissioning</u></b></p> <p>1. You must consider the decommissioning of the plant at the design stage and make suitable plans to minimise risks during later decommissioning.</p> <p>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.</p> <p>3. You must have and maintain a decommissioning plan to demonstrate that:</p> <ul style="list-style-type: none"> <li>• plant will be decommissioned without causing pollution</li> <li>• the Site will be returned to a satisfactory condition</li> </ul> <p>4. Your decommissioning plan should include details on:</p> <ul style="list-style-type: none"> <li>• whether you will remove or flush out pipelines and vessels (where appropriate) and how you will empty them of any potentially harmful contents</li> <li>• Site plans showing the location of all underground pipes and vessels</li> <li>• how asbestos or other potentially harmful materials will be removed, unless we have agreed it is reasonable to leave such liabilities to future owners</li> <li>• methods for dismantling buildings and other structures, and for protecting surface water and groundwater during construction or demolition at your Site</li> <li>• 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</li> <li>• 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)</li> <li>• the clearing of deposited residues, waste and any contamination resulting from the waste treatment activities</li> </ul> <p>5. You should make sure that equipment taken out of use is decontaminated and removed from the site.</p>	<p>1 – 5. As part of the changes in the permit S Norton are proposing to modify the SWAPP facility by installing an additional processing stage to further improve the separation process and quality of the recovered waste streams. The design improvements in the SWAPP facility will be maintained in line with S Norton's CMMS and will continue to be subject to its preventive and reactive maintenance programme. There will be no additional plant as a result of the re-arrangement of activities due to the extension of the permitted boundary.</p> <p>If necessary, these modifications to the SWAPP facility can be decommissioned without causing pollution.</p>
<p><b>3. WASTE PRE-ACCEPTANCE, ACCEPTANCE AND TRACKING APPROPRIATE MEASURES</b></p>	
<p><b><u>3.1 Waste pre-acceptance</u></b></p> <p>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.</p> <p>Your procedures must follow a risk-based approach, considering:</p>	<p>1 – 2. The Site will continue to only accept the waste types permitted on the existing permit where evidence notes have already been issued detailing any treatment or recycling previously carried out. The material feedstock will be sourced either from S Norton or through partnerships with third parties. Composition will vary depending upon application. However, the shredder plant and processes in the SWAPP facility will be sufficiently flexible to deal with metals and plastics. Only waste that conforms to the permitted waste types will continue to be accepted for processing as part of the proposed treatment processes.</p>



Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• <i>the source and nature of the waste</i></li> <li>• <i>any hazardous properties and persistent organic pollutant (POPs) content</i></li> <li>• <i>potential risks to process safety, occupational safety and the environment (for example, from the presence of hazardous substances that could be dispersed during treatment)</i></li> <li>• <i>knowledge about the previous waste holder</i></li> <li>• <i>the type of containment used for the waste</i></li> </ul> <p>2. You must get the following information in writing when you receive a customer query:</p> <ul style="list-style-type: none"> <li>• <i>details of the waste producer (who you are receiving the waste from) including organisation name, address and contact details</i></li> <li>• <i>where the waste is coming from</i></li> <li>• <i>full description of the waste including the quantity</i></li> <li>• <i>the List of Waste code (European Waste Classification, EWC, code)</i></li> <li>• <i>any hazardous properties or presence of any regulated chemicals, for example, POPs</i></li> <li>• <i>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</i></li> <li>• <i>with reference to Annex VII of the WEEE Directive, details of any treatment already undertaken</i></li> </ul> <p>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.</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• <i>a risk of explosion (for example, from gas or aerosol canisters that may be present)</i></li> <li>• <i>a risk of fire (for example, from WEEE containing lithium-ion batteries)</i></li> </ul> <p>You should establish a list of such wastes and procedures for managing the risks from them.</p> <p>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.</p> <p>7. You must reassess the information required at pre-acceptance if the:</p> <ul style="list-style-type: none"> <li>• <i>waste changes</i></li> <li>• <i>process giving rise to the waste changes</i></li> <li>• <i>waste received does not conform to the pre-acceptance information</i></li> </ul> <p>8. In all cases you must reassess the information required at pre-acceptance on an annual basis.</p>	<p>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.</p> <p>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.</p> <p>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 two quarantine areas on Site.</p> <p>6. Pre-acceptance records following receipt of the waste will continue to be kept.</p> <p>7 – 8. These aspects are included in S Norton’s pre-acceptance procedures.</p>
<p><b>3.2 Waste acceptance</b></p> <p>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.</p>	<p>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.</p> <p>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.</p>

Appropriate Measure	Compliance
<p>2. Your procedures must follow a risk-based approach, considering:</p> <ul style="list-style-type: none"> <li>the source, nature, condition and age of the waste</li> <li>any hazardous properties of the waste</li> <li>any persistent organic pollutant content in the waste</li> <li>potential risks to process safety, occupational safety and the environment (for example, the presence of lithium-ion batteries)</li> <li>knowledge about the previous waste holders</li> </ul> <p>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.</p> <p><b>Storage areas</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>Waste acceptance</b></p> <p>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.</p> <p>8. You must visually check wastes and verify them against pre-acceptance information and transfer documentation before you accept them on Site.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>Quarantine storage</b></p> <p>13. You must establish quarantine areas for WEEE and materials that are prohibited, awaiting full inspection, or awaiting assessment or removal.</p> <p>14. Quarantine storage must be for a maximum of fourteen working days.</p>	<p>5 – 12. Provisions already in place. The proposed changes in this variation will not require changes.</p> <p>13 – 16. Materials storage and handling procedures, including measures for quarantine are described in Sections 4 and 8 of this BAT-OT document.</p> <p>S Norton have a dedicated document ‘Acceptance and Control of Waste’ as part of the Site’s IMS, which defines the system for the acceptance &amp; 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.</p> <p>The 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.</p> <p>Waste acceptance procedures are described in Section 8 and include:</p> <ul style="list-style-type: none"> <li>Load inspection;</li> <li>Rejection procedures;</li> <li>Measurement; and</li> <li>Segregation procedures.</li> </ul> <p>Acceptance procedures will continue to be in place and followed at all times and will apply to the proposed changes in the permit.</p>

Appropriate Measure	Compliance
<p>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.</p> <p>16 Quarantine storage must be separate from all other storage and clearly marked as a quarantine area.</p>	
<p><b>3.3 Waste tracking</b></p> <p>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.</p> <p>2. Your waste tracking system must hold all the information generated during:</p> <ul style="list-style-type: none"> <li>• pre-acceptance</li> <li>• acceptance</li> <li>• non-conformance or rejection</li> <li>• storage</li> <li>• treatment</li> <li>• removal off Site</li> </ul> <p>This information must be readily accessible.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• the date the waste arrived on-Site</li> <li>• the producer's details (or unique identifier)</li> <li>• a unique reference number</li> <li>• waste pre-acceptance and acceptance information</li> <li>• the quantity delivered</li> <li>• the intended treatment route</li> <li>• 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</li> <li>• where the waste is physically located on Site</li> </ul> <p>4. The tracking system must be able to report:</p> <ul style="list-style-type: none"> <li>• the total quantity of waste present on Site at any one time</li> <li>• a breakdown by type of the waste quantities you are storing pending treatment or transfer</li> <li>• the quantity of waste on Site compared with the limits authorised by your permit</li> <li>• the length of time the waste has been on Site</li> <li>• the quantity of end-of-waste product materials on Site at any one time, and, where applicable details of any non-conformances and rejections</li> </ul> <p>5. You must store back-up copies of electronic records off Site. Records must be readily accessible in an emergency.</p> <p>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.</p>	<p>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.</p>
<p><b>4. WASTE STORAGE, SEGREGATION AND HANDLING APPROPRIATE MEASURES</b></p>	

Appropriate Measure	Compliance
<p><b><u>4.1 General waste storage</u></b></p> <p>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.</p> <p>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).</p> <p>3. You must store all waste within the security protected area of your facility to prevent unauthorised access and vandalism</p>	<p>1 – 3. Materials storage and handling procedures relevant to the proposed changes in the permit are described in Section 4 of the BAT-OT document.</p>
<p><b><u>Storage duration and capacity</u></b></p> <p>4. You must clearly establish the maximum storage capacity of the Site and designated storage areas and you must not exceed these maximum capacities.</p> <p>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.</p> <p>6. Where relevant, you must conform to Health and Safety Executive (HSE) guidance and standards.</p> <p>7. You must not accumulate waste unnecessarily. You must treat wastes, or remove them from the Site, as soon as possible.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>11. You must not carry out activities that represent a clear fire risk within any storage area. Examples include:</p> <ul style="list-style-type: none"> <li>• Grinding</li> <li>• welding or brazing of metalwork</li> <li>• smoking</li> <li>• parking of normal road vehicles except while unloading or loading</li> <li>• recharging forklift truck or power tool batteries</li> </ul> <p>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).</p> <p>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.</p> <p>14. Indoor waste storage areas must have an impermeable surface and you must provide spillage collection facilities.</p> <p>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.</p>	<p>4. Storage tonnages and durations including maximum storage capacities of wastes will remain the same as a result of the proposed variation in line with existing procedures within the Site's FPP and with the procedures outlined in Section 4 of the BAT-OT document.</p> <p>5. The increase in waste throughput will be managed by more efficient treatments including the replacement shredder and pre-shredder that will process a higher amount of waste and through an increase in throughput of existing treatment processes including non-ferrous processing plants. The proposed treatment capacities of the combined inputs equate to 750,000 tpa. See Section 4.1.5 of this BAT-OT. Monitoring of waste quantities will continue to be carried out in line with the Site's existing procedures. The proposed changes in this variation will not require changes to these existing procedures.</p> <p>6. HSE guidance and standards are followed where relevant (NOTE: this is not considered to be a relevant consideration for EPR).</p> <p>7. The Company's electronic waste tracking system will continue to be used to ensure waste does not accumulate or exceed duration periods.</p> <p>8. Waste storage is clearly defined on the Site layout drawing 02 and described in the FPP and BAT-OT.</p> <p>9. The type of waste accepted at the facility will not attract pests and vermin. The proposed changes in this variation will not change the nature of the incoming waste which is non-odorous and non-putrescible. Existing measures including appropriate acceptance procedures will continue to be followed.</p> <p>10. The proposed changes in this variation will not require changes to existing procedures.</p> <p>11. These aspects are covered in the FPP.</p> <p>12. A DSEAR zone has been recognised at the vehicle depollution area and appropriate provisions are in place. The proposed changes in this variation will not require changes to existing procedures.</p> <p>13 &amp; 14. See section 6 of the BAT-OT. Indoor waste storage areas, including indoor storage areas as part of the proposed permit extension will have an impermeable surface and spillage collection facilities.</p> <p>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.</p> <p>16, 17 The storage of processed WEEE (SMW residue) will be stored in a bay under weatherproof covering prior to processing in the SWAPP facility. As part of the proposed wet separation process in SWAPP facility, an output fraction 'lights', consisting mainly plastic (~95%), with some wood and rubber (coded as MAP08), from the wet separator will be stored in Bay 6 (refer to Drawing 02) which is covered prior to transport to Salford for density separation. Also, an output fraction heavies (high density material) from the wet separator and fines from pre-screening as part of the wet separation process will be stored in Bay 8 (also covered) prior to further processing by the existing metal recovery plant.</p> <p>18. The spillage response plan within the Site's EAP will continue to be in place.</p>

