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WASTE RESOURCE MANAGEMENT



EUROPEAN METAL RECYCLING LTD

UNITS 2 - 10 DUDDESTON MILL TRADING ESTATE

OPERATING TECHNIQUES

MARCH 2023

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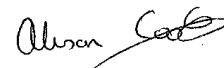


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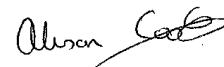
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1 INTRODUCTION

- 1.1 European Metal Recycling Limited (EMR) propose to operate an electric vehicle (EV) battery recycling operation at Duddeston Mill Trading Estate, Birmingham. The site location and proposed permit boundary of the facility are shown on drawing ST19256-002. The site is formed of a number of industrial units (not all are operated by EMR), where different activities are undertaken. Manual dismantling of EV batteries is conducted in units 2 and 3, shredding and separation of battery modules is conducted in unit 4, and the research and development facility is located in units 5 to 10.
- 1.2 The facility will accept up to 2,000 tonnes per annum of waste. The site has the capacity to store 25 tonnes of EV batteries, 25 tonnes of battery units, 31 tonnes of scrap metal, 5 tonnes of plastic and rubber, and 5 end of life vehicles (ELVs) at any one time. The total quantity of hazardous waste, other than whole ELVs, stored on site will be less than 13 tonnes. A full list of the waste types that may be accepted on site is provided in Section 4. Waste acceptance procedures will be employed at the site to ensure that only permitted wastes are accepted at the site. Waste acceptance procedures are detailed in Section 5.
- 1.3 The site will accept non-hazardous waste and small quantities of hazardous waste for recovery and disposal operations. Within the battery research facility waste material may be shredded or granulated and can be sorted using a range of equipment. The processed waste is then sent offsite for recovery/recycling. In addition, the site will accept waste EV batteries. The batteries will be disassembled into their components, the modules are shredded to recover the 'black mass' and other recyclable material. EV battery models will be treated at a rate of 4 tonnes per day. The black mass and other materials are sent to a third-party for recycling or disposal.
- 1.4 The site is operated in accordance with an Environmental Management System (EMS) which meets the requirements of the Environment Agency's Guidance (<https://www.gov.uk/guidance/develop-a-management-system-environmental-permits>) The key features of the EMS are described in Section 3.
- 1.5 All waste storage and treatment activities will be undertaken in a manner that ensures that the environment will be protected at all times. Details of the treatment process are provided in Section 6. The robust site infrastructure that is provided will ensure environmental protection during normal and abnormal operational scenarios.

- 1.6 Environmental monitoring and record keeping will be undertaken and completed in accordance with the EMS and the conditions of the environmental permit once issued. Further information on this is provided in Section 8.

2 REGULATED ACTIVITIES

- 2.1 The site is classed as a waste operation under the Environmental Permitting (England and Wales) Regulations 2016.
- 2.2 The proposed activities are set out in Table 2:1 below.
- 2.3 The total quantity of hazardous waste accepted and processed on any one day will be less than 10 tonnes. The maximum quantity of hazardous waste stored would be 13 tonnes plus up to 5 whole ELVs.

Table 2:1 Description of Waste Operation	
Activity	Limits of prescribed activity, including WFD Annex I and II Codes
Non-hazardous Waste Recovery	
<p>Recovery of hazardous and non-hazardous wastes – Sorting, separating, shredding of non-hazardous wastes to recover scrap metal, plastic and rubber or other materials.</p>	<p>R3: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)</p> <p>R4: Recycling/reclamation of metals and metal compounds</p> <p>R13: storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it was produced)</p> <p>The site has the ability to treat 24 tonnes per day.</p> <p>Less than 10 tonnes a day of hazardous waste will be treated.</p> <p>Waste types will be as set out in Section 4.</p>
Electric Vehicle Battery Recycling	
<p>Disassembly, sorting, shredding of EV batteries to recover metals and plastics</p>	<p>R3: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)</p> <p>R4: Recycling/reclamation of metals and metal compounds</p> <p>R13: storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it was produced)</p> <p>The site has the ability to treat 4 tonnes per day of EV batteries.</p>
<p>Storage of hazardous waste</p>	<p>R13: storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it was produced)</p> <p>D15 Storage pending any of the operations numbered D1 to D14. Storage of electrolyte and any other residual wastes for disposal.</p>
Directly Associated Activities	
<p>Storage of wastes generated on site</p>	<p>R13: storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it was produced)</p> <p>D15 Storage pending any of the operations numbered D1 to D14. Storage of electrolyte and any other residual wastes for disposal.</p>