Appropriate Measure	Compliance
<p>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</p> <ul style="list-style-type: none"> <li>• lamps and processed fractions</li> <li>• flat panel display equipment which may contain cold-cathode fluorescent lamp (CCFL) backlights and where these are processed by shredding, the shredded fractions</li> <li>• broken cathode ray tubes (CRTs) and CRT glass</li> <li>• shredded WEEE or plastic containing fractions that may be POPs waste</li> </ul> <p>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.</p> <p>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.</p> <p>19. You must train forklift drivers in the handling of waste, to minimise forklift truck damage to the integrity of containers or individual appliances.</p> <p>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.</p> <p>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</p> <ul style="list-style-type: none"> <li>• batteries, capacitors and other similar components which could leak</li> <li>• any components which may contain residual liquids</li> </ul> <p>22. You must clearly label containers to identify their contents.</p> <p>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.</p>	<p>19. The proposed changes in this variation will not require changes to existing procedures.</p> <p>20. Not relevant as a result of the proposed changes in the permit.</p> <p>21 – 23. The proposed changes in this variation will not require changes to existing procedures.</p>
<p><b>4.2 Additional storage requirements for specific categories of WEEE</b></p> <p>The following appropriate measures apply to specific WEEE categories in addition to those in the general waste storage section.</p> <ul style="list-style-type: none"> <li>• Gas discharge lamps</li> <li>• Flat panel display (FPD) equipment</li> <li>• Cathode ray tube (CRT) equipment</li> <li>• Small mixed WEEE (SMW)</li> <li>• Photovoltaic panels</li> </ul>	<p>There is no change to the handling of untreated and unsorted SMW during storage and transport as a result of the proposed changes.</p> <p>Other additional storage requirements for specific categories of WEEE are not applicable as these materials are not accepted at the Site.</p>
<b>5. WASTE TREATMENT APPROPRIATE MEASURES</b>	
<p><b>5.1 Preparing WEEE for reuse</b></p> <p>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.</p>	<p>1 – 7. Not relevant. There will be no acceptance of waste for the purposes of reuse.</p>

Appropriate Measure	Compliance
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>	
<p><b>5.2 General waste treatment</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>4. You must identify and characterise emissions from the process and take appropriate measures to control them at source.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• simplified process flowsheets that show the origin of any emissions</li> <li>• details of emission control and abatement techniques for emissions to air and water, including details of their performance</li> <li>• diagrams of the main plant items where they have environmental relevance – for example, storage, tanks, treatment and abatement plant design</li> <li>• details of manual dismantling processes, for example removal of cables and plugs, removal of batteries, capacitors and printer cartridges, draining of oil from radiators</li> <li>• details of physical treatment processes, for example shredding, separation, compaction, filtration, heating, cooling or washing</li> <li>• details of any chemical treatment processes</li> <li>• details of any biological treatment processes</li> <li>• details of any effluent treatment, including a description of any flocculants or coagulants used</li> <li>• an equipment inventory, detailing plant type and design parameters – for example, time, temperature, pressure</li> <li>• waste types to be subjected to the process</li> <li>• the control system philosophy and how the control system incorporates environmental monitoring information</li> </ul>	<p>1. Not relevant. There will be no acceptance of waste for the purposes of reuse.</p> <p>2. The process and technology is designed to produce materials of suitable specification for use as onward recovery. It is intended that the metals removed through this new process will improve the efficiency of the polymer recycling process at Salford. All resulting waste streams will be characterised and appropriately classified and coded.</p> <p>3. The process has been designed to produce materials of suitable specification for use as onward recovery based on similar technology in use at S Norton’s sister facility in Salford. If specifications are not achieved modifications will be made.</p> <p>4. See BAT-OT Section 11 and 13.</p> <p>5. See BAT-OT.</p> <p>6. See BAT-OT.</p> <p>7 – 11. The aim of the proposed additional wet separation process is to maximise recovery of the output residue in the SWAPP facility by further separation and recovery of metals. This process modification will ensure a greater amount of contamination is removed through the SWAPP process before being sent off Site for further processing. The process and technology is designed to produce materials of suitable specification for use as onward recovery and it is intended that the metals removed through this new process will improve the efficiency of the polymer recycling process at Salford. The in-house lab will test the product quality on a regular basis and advise the production team on any process setting adjustment required. All resulting waste streams will be characterised and appropriately classified and coded.</p> <p>12. The proposed wet separation process is an additional treatment process following the processing of SMW residue and ASR in the SWAPP facility and therefore the waste feedstock will not change. Therefore, it is unlikely that the Site will cause breaches if it is operated in accordance with the techniques described in the BAT-OT.</p> <p>13. These are part of the facility’s IMS. The proposed changes in this variation will not require changes to existing procedures.</p> <p>14. See BAT-OT Section 12.</p>

Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• <i>process flow diagrams (schematics)</i></li> <li>• <i>venting and emergency relief provisions</i></li> <li>• <i>a summary of operating and maintenance procedures</i></li> <li>• <i>process instrumentation diagrams</i></li> </ul> <p>6. <i>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.</i></p> <p><i>Abnormal operating conditions may include:</i></p> <ul style="list-style-type: none"> <li>• <i>unexpected releases</i></li> <li>• <i>start up</i></li> <li>• <i>momentary stoppages</i></li> <li>• <i>shut down</i></li> </ul> <p>7. <i>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.</i></p> <p>8. <i>Material flow analysis considers the contaminant quantity in the:</i></p> <ul style="list-style-type: none"> <li>• <i>waste input</i></li> <li>• <i>different waste treatment outputs</i></li> <li>• <i>waste treatment emissions</i></li> </ul> <p>9. <i>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.</i></p> <p>10. <i>The use of material flow analysis is risk-based considering:</i></p> <ul style="list-style-type: none"> <li>• <i>the hazardous properties of the waste</i></li> <li>• <i>the restricted chemicals in the waste</i></li> <li>• <i>the risks posed by the waste in terms of process safety</i></li> <li>• <i>occupational safety and environmental impact</i></li> <li>• <i>knowledge of the previous waste holders</i></li> </ul> <p>11. <i>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.</i></p> <p>12. <i>You must not proceed with the treatment if your risk assessment or material flow analysis indicates that losses from a process will cause:</i></p> <ul style="list-style-type: none"> <li>• <i>the breach of an environmental quality standard</i></li> <li>• <i>the breach of a benchmark</i></li> <li>• <i>a significant environmental impact</i></li> </ul> <p>13. <i>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.</i></p> <p>14. <i>You must minimise the release of diffuse emissions to air from activities which may give rise to them (for example, shredding or granulating) by:</i></p> <ul style="list-style-type: none"> <li>• <i>carrying out the activity using enclosed equipment or in an enclosed building</i></li> <li>• <i>maintaining the enclosed equipment or buildings under an appropriate pressure</i></li> </ul>	<p>15 - 17. Not relevant. The proposed changes in this variation will not change the nature of the incoming waste. The material feedstock will continue to be sourced either from S Norton or through partnerships with third parties and the Site will continue to only accept the waste types permitted on the existing permit. S Norton will continue to carry out visual inspections of the waste loads accepted at the Site to ensure no gross contamination is evident. The proposed changes in this variation will not require changes to existing procedures.</p> <p>18. The proposed wet separation process will provide an additional treatment to SMW residue and ASR prior to the recovery process at Salford. Waste will be properly described so Salford facility knows which treatments are complete and which still need to be done.</p> <p>19. Not relevant</p> <p>20. Weight of all outputs will be recorded. The proposed wet separation process maximises recovery of the output residue in the SWAPP facility by further separation and recovery of metals.</p> <p>21 – 23. Not relevant</p> <p>24 &amp; 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.</p> <p>26 &amp; 27. Indoor and outdoor areas already have impermeable surfacing and sealed drainage.</p> <p>28. The proposed wet separation process in the SWAPP facility and processing of SMW residue and ASR will take place in an enclosed building that benefits from roller shutter doors that remain closed except when waste is being transferred. The process will use fully enclosed material transfer/storage systems and equipment. Following the shredding of SMW residue and ASR, shredder residue will be transported directly via screw conveyor and bucket elevator in an enclosed building to a vibratory screen to recover non-ferrous metal and remove oversized material.</p> <p>A detailed description of the proposed additional treatment process in the SWAPP facility is described in Section 4.1.1 of the BAT-OT document.</p>

Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• <i>collecting and directing the emissions to an appropriate abatement system</i></li> </ul> <p>15. <i>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.</i></p> <p>16. <i>Removal may be a staged process and may be undertaken at different facilities. You must be able to demonstrate either:</i></p> <ul style="list-style-type: none"> <li>• <i>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</i></li> <li>• <i>those substances, mixtures and components will be removed at a suitably authorised downstream treatment facility</i></li> </ul> <p>17. <i>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.</i></p> <p>18. <i>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.</i></p> <p>19. <i>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.</i></p> <p>20. <i>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.</i></p> <p>21. <i>When removing components, you must safely remove the whole item where breaking it up might:</i></p> <ul style="list-style-type: none"> <li>• <i>pollute the recycle or waste stream</i></li> <li>• <i>result in unacceptable emissions</i></li> </ul> <p>22. <i>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:</i></p> <ul style="list-style-type: none"> <li>• <i>capacitors containing polychlorinated biphenyls (PCBs)</i></li> <li>• <i>mercury containing components</i></li> <li>• <i>toner cartridges</i></li> <li>• <i>components with asbestos</i></li> <li>• <i>components with refractory ceramic fibres</i></li> <li>• <i>components with radioactive substances</i></li> <li>• <i>gas discharge lamps including CCFL backlights</i></li> <li>• <i>cathode ray tubes</i></li> <li>• <i>electrolyte capacitors containing substances of concern that have a height and/or diameter greater than 25mm or have a proportionately similar volume</i></li> <li>• <i>batteries and powerpacks</i></li> </ul> <p>23. <i>Instead of removing them as whole components, you may recover the following as fragments or materials using mechanical treatment:</i></p> <ul style="list-style-type: none"> <li>• <i>chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) or hydrofluorocarbons (HFCs), hydrocarbons (HCs)</i></li> <li>• <i>external electric cables</i></li> <li>• <i>printed circuit boards</i></li> <li>• <i>liquid crystal displays</i></li> <li>• <i>the activated coating in cathode ray tubes (CRTs)</i></li> </ul>	



Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• plastic with brominated flame retardants (BFRs)</li> </ul> <p>24. You may either:</p> <ul style="list-style-type: none"> <li>• sort batteries on site</li> <li>• send batteries as a mixture of chemistry types to a specialist battery treatment operator for sorting</li> </ul> <p>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.</p> <p>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.</p> <p>27. Indoor WEEE treatment areas must have an impermeable surface and you must provide spillage collection facilities appropriate to the materials being handled.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Hoppers</li> <li>• Conveyors</li> <li>• skips of treated materials</li> <li>• storage bays containing treated materials</li> </ul>	
<p><b>5.3 Treatment of WEEE containing BRFs and POPs</b></p> <p>1. You must identify, separate and remove any plastic containing BFRs for further treatment.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>6. Plastic removed from WEEE that is POPs waste must be managed as POPs waste.</p> <p>7. Components that have been found to contain POPs above the POPs waste threshold include printed circuit boards and electrical cable.</p> <p>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.</p> <p>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.</p>	<p>1 – 3. The proposed changes in this variation will not require changes to existing procedures for the separation of plastics containing POPs, which are already transferred off-Site to appropriately regulated facilities for recovery or disposal. Plastic fractions containing BRFs and POPs will continue to be stored and processed separately prior to transfer to Salford for downstream processing and density separation to ensure the fractions containing POPs are separated from the non-POPs. The proposed wet separation process aims to maximise the recovery of the SMW residue by recovering metals.</p> <p>4 &amp; 5. Not relevant as a result of the proposed changes in the permit as no change to the incoming materials. The additional waste codes are due to recent changes in the classification of hazardous waste in order to continue to process waste types already accepted and treated at the Site.</p> <p>6. The wet separation process aims to maximise the recovery of the SMW residue by recovering metals. Plastic fractions containing POPs will continue to be transferred to Salford for downstream processing and density separation to ensure the fractions containing POPs are separated from the non-POPs.</p> <p>7. Not relevant as a result of the proposed changes in the permit as no change to the incoming materials. Electrical cable is only sorted and stored on Site prior to transfer to an authorised permitted facility.</p> <p>8 &amp; 9. Not relevant as a result of the proposed changes in the permit. Waste will be segregated appropriately following acceptance on Site and existing measures will continue to be followed. The activities carried out at the Site will continue to comprise of the separation of plastics containing POPs, which are then transferred off-Site to appropriately regulated facilities for recovery or disposal. Procedures to prevent the risk of contamination between hazardous plastic residue that may contain POPs and non-hazardous plastic residue are shown in Section 8.1 of this BAT-OT document.</p> <p>10. Plastic fractions containing BRFs and POPs will continue to be stored and processed separately prior to transfer to Salford for downstream processing and density separation to ensure the fractions containing POPs are separated from the non-POPs.</p> <p>11 – 14. Not relevant. There will be no acceptance of waste for the purposes of reuse.</p>

Appropriate Measure	Compliance
<p>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.</p> <p>11. You must not repair or refurbish for reuse any WEEE that is a POPs waste – it must be treated to destroy the POP.</p> <p>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.</p> <p>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.</p> <p>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.</p>	
<p><b>5.4 Process monitoring</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>9. You must carry out sampling under normal operating conditions unless otherwise stated.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• the actions you will take to improve performance in order to achieve the standards given, including any additional sampling and testing</li> <li>• the dates you will complete these actions by, including the dates for any additional sampling and testing</li> </ul> <p>11. Wherever possible you should sample waste fractions and residues in line with relevant guidance.</p>	<p>1 &amp; 2. A mass balance will be carried out at least once per year and this will be used to monitor operating performance. The proposed changes in this variation will not require changes to existing procedures. S Norton will record the outputs from the proposed wet separation process on the electronic waste tracking system.</p> <p>3 – 11. S Norton will take lab samples for chemical analysis of waste fractions from the proposed wet separation process on a daily basis and continue to apply recognised accredited methods where available with use of an independent accredited laboratory for the chemical analysis. These existing procedures will not change as a result of the proposed changes in the permit.</p>
<p><b>5.5 Treatment of gas discharge lamps</b></p>	<p>Not relevant. No acceptance/treatment of gas discharge lamps.</p>

Appropriate Measure	Compliance
<b><u>5.6 Treatment of cathode ray tube equipment</u></b>	Not relevant. No acceptance/treatment of cathode ray tube equipment.
<b><u>5.7 Treatment of FPD equipment</u></b>	Not relevant. No acceptance/treatment of FPD equipment.
<b><u>5.8 Treatment of SMW</u></b>	Not relevant. No acceptance/treatment of SMW.
<b><u>5.9 Treatment of IT, telecommunications and business equipment</u></b>	Not relevant. No acceptance/treatment of IT, telecommunications and business equipment.
<b><u>5.10 Treatment of LDA</u></b>	Not applicable as no acceptance/treatment of LDA.
<b><u>5.11 Treatment of photovoltaic panels</u></b>	Not relevant. No acceptance /treatment of photovoltaic panels.
<p><b><u>5.12 Post-shredding treatments</u></b></p> <p>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.</p> <p>2. You must fully characterise and classify fractions produced by these processes.</p> <p>3. Where materials originate from WEEE that was POPs waste, fractions of plastic containing brominated flame retardants must be managed as POPs waste.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>Process monitoring for the separation of BRF containing plastic</b></p> <p>7. You must monitor at least once every 3 months how much BFR containing plastic is present in any fraction destined for recycling.</p>	<p>1. A detailed description of the proposed wet separation process to further recover shredded fractions is described in Section 4.1.1 of the BAT-OT document. The only change in the treatment process is the addition of the wet separation unit to recover further materials, prior to the existing metal recovery plant. Plastic treated and removed from SMW that is POPs waste will continue to be managed as POPs waste. The proposed changes in the permit will not require changes to existing procedures.</p> <p>2. All fractions will continue to be characterised and classified.</p> <p>3. Plastic fractions containing BRFs and POPs will continue to be stored and processed separately prior to transfer to Salford for downstream processing and density separation to ensure the fractions containing POPs are separated from the non-POPs.</p> <p>4. Not relevant. See BAT3 above.</p> <p>5. The proposed changes in this variation will not require changes to existing procedures for the separation of plastics containing POPs, which are already transferred off-Site to appropriately regulated facilities for recovery or disposal. S Norton will continue to take lab samples for chemical analysis of waste fractions including residue from the proposed wet separation process on a daily basis.</p> <p>6. WM3 guidance will continue to be used to ensure appropriate classification of waste outputs.</p> <p>7. S Norton will take lab samples for chemical analysis of waste fractions from the proposed wet separation process on a daily basis and continue to apply recognised accredited methods where available. These existing procedures will not change as a result of the proposed changes in the permit.</p>
<p><b><u>5.13 Record keeping for all treatment residues</u></b></p> <p>You must record in the waste tracking system:</p> <ul style="list-style-type: none"> <li>• that the WEEE has been treated or consigned to another WEEE treatment facility</li> <li>• what WEEE has been prepared for reuse or has been consigned to a preparing for reuse operator</li> <li>• what the treatment residues, treated components and fractions are</li> </ul>	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.
<b>6. EMISSIONS CONTROL APPROPRIATE MEASURES</b>	
<p><b><u>6.1 Point source emissions to air</u></b></p> <p>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.</p> <p>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.</p>	<p>1. Techniques to control point source releases to air are described in this BAT-OT document.</p> <p>2. Point source emissions have been characterised. See Section 11 of this BAT-OT document.</p> <p>3. The fate of emission to air has been assessed in the AERA submitted in Section 11 of this application and the conclusion was .....</p> <p>4. The replacement shredder will use wet scrubbing and a cyclone to abate emissions to air, as summarised in Section 11 of this BAT-OT document.</p>