3 SITE MANAGEMENT

- 3.1 The site will be operated in accordance with an EMS. The EMS includes procedure to ensure compliance with relevant legislation and the conditions of the Environmental Permit as well as seeking continuous improvement in environmental matters.
- 3.2 Written procedures will be provided for all aspects of site operations. These will include procedures for pre-acceptance and waste acceptance checks, rejection of waste, waste handling, waste treatment and waste dispatch. The procedures will ensure that activities are carried out in a manner which will secure legal compliance and protect the environment.
- 3.3 Site operations will be audited internally on an annual basis. This will confirm compliance with the written procedures. Audits will allow for a review of progress and the setting of targets for continuing improvement over the coming year.
- 3.4 Environmental issues will be a factor in the purchasing of equipment and any infrastructure improvements. Where possible equipment offering better energy efficiency and lower emissions will be selected, in line with EMR's overall ISO14001 accreditation.
- 3.5 A record will be kept of the skills necessary for each role. Training needs will be assessed on an annual basis. As well as having a Technically Competent Manager (TCM) present on site, all staff will be trained with regards to the Environmental Permit and Environmental Management System ensuring that they have an understanding commensurate with their post. Attendance on site by the TCM will be in line with the Environment Agency's guidance.
- 3.6 An induction will be provided for contractors and visitors on site. This will cover health and safety and environmental issues on site, ensuring that they are aware of site-specific requirements and are able to carry out their duties without harm to the environment.
- 3.7 A preventative maintenance programme will be in place with all site infrastructure and equipment inspected on a regular basis and serviced in accordance with the manufacturer's recommendations. Records will be kept of all inspections and any necessary repairs or maintenance will be noted, with timescales for these to be carried out.

4 PERMITTED WASTES

4.1.1 A list of EWC codes for acceptable wastes is provided in Table 4:1 below. These wastes include those currently accepted at the Duddeston Mill recovery site with the addition of waste EV batteries.

Table 4.1: Permitted Waste Types	
06	WASTES FROM THE MFSU OF SALTS AND THEIR SOLUTIONS AND METALLIC OXIDES
06 03	06 Wastes from Inorganic Chemical Processes
06 03 13*	Solid salts and solutions containing heavy metals
06 03 14	Solid salts and solutions other than those mentioned in 16 03 11 and 16 03 12
06 03 15*	Metallic oxides containing heavy metals
06 03 16	Metallic oxides other than those mentioned in 06 03 15
12	WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTIC
12 01	Wastes from shaping and physical and mechanical surface treatment of metals and plastics
12 01 01	Ferrous metal filings and turnings
12 01 03	Non-ferrous metal filings and turnings
12 01 05	Plastics shavings and turnings
12 01 15	Machining sludges other than those mentioned in 12 01 14
12 01 17	Waste blasting material other than those mentioned in 12 01 16
15	WASTE PACKAGING, ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	Packaging (including separately collected municipal packaging waste)
15 01 04	Metallic packaging
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01	End of life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance
16 01 04*	End of life vehicles
16 01 17	Ferrous metal
16 01 18	Non-ferrous metal
16 01 19	Plastic
16 01 20	glass
16 01 22	Components not otherwise specified
16 02	Wastes from electrical and electronic equipment
16 02 16	Components removed from discarded equipment other than those mentioned in 16 02 15
16 03	Off-specification batches and unused products
16 03 03*	inorganic wastes containing hazardous substances
16 03 04	Inorganic wastes other than those mentioned in 16 03 03
16 06	Batteries and accumulators
16 06 05	Other batteries and accumulators
16 06 06*	Separately collected electrolyte from batteries and accumulators
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 02	Wood Glass and Plastic

Table 4.1: Permitted Waste Types	
17 02 02	Glass
17 02 03	Plastic
17 04	Metals (including their alloys)
17 04 01	Copper, bronze, brass
17 04 02	Aluminium
17 04 03	Lead
17 04 04	Zinc
17 04 05	Iron and steel
17 04 06	Tin
17 04 07	Mixed metals
17 04 10*	Cables containing oil, coal tar and other hazardous substances
17 04 11	Cables other than those mentioned in 17 04 10
17 09	Other construction and demolition waste
17 09 04	mixed construction and demolition wastes, other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 01	Wastes from incineration and pyrolysis of waste
19 01 02	Ferrous materials removed from bottom ash
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 10	Wastes from shredding of metal-containing wastes
19 10 01	Iron and steel waste
19 10 02	Non-ferrous waste
19 10 03 *	fluff-light fraction and dust containing hazardous substances
19 10 04	Fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 05*	other fractions containing hazardous substances
19 10 06	Other fractions other than those mentioned 19 10 05
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specialised
19 12 02	Ferrous metal
19 12 03	Non-ferrous metal
19 12 04	Plastic and rubber
19 12 11*	Other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	Separately collected fractions (except 15 01)
20 01 02	Glass
20 01 34	Batteries and accumulators other than those mentioned in 20 01 33
20 01 36	Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 39	Plastics
20 01 40	Metals

5 WASTE ACCEPTANCE PROCEDURES

5.1 Pre-Acceptance

5.1.1 Only waste included in Table 4.1 will be accepted for at the site.

5.1.2 Prior to the acceptance of any waste for processing at the facility, the following requirements are to be met. The waste producer or holder should confirm:

- a description of the waste, including EWC code;
- details of the waste producer and waste carriers,
- the process producing the waste;
- waste quantities; and
- any hazardous properties or special handling requirements.