Appropriate Measure	Compliance
<p>3. You must assess the fate and impact of the substances emitted to air, following the Environment Agency’s air emissions risk assessment methodology.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• Adsorption</li> <li>• fabric filter</li> <li>• wet scrubbing</li> <li>• HEPA filter</li> <li>• condensation and cryogenic condensation</li> <li>• cyclone</li> <li>• electrostatic precipitator (ESP)</li> <li>• thermal oxidation</li> </ul> <p>5. You must assess and design vent and stack locations and heights to make sure dispersion capability is adequate.</p> <p>6. Where monitoring is required, including for odour, you must install a suitable monitoring point. Monitoring points will be required to meet MCERTS standards.</p> <p>7. Your procedures must make sure you correctly install, operate, monitor and maintain abatement equipment. For example, this includes monitoring and maintaining:</p> <ul style="list-style-type: none"> <li>• appropriate flow and chemical concentration of scrubber liquor</li> <li>• the handling and disposal or regeneration of spent scrubber or filter medium</li> </ul>	<p>5. Stack heights and vents are of suitable height for adequate dispersion.</p> <p>6. Monitoring points will be installed in accordance with MCERTS standards.</p> <p>7. Procedures for installation, operation, monitoring and maintaining abatement equipment will be in place, including for the operation of the abatement equipment on the replacement shredder.</p>
<p><b><u>6.2 Fugitive emissions to air (including odour)</u></b></p> <p>1. You must use appropriate measures to prevent emissions of <a href="#">dust, mud and litter</a> and <a href="#">odour</a>.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• shredder</li> <li>• sorting equipment</li> <li>• conveyors</li> <li>• skips or containers</li> <li>• building fabric, including doors and windows</li> <li>• pipework and ducting</li> </ul> <p>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).</p> <p>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:</p> <ul style="list-style-type: none"> <li>• take appropriate, risk assessed measures to prevent and control emissions</li> <li>• prioritise their treatment or transfer</li> </ul> <p>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:</p> <ul style="list-style-type: none"> <li>• store and handle such wastes within a building or enclosed equipment</li> </ul>	<p>1. See Section 12 of the BAT-OT for controls used to prevent emissions of dust and odour. The Site already has existing controls to prevent the emissions of mud and litter. The proposed changes in this variation will not require changes to these existing procedures.</p> <p>2. Potential sources of dust are associated with the proposed increase to the Site throughput. However, mitigation measures to prevent the fugitive emissions to air from the increased throughput/replacement shredder and from the proposed wet separation process are described in Section 7.1 of this BAT-OT document along with existing measures. In addition, the air inside the SWAPP facility building is maintained under negative pressure. In addition, the proposed additional wet separation process is intended to further process and recover materials from wastes that have always been treated at the Site. These wastes are not odorous, and the changes are not expected to affect odour at the Site. Potential sources of dust are also associated with the inclusion of the processing of NF wastes in the NF processing plants in the permit. The increased risk of fugitive dust emissions will be managed by the existing measures listed above in addition to appropriate measures to minimise the exposure of the NF waste to rain and wind, including covering of the conveyors and the storage of all waste fractions from the shredding process within covered bays.</p> <p>3. Techniques to minimise diffuse dust are provided in Section 12.1 of this BAT-OT document and in the ERA provided in Section 5 of this application.</p> <p>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.</p> <p>5. Potential sources of dust are associated with the proposed increase to the Site throughput. However, mitigation measures to prevent the fugitive emissions to air from the increased throughput/replacement main shredder/pre-shredder and from the proposed wet separation process are described in Section 12.1 of this BAT-OT document along with existing measures that will continue to be followed.</p>

Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• keep buildings and equipment under adequate negative pressure with an appropriate abated air circulation or extraction system</li> <li>• where possible, locate air extraction points close to potential emissions sources</li> <li>• use fully enclosed material transfer and storage systems and equipment, for example, conveyors, hoppers, containers, tanks and skips</li> <li>• keep building doors and windows shut to provide containment, other than when access is required for loading or unloading</li> <li>• minimising drop height</li> <li>• use misting systems and wind barriers</li> </ul> <p>6. Where a dust management plan is required, you must develop and implement it following our guidance on emissions management plans for dust.</p>	<p>6. Not relevant.</p>
<p><b>Maintenance and cleaning</b></p> <p>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).</p> <p>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.</p> <p>9. Your maintenance and cleaning schedules must make sure that your plant is regularly cleaned to avoid large-scale decontamination activities.</p> <p>10. You must take measures to prevent the corrosion of plant and equipment (for example, conveyors or pipes). This includes:</p> <ul style="list-style-type: none"> <li>• selecting and using appropriate construction materials</li> <li>• lining or coating equipment with corrosion inhibitors</li> <li>• regularly inspecting and maintaining plant</li> </ul> <p>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.</p>	<p>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 new equipment installed as part of the wet separation process will 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.</p> <p>8. Regular housekeeping will continue to be carried out. The proposed changes in this variation will not require changes to these existing procedures.</p> <p>9. As above.</p> <p>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.</p> <p>11. S Norton will continue to operate the Combined Management Maintenance System to log and keep 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 events log are added to 'Site action' lists and these are dealt with in the reactive maintenance programme.</p>
<p><b>Odorous wastes</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>15. Contaminated waters have potential for odours. You must store them in containers or enclosed tanks that are vented to an abatement system.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• dynamic olfactometry according to EN 13725 to determine the odour concentration</li> </ul>	<p>Not applicable as there are no existing odorous wastes handled on Site nor will the proposed changes in the permit change the types of waste accepted on Site.</p>

Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• EN 16841-1 or -2 to determine the odour exposure</li> </ul> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• actions and timelines to address any issues identified</li> <li>• a procedure for conducting odour monitoring</li> <li>• a procedure for responding to identified odour incidents, for example, complaints</li> <li>• 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</li> </ul> <p>19. Where an odour management plan is required, you must develop and implement it following our guidance on odour management plans.</p>	
<p><b><u>6.3 Emissions of noise and vibration</u></b></p> <p>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.</p> <p>2. You must use appropriate measures to control noise, for example, including:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• closing doors and windows of enclosed areas and buildings</li> <li>• avoiding noisy activities at night or early in the morning</li> <li>• minimising drop heights and the movement of waste and containers</li> <li>• using broadband (white noise) reversing alarms and enforcing the on-site speed limit</li> <li>• using low-noise equipment, for example, drive motors, fans, compressors and pumps</li> <li>• adequately training and supervising staff</li> <li>• where possible, providing additional noise and vibration control equipment for specific noise sources – such as noise reducers or attenuators, insulation, or sound-proof enclosures</li> </ul> <p>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:</p> <ul style="list-style-type: none"> <li>• actions and timelines to address any issues identified</li> <li>• a procedure for noise and vibration monitoring</li> <li>• a procedure for responding to identified noise and vibration events, for example, complaints</li> </ul> <p>4. Your noise and vibration management plan should also include a noise and vibration reduction programme designed to:</p> <ul style="list-style-type: none"> <li>• identify the sources of noise and vibration</li> <li>• measure or estimate noise and vibration exposure</li> <li>• characterise the contributions of the sources</li> <li>• implement prevention and reduction measures</li> </ul>	<p>1. The facility (including additional land) is not close to sensitive receptors.</p> <p>2. The ERA submitted with this application provide details of appropriate measures in place to prevent and reduce risk of noise. A summary of the mitigation to reduce the impact to receptors that may be affected by the noise emissions generated from the proposed changes in the permit are detailed in Section 10.1 of the BAT-OT document.</p> <p>3 – 5. As a request by the EA, the NIA will determine whether additional noise mitigation will be necessary as a result of the proposed changes in the permit. It is predicted that no additional noise mitigation will be necessary as a result of the proposed changes in the permit with consideration of the Site setting and background noise levels. As discussed, due to the specific re-arrangement of some activities as a result of the proposed permit extension not yet being finalised, the NIA currently does not include the potential noise impact from the proposed re-arrangement of some activities. Therefore, a NIA for all the proposed changes will be submitted following submission of this application, with inclusion of a noise and vibration management plan.</p>

Appropriate Measure	Compliance
<p>5. Where a <a href="#">noise and vibration management plan</a> is required, you must develop and implement it following our guidance.</p>	
<p><b>6.4 Point source emissions to water and sewer</b></p> <p>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.</p> <p>2. You must assess the fate and impact of the substances emitted to water and sewer, following the Environment Agency's <a href="#">risk assessment guidance</a>.</p> <p>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):</p> <ul style="list-style-type: none"> <li>• water or condensate collected from treatment processes</li> <li>• waste compactor runoff</li> <li>• vehicle washing</li> <li>• vehicle oil and fuel leaks</li> <li>• washing of containers</li> <li>• spills and leaks in waste storage areas</li> <li>• loading and unloading areas</li> <li>• uncovered storage areas</li> </ul> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• preliminary or primary treatment – for example, equalisation, neutralisation or physical separation</li> <li>• physico-chemical treatment – for example, adsorption, distillation or rectification, precipitation, chemical oxidation or reduction, evaporation, ion exchange, or stripping</li> <li>• biological treatment – for example, activated sludge process or membrane bioreactor</li> <li>• nitrogen removal – for example, nitrification and denitrification</li> <li>• solids removal – for example, coagulation and flocculation, sedimentation, filtration or flotation</li> </ul>	<p>1. See section 13.3 of the BAT-OT.</p> <p>2. See Surface Water Pollution Risk Assessment (submitted in Section 8 of this application).</p> <p>3. Surface water run-off is released to sewer under existing trade effluent discharge consents with United Utilities. Process effluent from the wet separator will be treated and discharged to sewer via release point 'W1' (subject to meeting the quality standards in Bref/EA appropriate measures guidance) or tankered to an authorised treatment facility if the effluent does not meet the required standards. The proposed effluent discharge to sewer is detailed in Section 13.3 of the BAT-OT document. See Section 14 of the BAT-OT document for proposed monitoring and emissions limits.</p> <p>4. The storage of POPs containing residues will be in covered bays.</p> <p>5. The new wet separator includes a waste water treatment system and the waste water will be treated using appropriate techniques for solids removal including coagulation and flocculation.</p>
<p><b>6.5 Fugitive emissions to land and water</b></p> <p>1. You must use appropriate measures to control potential fugitive emissions and make sure that they do not cause pollution. See the guidance on <a href="#">emissions to water</a> and <a href="#">leaks from containers</a>.</p> <p>2. You must have these in all operational areas of the facility:</p> <ul style="list-style-type: none"> <li>• an impermeable surface</li> <li>• sealed construction joints</li> <li>• spill containment kerbs</li> </ul> <p>3. For outdoor operational areas you must also have a sealed drainage system.</p> <p>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.</p>	<p>1. See Section 12 for measures taken to control potential fugitive emissions.</p> <p>2. All measures described are already present at the facility with the exception of the new area as a result of the extension of the permitted boundary to the west of the Site that will have an impermeable surface and a sealed drainage system in place.</p> <p>3. See BAT2 above.</p> <p>4. All surface water run-off (including the additional land) is collected and discharged to sewer under trade effluent discharge consents with United Utilities.</p> <p>5. The Site benefits from a sealed drainage system. The existing drainage infrastructure is a combined sewer so segregation is not appropriate.</p> <p>6. See BAT2 above.</p>

Appropriate Measure	Compliance
<p>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.</p> <p>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.</p> <p>7. Depending on the pollutant content, you must either:</p> <ul style="list-style-type: none"> <li>• recirculate what you have collected</li> <li>• discharge it in accordance with an environmental permit or trade discharge consent</li> <li>• send it for further treatment</li> </ul> <p>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.</p> <p>9. You should provide appropriate buffer storage capacity at your facility to store waste waters, taking into account:</p> <ul style="list-style-type: none"> <li>• potential abnormal operating scenarios and incidents</li> <li>• the nature of any polluting substances and their impact on the downstream waste water treatment plant and receiving environment</li> </ul> <p>10. You must have appropriate measures in place to monitor, treat and reuse the water held in the buffer storage before discharging.</p> <p>11. You must take measures to prevent emissions from washing and cleaning activities, including:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• where possible, using biodegradable and non-corrosive washing and cleaning products</li> <li>• 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</li> <li>• preparing cleaning or disinfection solutions in contained areas of the Site and never in areas that drain to the surface water system</li> </ul> <p>12. Where relevant, you must have measures to prevent pollution from the on-Site storage, handling and use of oils and fuels.</p>	<p>7. Process effluent will be treated and discharged to sewer via release point 'W1' (subject to meeting the quality standards in Bref/EA appropriate measures guidance) or tankered to an authorised treatment facility.</p> <p>8. Maintenance procedures will continue to be in place.</p> <p>9. N/A. The wet separation process is closed loop. No storage of waste waters from this new process.</p> <p>10. Water held in buffer storage will be tested prior to release to sewer or tankering off-Site, depending on the test result.</p> <p>11. Emissions from washing or cleaning will be released to sewer.</p> <p>12. Existing measures are in place to ensure oils and fuels are stored appropriately as detailed in Section 3.2 of this BATOT document.</p>
<p><b>Spill response plan</b></p> <p>13. You must produce and implement a spillage response plan and train staff to follow it and test it.</p> <p>14. Your procedures and associated training must make sure you deal with spillages immediately.</p> <p>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.</p> <p>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.</p> <p>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.</p>	<p>12 – 16. The Site will continue to adhere to the spillage response plan (ref: 'INCIDENT 4.1 An oil, fuel or liquid spillage has occurred on Site') that includes all aspects.</p>
<p><b>Designing and maintaining surfacing and subsurface structures</b></p> <p>18. For subsurface structures, you must:</p>	<p>18. No existing subsurface structures or any changes as a result of the proposed changes in the permit.</p> <p>19 – 20. See Section 6 of the BAT-OT for proposed measures.</p>



Appropriate Measure	Compliance
<ul style="list-style-type: none"> <li>• <i>establish and record the routing of all site drains and subsurface pipework</i></li> <li>• <i>identify all sub-surface sumps and storage vessels</i></li> <li>• <i>engineer systems to minimise leakages from pipes and make sure they are detected quickly if they do occur, particularly where hazardous substances are involved</i></li> <li>• <i>provide secondary containment or leakage detection for sub-surface pipework, sumps and storage vessels</i></li> <li>• <i>establish an inspection and maintenance programme for all subsurface structures, for example, pressure tests, leak tests, material thickness checks or CCTV</i></li> </ul> <p>19. <i>For surfacing, you must design appropriate surfacing and containment or drainage facilities for all operational areas, taking into account:</i></p> <ul style="list-style-type: none"> <li>• <i>collection capacities</i></li> <li>• <i>surface thicknesses</i></li> <li>• <i>strength and reinforcement</i></li> <li>• <i>falls</i></li> <li>• <i>materials of construction</i></li> <li>• <i>permeability</i></li> <li>• <i>resistance to chemical attack</i></li> <li>• <i>inspection and maintenance procedures</i></li> </ul> <p>20. <i>You must have an inspection and maintenance programme for impermeable surfaces and containment facilities.</i></p>	
<p><b>Tanks and bunding</b></p> <p>21. <i>You must bund all above-ground tanks containing liquids whose spillage could be harmful to the environment.</i></p> <p><i>Bunds must:</i></p> <ul style="list-style-type: none"> <li>• <i>be impermeable and resistant to the stored materials</i></li> <li>• <i>have no outlet (that is, no drains or taps) and drain to a blind collection point</i></li> <li>• <i>have pipework routed within bunded areas with no penetration of contained surfaces</i></li> <li>• <i>be designed to catch leaks from tanks or fittings</i></li> <li>• <i>have a capacity greater than 110 percent of the largest tank or 25 percent of the total tankage, whichever is the larger</i></li> <li>• <i>have regular visual inspections – any contents must be pumped out or otherwise removed under manual control after checking for contamination</i></li> <li>• <i>be fitted with a high-level probe and an alarm (as appropriate) if not frequently inspected</i></li> <li>• <i>have tanker connection points within the bund (where possible), otherwise provide adequate containment</i></li> <li>• <i>have programmed engineering inspections – normally visual, but extending to water testing if structural integrity is in doubt</i></li> <li>• <i>be emptied of rainwater regularly to maintain their containment capacity</i></li> </ul>	<p>21. See Section 6 of the BAT-OT for proposed measures.</p>
<b>7. EMISSIONS MONITORING AND LIMITS APPROPRIATE MEASURES</b>	
<p>1. <i>Where you are required to monitor emissions to comply with the requirements of your environmental permit you must follow our <a href="#">monitoring your emissions guidance</a>.</i></p> <p>2. <i>You must create and maintain an inventory (emissions inventory) of point source emissions to air and water (including emissions to sewer) for your facility.</i></p> <p><b><u>7.1 Emissions to air</u></b></p>	<p>1 – 2 &amp; 7.1. Emissions to air will be monitored in accordance with the monitoring standards and methods detailed in Section 14 of this BAT-OT document.</p>

Appropriate Measure	Compliance
<p>1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to air, such as the:</p> <ul style="list-style-type: none"> <li>• average values and variability of flow and temperature</li> <li>• average concentration and load values of relevant substances and their variability</li> <li>• flammability, lower and higher explosive limits and reactivity</li> <li>• presence of other substances that may affect the waste gas treatment system or plant safety – for example, oxygen, nitrogen, water vapour, dust</li> </ul> <p>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 <a href="#">M1 sampling requirements for stack emissions monitoring</a>.</p> <p>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.</p> <p>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.</p> <p><b>Channelled emissions to air from all mechanical treatment of WEEE</b></p> <ul style="list-style-type: none"> <li>• Dust - Emission limit – 5 mg/m<sup>3</sup> (where it is inappropriate to fit a fabric filter due to the potential effects of deflagration on the filter, the limit is 10 mg/m<sup>3</sup>) – every 6 months</li> <li>• TVOC – every 6 months</li> <li>• Dioxin-like PCBs – every 12 months</li> <li>• PCDD/F – every 12 months</li> <li>• BFRs – every 12 months</li> <li>• Metals and metalloids excluding mercury – every 12 months</li> </ul>	
<p><b><u>7.2 Emissions to water or sewer</u></b></p> <p>1. Your facility's emissions inventory must include information about the relevant characteristics of point source emissions to water or sewer, such as:</p> <ul style="list-style-type: none"> <li>• average values and variability of flow, pH, temperature, and conductivity</li> <li>• 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</li> <li>• 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</li> </ul> <p>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:</p> <ul style="list-style-type: none"> <li>• inlet or outlet (or both) of the pre-treatment</li> <li>• inlet to the final treatment</li> <li>• point where the emission leaves the facility boundary</li> </ul>	<p>7.2 Emissions to water will be monitored in accordance with the monitoring standards and methods detailed in Section 14 of this BAT-OT document.</p>

Appropriate Measure	Compliance
<p>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.</p> <p><b>Direct discharges to a water body from all Sites carrying out the mechanical treatment of WEEE</b></p> <ul style="list-style-type: none"> <li>• TOC – Emission limit 60 mg/l – every month</li> <li>• COD – Emission limit 180 mg/l – every month</li> <li>• Total suspended solids – Emission limit 60 mg/l – every month</li> </ul> <p><b>Discharges to sewer or a water body from all mechanical treatment of WEEE</b></p> <ul style="list-style-type: none"> <li>• Hydrocarbon oil index – Emission limit 10 mg/l – every month</li> </ul> <p><b>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</b></p> <ul style="list-style-type: none"> <li>• Metals and metalloids (frequency every month), including:                         <ul style="list-style-type: none"> <li>○ arsenic, 0.05 mg/l</li> <li>○ cadmium, 0.05 mg/l</li> <li>○ chromium, 0.15 mg/l</li> <li>○ copper, 0.5 mg/l</li> <li>○ lead, 0.1 mg/l</li> <li>○ nickel, 0.5 mg/l</li> <li>○ mercury 0.005 mg/l</li> <li>○ zinc, 1.00 mg/l</li> <li>○ PFOA, PFOS and deca BDE (frequency every 6 months)</li> </ul> </li> </ul>	
<b>8. PROCESS EFFICIENCY APPROPRIATE MEASURES</b>	
<p>For your facility, you must monitor and review the annual quantity of:</p> <ul style="list-style-type: none"> <li>• water, energy and raw materials used</li> <li>• residues and waste water produced</li> </ul> <p>You must do this at least once every year.</p> <p><b>8.1 Energy efficiency</b></p> <p>1. You must create and implement an energy efficiency plan at your facility. This must:</p> <ul style="list-style-type: none"> <li>• define and calculate the specific energy consumption of the activity (or activities) you do and waste stream(s) you treat</li> <li>• set annual key performance indicators – for example, specific energy consumption (expressed in kWh/tonne of waste processed)</li> <li>• plan periodic improvement targets and related actions</li> </ul> <p>2. You must regularly review and update your energy efficiency plan as part of your facility’s management system.</p> <p>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.</p>	<p>1 – 7. See Section 9 of this BAT-OT document.</p>

Appropriate Measure	Compliance
<p>4. You must regularly review and update your energy balance record as part of your facility's management system, alongside the energy efficiency plan.</p> <p>5. You must have operating, maintenance and housekeeping measures in place in relevant areas, for example, for:</p> <ul style="list-style-type: none"> <li>• air conditioning, process refrigeration and temperature exchange systems (leaks, seals, temperature control, evaporator or condenser maintenance)</li> <li>• the operation of motors and drives</li> <li>• compressed gas systems (leaks, procedures for use)</li> <li>• steam distribution systems (leaks, traps, insulation)</li> <li>• space heating and hot water systems</li> <li>• lubrication to avoid high friction losses</li> <li>• boiler operation and maintenance, for example, optimising excess air</li> <li>• other maintenance relevant to the activities within the facility</li> </ul> <p>6. You must have measures in place to avoid gross energy inefficiencies. These should include, for example:</p> <ul style="list-style-type: none"> <li>• insulation</li> <li>• containment methods (such as seals and self-closing doors)</li> <li>• avoiding unnecessary discharge of heated water or air (for example, by fitting simple control systems such as timers and sensors)</li> </ul> <p>7. You should implement additional energy efficiency measures at the facility as appropriate, following our guidance on <a href="#">energy efficiency standards for industrial plants</a>.</p>	
<p><b>8.2 Raw materials (installations only)</b></p> <p>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.</p> <p>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.</p> <p>3. You must justify the continued use of any substance for which there is a less hazardous alternative.</p> <p>4. You must have quality assurance procedures in place to control the content of raw materials.</p>	<p>1 – 4. See Section 7 of this BAT-OT document.</p>
<p><b>8.3 Water use (installations only)</b></p> <p>1. You must take measures to make sure you optimise water consumption to:</p> <ul style="list-style-type: none"> <li>• reduce the volume of waste water generated</li> <li>• prevent or, where that is not practicable, reduce emissions to soil and water</li> </ul> <p>2. You must take these measures:</p> <ul style="list-style-type: none"> <li>• implement a water saving plan (involving establishing water efficiency objectives, flow diagrams and water mass balances)</li> <li>• optimising the use of washing water (for example, dry cleaning instead of hosing down, using trigger control on all washing equipment)</li> <li>• recirculating and reusing water streams within the plant or facility, if necessary after treatment</li> <li>• reducing the use of water for vacuum generation (for example, using liquid ring pumps with high boiling point liquids) where relevant</li> </ul> <p>3. You must carry out a regular review of water use (a water efficiency audit) at least every 4 years.</p>	<p>1 – 9. See Section 7 of this BAT-OT document.</p>

Appropriate Measure	Compliance
<p>4. You must also:</p> <ul style="list-style-type: none"> <li>produce flow diagrams and water mass balances for your activities</li> <li>establish water efficiency objectives and identify constraints on reducing water use beyond a certain level (usually this will be site specific)</li> <li>identify the opportunities for maximising reuse and minimising use of water</li> <li>have a timetabled improvement plan for implementing additional water reduction measures</li> </ul> <p>5. To reduce water use and associated emissions to water, you should apply these general principles in sequence:</p> <ul style="list-style-type: none"> <li>use water efficient techniques at source where possible</li> <li>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</li> <li>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.</li> </ul> <p>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.</p> <p>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.</p> <p>8. You must minimise the volume of water you use for cleaning and washing down by:</p> <ul style="list-style-type: none"> <li>vacuuming, scraping or mopping in preference to hosing down</li> <li>reusing wash-water (or recycled water) where practicable</li> <li>using trigger controls on all hoses, hand lances and washing equipment</li> </ul> <p>9. You must directly measure fresh water consumption and record it regularly at every significant usage point, ideally on a daily basis.</p>	
<p><b><u>8.4 Waste minimisation, recovery and disposal</u></b></p> <p>1. You must have and implement a residues management plan that:</p> <ul style="list-style-type: none"> <li>minimises the generation of residues arising from waste treatment</li> <li>optimises the reuse, regeneration, recycling or energy recovery of residues, including packaging</li> <li>makes sure you properly dispose of residues where recovery is technically or economically impractical</li> </ul> <p>2. Where you must dispose of waste, you must carry out a detailed assessment identifying the best environmental options for waste disposal.</p> <p>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.</p>	<p>1 – 3. See Section 7 of this BAT-OT document.</p>

## APPENDIX 03

# Appropriate Measures for Non-hazardous and Inert Waste

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

Appropriate Measure	Compliance
<b>4. WASTE STORAGE, SEGREGATION AND HANDLING APPROPRIATE MEASURES</b>	
<p><b><u>4.1 General waste storage</u></b></p> <p>6. You should clearly mark all waste storage areas and provide signs indicating the type of waste stored there.</p> <p>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.</p> <p>12. All waste containers must be fit for purpose, that is:</p> <ul style="list-style-type: none"> <li>• in sound condition</li> <li>• not corroded, if metal</li> <li>• have well-fitting lids</li> <li>• suitable for the contents</li> <li>• with caps, valves and bungs in place and secure</li> </ul> <p>within the manufacturer's designed lifespan, particularly for plastic containers</p>	<p>Items 1 – 5, 7 and 9 – 11 are covered in responses in Appendix 02.</p> <p>6. There will be some additional storage areas in the SWAPP facility, as a result of the additional wet separation activity in the SWAPP2 processing area. The storage locations for the new outputs as a result of the new wet separation activity are detailed in Section 4.1.1 of this BAT-OT document and shown on Drawing 02.</p> <p>8. The Site operates a 'first in, first out' procedure for processing materials including light iron, WEEE and ELVs. Light iron is processed daily as it comes onto Site and WEEE &amp; ELVs are batch processed on a weekly basis. The proposed changes in the permit including the wet separation process, the addition of new waste codes or the extension of the permitted boundary will result in a change to this procedure.</p> <p>12. No change to existing container containment as a result of the proposed changes in the permit, existing measures are detailed in Section 3.2.4 of this BAT-OT document.</p>
<p><b><u>4.1 Segregation</u></b></p> <p>1. You should keep different types of waste segregated if contamination would inhibit the recovery of the waste.</p> <p>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.</p>	<p>1. S Norton will follow measures to prevent the risk of contamination between hazardous and non-hazardous plastic residue. These are summarised in Section 8.5 of this BAT-OT document.</p> <p>2. No change to the existing storage of incoming metal wastes as a result of the proposed changes in the permit.</p>
<b>5. WASTE TREATMENT APPROPRIATE MEASURES</b>	
<p><b><u>Waste Treatment</u></b></p> <p>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.</p>	<p>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.</p>
<p><b><u>5.2 Waste treatment outputs, including fines</u></b></p> <p>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 <u>WM3</u> If you do not, you may breach your <u>Duty of Care</u> for waste and commit an offence under the Environmental Protection Act 1990.</p> <p>This is particularly important for fines arising from shredding and trommelling processes, which generally:</p> <ul style="list-style-type: none"> <li>• require disposal at cost</li> <li>• contain a range of contaminants</li> <li>• are likely to be subject to a mirror entry code in the LoW, for example 19 12 11* versus 19 12 12.</li> </ul> <p>2. Any hazardous waste taken from your facility must be consigned following our guidance <u>Dispose of hazardous waste</u>.</p> <p>3. If an output is not waste, for example because <u>end-of-waste criteria</u> 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</p>	<p>1. The objective of the Site is to maximise the recovery of ferrous metal via size reduction including shredding, shearing and cutting of oversize ferrous metal to specification from the waste feedstocks and treatment of residues via the SWAPP facility. The amount of fines generated from the waste treatment processes is approximately 40-50% of the wastes treated and they include the EWC code 19 12 12. All waste including fines will be subject to waste assessments and classification procedures in line with WM3 and Duty of Care.</p> <p>2. All hazardous waste collected from the facility will be consigned in accordance with the Hazardous Waste (2005) Regs.</p> <p>3. The Heavy Metal Steel (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.</p>

Appropriate Measure	Compliance
<p><i>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.</i></p>	
<p><b>6. EMISSIONS CONTROL APPROPRIATE MEASURES</b></p>	
<p><b>6.1 Enclosure within buildings</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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 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:</p> <ul style="list-style-type: none"> <li>• the needs of the occupants working in the building</li> <li>• heat release</li> <li>• the volume of moist gas emissions that will be generated</li> </ul> <p>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:</p> <ul style="list-style-type: none"> <li>• shredders and trommels</li> <li>• waste loading and unloading areas</li> <li>• odorous stockpiles</li> </ul> <p>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.</p> <p>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</p>	<p>1. Processing of SMW residue will continue to take place in an enclosed building (SWAPP) that benefits from roller shutter doors that remain closed except when waste is being transferred. The proposed additional wet separation process will take place inside the enclosed building.</p> <p>2, 3 &amp; 4. 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. A Noise Impact Assessment for all the proposed changes will be submitted to the EA separately.</p> <p>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.</p> <p>6 &amp; 7 The air inside the SWAPP facility enclosed building is maintained under negative pressure. S Norton have 3 existing (soon to be 4) fixed dust filters that automatically dispose dust into the SRF bay. Relevant operating measures are detailed in Section 12 of this BAT-OT document.</p> <p>8. S Norton utilise a CMMS to log findings of maintenance inspections. It also includes a preventive and reactive maintenance programme.</p> <p>9. See appropriate measure no. 1 above.</p> <p>10. The processing building (SWAPP) has rubber flap seals on doors to reduce the emissions of noise and vibration from the treatment processes inside the building. It is deemed that this measure along with other measures outlined in the BATOT document are sufficient to adequately reduce emissions of noise and vibration from the additional wet separation activity.</p>



Appropriate Measure	Compliance
<p><i>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.</i></p> <p><i>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.</i></p>	
<p><b>6.6 Pests</b></p> <p><i>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.</i></p> <p><i>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 <u>pest management plan</u>, following our guidance.</i></p> <p><i>3. Your pest management plan must include procedures for:</i></p> <ul style="list-style-type: none"> <li><i>• inspecting for and controlling pests</i></li> <li><i>• rejecting loads of infested waste</i></li> <li><i>• treating pest infestations promptly, and removing waste if necessary</i></li> <li><i>• storing, handling and using approved pest control products – you can get information on <u>using chemicals at work</u> from the Health and Safety Executive</i></li> </ul>	<p>1 – 2. None of the proposed changes will affect the risk of pests at the site.</p> <p>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.</p>
<b>9. WASTE MINIMISATION, RECOVERY AND DISPOSAL APPROPRIATE MEASURES</b>	
<p><i>1. You must have and implement a residues management plan that:</i></p> <ul style="list-style-type: none"> <li><i>• minimises the generation of residues arising from waste treatment</i></li> <li><i>• optimises the reuse, regeneration, recycling or energy recovery of residues, including packaging</i></li> <li><i>• makes sure you properly dispose of residues where recovery is technically or economically impractical</i></li> </ul> <p><i>2. Where you must dispose of waste, you must carry out a detailed assessment identifying the best environmental options for waste disposal.</i></p> <p><i>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.</i></p>	<p>1 – 2. See Section 7.1 of the BAT-OT document.</p>

## APPENDIX 04:

# Appropriate Measures for Chemical Waste

**Appendix 04**  
**Chemical Waste EA Appropriate Measures**

Appropriate Measure	Compliance
<b>4. WASTE STORAGE, SEGREGATION AND HANDLING APPROPRIATE MEASURES</b>	
<p>1. You must store waste in locations that minimise the handling of waste. Waste handling must be carried out by competent staff using appropriate equipment.</p> <p>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). You must store all waste within the secure area of your facility to prevent unauthorised access and vandalism.</p> <p>3. Where relevant, you must conform to <u>HSE standards</u>.</p> <p>4. You must clearly document the maximum storage capacity of your site and the designated storage areas. You must not exceed these maximum capacities. You should define capacity in terms of, for example, maximum tank or vessel capacities, tonnage and numbers of skips, pallets or containers. You must regularly monitor the quantity of stored waste on site and designated areas and check against the allowed maximum capacities.</p> <p>5. You must clearly mark hazardous waste storage areas and provide signs showing the maximum quantity and hazardous properties of wastes that can be stored there.</p> <p>6. Storage area drainage infrastructure must:</p> <ul style="list-style-type: none"> <li>• Contain all possible contaminated run-off</li> <li>• Prevent incompatible wastes coming into contact with each other</li> <li>• make sure that fire cannot spread</li> </ul> <p>7. Secondary and tertiary containment systems must conform to CIRIA guidance <u>C736 Containment systems for the prevention of pollution</u>.</p> <p>8. You must store containerised wastes that are sensitive to air, light, heat, moisture or extreme ambient temperatures under cover protected from such ambient conditions. Covered areas must have good ventilation. This applies to any such container:</p> <ul style="list-style-type: none"> <li>• held in general storage, reception storage (pending acceptance) or quarantine</li> <li>• being emptied, repackaged or otherwise managed</li> </ul> <p>9. You must store wastes in sealed metal containers under cover if they have the potential for self-heating or self-reactivity. You must monitor the containers for heat build-up. Such wastes include rags and filter materials contaminated with metal swarf, low boiling point oils or low flash point solvents.</p> <p>10. Wherever practicable you should store all other wastes under cover. Covered areas must have good ventilation. This applies to any such container:</p> <ul style="list-style-type: none"> <li>• held in general storage, reception storage (pending acceptance) or quarantine</li> <li>• being emptied, repackaged or otherwise managed</li> </ul> <p>11. You must not store hazardous waste in open-topped containers. Empty open-topped containers should be kept in a building or undercover to prevent rainwater ingress.</p> <p>12. You must not store or hold wastes on site in vehicles or vehicle trailers unless you are receiving them or preparing them for imminent transfer (meaning that you will remove them from site within 24 hours, or 72 hours if over a weekend).</p>	<p>1 &amp; 2. Waste locations are generally in close proximity to treatment equipment. The site is secure. There are no sensitive receptors. Waste handling is carried out by competent staff using appropriate equipment.</p> <p>3. HSE guidance and standards are followed where relevant (NOTE: this is not considered to be a relevant consideration for EPR).</p> <p>4 &amp; 5. Waste will be stored in accordance with the procedures outlined in Section 4 of the BAT-OT document and measures outlined in the Site's Fire Prevention Plan (FPP). These outline materials storage duration and capacity.</p> <p>6. There is no separate drainage area for storage; it is part of the site system. The proposed wet separation process will use the existing drainage system. Waste materials are not incompatible with each other and there is no change to the inputs into the existing activity. Controls including existing and additional measures to ensure hazardous and non-hazardous fractions are kept segregated are detailed in Section 8.1. There are no changes to these procedures as a result of the proposed activities in this variation.</p> <p>7. Not relevant. There is no change to containment systems as part of the proposed additional activities in this variation.</p> <p>8 &amp; 9. Not relevant to the activities proposed in this variation.</p> <p>10. &amp; 11 Higher risk materials (such as residues containing POPs) are stored in covered bays.</p> <p>12. Waste deliveries from vehicles/vehicle trailers will be transferred within 24 hours or 72 hours if over a weekend.</p> <p>13. Not relevant. There is no storage or handling of flammable wastes and materials as a result of the proposed changes.</p> <p>14. Bunding is provided for all liquid storage associated with the proposed additional activity in the SWAPP facility. See Section 3.2.4 of the BAT-OT.</p> <p>15. A tracking system is used to ensure waste does not accumulate or exceed duration periods.</p> <p>16 – 17. Not relevant. No acceptance of stored containers as a result of the proposed changes.</p> <p>18. Hazardous waste is kept segregated from non-hazardous waste. Higher risk materials (at risk of leaching) are stored in covered bays.</p> <p>19. Rainfall run-off and process effluent will be released to sewer (subject to meeting Bref/EA appropriate measures water quality standards) or if required tankered to a suitably licenced facility. Process effluent is separately monitored. The facility discharges into an existing combined drainage network so the water is not kept separate.</p> <p>20. There are no incompatible wastes. Combustible wastes are stored in accordance with FPP requirements. No change to sealed drainage systems.</p> <p>21 – 23. All waste is readily accessible for handling and inspection. All waste movements are tracked.</p> <p>24 – 28. Not relevant. No acceptance of bags/boxes of waste or containers for the purpose of stacking or racking as a result of the proposed changes.</p> <p>29. Not relevant due to types of waste treated at the site.</p> <p>30. Not relevant to activities at this site.</p> <p>31 – 33. Not applicable.</p>

Appropriate Measure	Compliance
<p>13. You should pay particular attention to avoid the build-up of static electricity when you are storing or handling flammable wastes and materials. You should use leak detection systems and alarms (for example VOC alarms) and automatic fire suppression equipment based on a recorded risk assessment.</p> <p>14. You must provide adequate bunding of all storage areas, and containment and treatment of any water run-off.</p> <p>15. You must not accumulate waste. You must treat wastes, or remove them from the site, as soon as possible.</p> <p>16. All stored containers must keep the labelling they had at acceptance. If the label is damaged or no longer legible you should replace the label with that same information.</p> <p>17. You must handle and store containers so that the label is easily visible and continues to be legible.</p> <p>18. You should keep solid waste dry and avoid the dilution of hazardous waste.</p> <p>19. You must keep clean rainwater and clean cooling water separate from wastes and waste waters.</p> <p>20. You must keep incompatible wastes segregated so that they cannot come into contact with one another. You must store flammable wastes apart from other wastes to prevent fire spreading between them and other materials. You must use sealed drainage systems to prevent leaks and spillages contaminating other wastes.</p> <p>21. There must be pedestrian and vehicular access (for example, forklift) at all times to the whole storage area so that you can retrieve containers without removing others that may be blocking access – other than removing those in the same row.</p> <p>22. You must store all waste containers in a way that allows easy inspection. You must maintain safe access, with a gap of at least 0.7m between rows of bulk containers or palletised wastes.</p> <p>23. You must move drums and other mobile containers between different locations (or loaded for removal off site) following written procedures. You must then amend your waste tracking system to record these changes.</p> <p>24. You must stack bags and boxes of waste no more than 1m high on a pallet. You must not stack pallets more than 2 high.</p> <p>25. You must stack containers specifically designed for stacking, and no more than 2.2m high on a pallet.</p> <p>26. You must store all other containers on pallets. You must not stack these pallets more than 2 high, except for empty containers which can be stacked 3 high.</p> <p>27. Stacked bags, boxes and containers must be stable. They must be secured with, for example, banding or shrink-wrap, if required. The packages must not extend beyond (over-hang) the sides of the pallet. Any shrink-wrap used must be clear or transparent so that you can identify waste types, damaged containers, leaks or spillages and incorrectly stacked containers. You must be careful not to damage any packages during stacking.</p> <p>28. All waste containers must remain fit for purpose. You must check any containers (and pallets they may be stored on) daily and record non-conformances. Non-compliant containers and pallets must be made safe. You must immediately and appropriately manage any unsound, poorly labelled or unlabelled containers (for example, by relabelling, over drumming and transferring the container's contents). You must risk assess, approve and record the use of containers, tanks and vessels:</p> <ul style="list-style-type: none"> <li>• beyond their specified design life</li> <li>• where you use them for a purpose, or substances, other than the ones they were designed for</li> </ul>	<p>34. Skips containing waste will not be stacked. Skips containing types of waste with the hazardous waste code accepted as part of the proposed changes (namely cables and wiring / processed electric wastes namely SMW)) will be covered.</p> <p>35. Not relevant. No acceptance of bags/boxes of waste or containers for the purpose of stacking or racking as a result of the proposed changes.</p> <p>36. See Section 6 of the BAT-OT for description of engineered containment.</p> <p>37. Not relevant. The type of waste accepted at the facility will not attract pests and vermin. The proposed changes in this variation will not change the nature of the incoming waste which is non-odorous and non-putrescible. Existing measures including appropriate acceptance procedures will continue to be followed. The proposed changes in this variation will not require changes to existing procedures.</p> <p>38 – 39. 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.</p> <p>40. Not relevant. No change to existing procedures as a result of the proposed changes.</p> <p>41 - 92. Not relevant.</p>

Appropriate Measure	Compliance
<p>29. You must not handle waste or its packaging in a way that might damage its integrity, unless it is appropriate to destroy a waste or its packaging, for example by shredding. You must not, for example, walk on or throw waste or waste packages.</p> <p>30. You should, where applicable and based on a recorded risk assessment, make inert the atmosphere of tanks containing organic liquid waste with a flashpoint less than 21°C. This can be done, for example, by using nitrogen gas.</p> <p>31. You must <u>store asbestos waste double bagged or wrapped, in sealed, closed and locked containers</u>. You must not store asbestos waste loose. You must not put asbestos wastes into bays or transfer it between different skips or containers. You must not use mechanical equipment, for example loading shovels, chutes and conveyors to move asbestos waste.</p> <p>32. You must not stack wheeled containers on top of one another. Do not stack empty wheeled containers into one another more than 2.2m high.</p> <p>33. All containers that need them should have a lid or bung, and the lid or bung must be closed except when the container is being sampled, having waste added into it or having waste removed from it.</p> <p>34. You must not stack skips containing waste. Skips containing hazardous waste must be enclosed when not being loaded or unloaded. You should store loose bulk hazardous wastes under cover.</p> <p>35. You can use racking systems to store waste but you must consider segregation, ability to inspect, separation and fire suppression measures. Racking systems must be designed and constructed in accordance with <u>HSG76 Warehousing and storage</u>.</p> <p>36. You must:</p> <ul style="list-style-type: none"> <li>• contain wash waters within an impermeable area and either discharge them to foul sewer or dispose of them appropriately off site.</li> <li>• prevent run-off into external areas or to surface water drain</li> </ul> <p>37. You must <u>manage waste in a way that prevents pests or vermin</u>. You must have specific measures and procedures in place to deal with wastes that are identified as causing pests or vermin.</p> <p>38. You must inspect storage areas, containers and infrastructure daily. You must deal with any issues immediately. You must keep written records of the inspections. You must rectify and log any spillages of waste.</p> <p>39. You must <u>train forklift drivers</u> in the handling of palletised goods, to minimise forklift truck damage to the integrity of containers and infrastructure.</p> <p>40. You must not carry out activities that represent a clear fire risk within any storage area. Examples include:</p> <ul style="list-style-type: none"> <li>• grinding</li> <li>• welding or brazing of metalwork</li> <li>• smoking</li> <li>• parking normal road vehicles, except while unloading or loading</li> </ul> <p><b>Bulk storage</b> (Appropriate measures 41 to 52)</p> <p><b>Transfer of waste into and from tankers</b> (Appropriate measures 53 to 70)</p> <p><b>Aerosol storage</b> (Appropriate measures 71 to 77)</p> <p><b>Sorting, repackaging and bulking</b> (Appropriate measures 78 to 89)</p> <p><b>Laboratory smalls</b> (Appropriate measures 90 to 92)</p>	

Appropriate Measure	Compliance
<p><b>5. WASTE TREATMENT APPROPRIATE MEASURES</b></p>	
<p><b>5.1 General waste treatment</b></p> <p>6. You must clearly define the objectives and reaction (chemical, physical or biological) processes for each treatment process. You must define the end point to the process so that you can monitor and control the reaction. You must define the suitable inputs to the process, and the design must take into account the likely variables expected within the waste stream. You must sample and analyse the waste to check that an adequate end point has been reached.</p> <p>7. For each new reaction, you must assess the proposed mixes of wastes and reagents before treatment by carrying out a scale laboratory test mix of the wastes and reagents to be used. You must predetermine a batch 'recipe' for all reactions and mixes of wastes. You must also take into account the potential scale up effects, for example, the increased:</p> <ul style="list-style-type: none"> <li>• heat of reaction with increased reaction mass relative to the reactor volume</li> <li>• residence time within the reactor and modified reaction properties</li> </ul> <p>Your treatment must comply with <u>HSG143 Designing and operating safe chemical reaction processes</u>.</p> <p>8. The reactor vessel and plant must be specifically designed, commissioned and operated to be fit for purpose. The designs need to consider chemical process hazards and a hazard assessment of the chemical reactions. They also need to consider prevention and protective measures and process management, such as:</p> <ul style="list-style-type: none"> <li>• working instructions</li> <li>• staff training</li> <li>• appropriate process control measures</li> <li>• monitoring systems, alarms and interlocks</li> <li>• plant maintenance</li> <li>• checks</li> <li>• audits</li> <li>• emergency procedures</li> </ul> <p>9. To track and control the process of change, you must have a written procedure for proposing, considering and approving changes to technical developments or procedural or quality changes.</p> <p>10. Where an emission is expected, all treatment or reactor vessels must be enclosed. Only vent them to the atmosphere via an appropriate scrubbing and abatement system (subject to explosion relief).</p> <p>11. You must monitor the reaction to make sure it is under control and proceeding towards the anticipated result. Vessels used for treatment must be equipped appropriately, for example with high level, pH and temperature monitors. These monitors must be automatic and continuous, linked to a clear display in the control room or laboratory, and have an audible alarm. Your risk assessment may require you to link process monitors to cut-off devices.</p>	<p>Items 1 – 5 are covered in responses in Appendix 02 and 03.</p> <p>6 – 11. Not applicable as no chemical treatment of waste takes place at the facility currently or as a result of the proposed changes.</p>
<p><b>6. EMISSIONS CONTROL APPROPRIATE MEASURES</b></p>	
<p><b>6.2 Fugitive emissions to air (including odour)</b></p> <p>11. You must fully enclose and contain pre- and post-treatment shredder plant to prevent emissions. You must design and operate the shredder plant using appropriate process interlocks. The plant should not operate unless it is enclosed and contained, for example, only working when the loading door on the hopper has been closed</p>	<p>Items 1 – 10 are covered in responses in Appendix 02 and 03.</p> <p>11. The air inside the SWAPP facility enclosed building is maintained under negative pressure. Existing fixed dust filters in the SWAPP facility already automatically dispose dust into the SRF bay. The proposed changes including the additional wet separation process will not require changes to these procedures.</p>

Appropriate Measure	Compliance
<p><i>or sealed. Dust and microbial emissions from the shredder plant must be contained and extracted to an appropriate abatement system, for example HEPA air filtration.</i></p> <p><i>12. Where a <u>dust management plan</u> is required, you must develop and implement it following our guidance.</i></p> <p><i>13. 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.</i></p> <p><i>14. 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.</i></p> <p><i>15. 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.</i></p> <p><i>16. You must store contaminated waters that have potential for odours in covered or enclosed tanks or containers vented through suitable abatement.</i></p> <p><i>17. Where odour pollution at sensitive receptors is expected, or has been substantiated, you must periodically monitor odour emissions using European (EN) standards</i></p> <p><i>18. Where odour pollution at sensitive receptors is expected, or has been substantiated, you must also set up, implement and regularly review an odour management plan.</i></p> <p><i>19. Where an <u>odour management plan</u> is required, you must develop and implement it following our guidance.</i></p>	<p>12 – 19. Not relevant.</p>

## EUROPEAN OFFICES

### AYLESBURY

T: +44 (0)1844 337380

### BELFAST

belfast@slrconsulting.com

### BIRMINGHAM

T: +44 (0)121 2895610

### BONN

T: +49 (0)176 60374618

### BRADFORD-ON-AVON

T: +44 (0)1225 309400

### BRISTOL

T: +44 (0)117 9064280

### CARDIFF

T: +44 (0)2920 491010

### CHELMSFORD

T: +44 (0)1245 392170

### DUBLIN

T: +353 (0)1 296 4667

### EDINBURGH

T: +44 (0)131 335 6830

### EXETER

T: +44 (0)1392 490152

### FRANKFURT

frankfurt@slrconsulting.com

### GRENOBLE

T: +33 (0)6 23 37 14 14

### LEEDS

T: +44 (0)113 5120293

### LONDON

T: +44 (0)203 8056418

### MAIDSTONE

T: +44 (0)1622 609242

### MANCHESTER

T: +44 (0)161 8727564

### NEWCASTLE UPON TYNE

newcastle@slrconsulting.com

### NOTTINGHAM

T: +44 (0)115 9647280

### SHEFFIELD

T: +44 (0)114 2455153

### SHREWSBURY

T: +44 (0)1743 239250

### STIRLING

T: +44 (0)1786 239900

### WORCESTER

T: +44 (0)1905 751310