5.1.3 Where a vehicle battery may contain persistent organic pollutants (POPs) this will be identified during pre-acceptance checks and these batteries will be segregated and treated together.

5.1.4 Pre-acceptance documentation will be maintained in the site office. When a load of waste is delivered to the site, this pre-acceptance documentation can then be cross-referenced against the details given on the relevant waste transfer notes/season tickets accompanying the waste and the contents of the load. Hazardous waste consignment notes will be required for all hazardous waste.

5.1.5 On arrival at the site the waste will be weighed in and will be subject to visual inspection. Waste arriving on site is weighed on pallet scales. A weighbridge is used for inbound and outbound materials related to the battery shredding facility in unit 4. The waste will be checked against the details in the waste transfer note, the pre-acceptance form and the environmental permit. All transfer notes will be completed in accordance with the Waste (England and Wales) Regulations 2011 and will be kept for a minimum of two years in either paper or electronic form.

5.2 Acceptance

5.2.1 Waste material and EV batteries will be delivered to the site by a registered Waste Carrier. Deliveries will be accompanied by a 'Waste Transfer Note' in accordance with the legal requirements of the Duty of Care for waste (non-hazardous waste).

5.2.2 Where hazardous waste is accepted this will be accompanied by a hazardous waste consignment note.

- 5.2.3 Waste will not be accepted if it contains waste out of the waste types permitted, or for any reason there is insufficient storage capacity available or if the site is inadequately manned.
- 5.2.4 The load will be visually inspected by a trained member of staff, to make sure that it is in line with permit conditions and pre-acceptance paperwork. Batteries will be inspected and any damaged batteries will be placed in the battery quarantine container which is fully contained with blast panels, integral bunding, gas filtration and a foam fire suppression system.
- 5.2.5 Where waste is not in compliance the load will be rejected and will be returned to the waste producer where possible. Where this is not possible the waste will be directed to the quarantine area and arrangements will be made for it to be removed to a permitted site as soon as possible.
- 5.2.6 The quarantine area is 50% the size of the largest waste stockpile. It is located externally, west of the building.
- 5.2.7 Records will be kept for each load arriving on site including details of:
- date of delivery;
 - the waste producer;
 - quantity of waste;
 - waste type;
 - pertinent details regarding the waste appearance (smell, colour and physical form);
 - six figure code according to the European Waste Catalogue; and
 - waste carrier name, address and registration number.
- 5.2.8 All pre-acceptance and acceptance documentation will be made available for inspection by authorised officers of the Environment Agency on request.

6 WASTE STORAGE AND PROCESSING

6.1 General

6.1.1 The site is intended to be used for the recycling of non-hazardous waste and EV batteries along with small quantities of hazardous waste. EV battery manual dismantling operations will be undertaken within units 2 and 3 of the Site. Shredding and separation of battery modules will be conducted in a separate unit (unit 4). The research and development facility will operate within units 5-10. Waste will be shredded and/or sorted so that recyclate can be sent offsite for further processing. EV batteries will be disassembled and shredded onsite to separate black mass and other recyclable materials. These will be exported-offsite for recovery operations.

6.2 Waste Reception

6.2.1 Deliveries of waste will be unloaded within the yard area. During unloading site staff will assess the quality of receipted material in line with the Waste Acceptance Criteria. The waste will be immediately transferred into the appropriate building for storage and treatment.

6.2.2 All waste will be stored inside the buildings on impermeable pavement. Fine materials will be stored in suitable containers. Liquids will be stored in bunded containers.

6.2.3 Batteries will be inspected for damage and damaged batteries will be prioritised for treatment to avoid leaks or fire risk in storage. Any damaged batteries will be placed in the battery quarantine container. All batteries will be stored in purpose built containers with blast walls and integral bunding. Just before treatment they will be moved inside the building to prevent them coming into contact with water and so that they are in the shade and not exposed to high temperatures. Batteries will be stacked in boxes so as to avoid damage.

6.2.4 Site staff will remove any non-conforming waste. These will be placed in the designated quarantine area onsite or, where possible, loaded back into the delivery vehicle.

6.2.5 All hazardous waste (other than vehicles) will be stored in appropriate containers in a designated storage area separate from other wastes in units 8 and 9. Dusty or liquid wastes will be stored in sealed containers with the lids closed.

6.2.6 The quarantine area provides storage for items that may need to be returned or require special control measures, such as non-compliant wastes or wastes that are

on/at risk of catching fire. The quarantine area is shown on drawing LANBL2023/03/23.

6.3 Processing EV Batteries

6.3.1 EV batteries will be stored and disassembled inside the manual dismantling building (unit 2 and 3). Metal or plastic casing and any cabling will be bulked together for recycling. If there is a cooling system the coolant will be drained and placed in an appropriate container pending disposal.

6.3.1 The battery modules will be transferred to unit 4 for treatment. Here the battery modules are shredded at a rate of 250kg/hour. The shredding operation is an enclosed process with nitrogen inerting, to reduce fire risk. Drying and initial screening (described below) take place in the same enclosed unit.

6.3.2 Once shredded the output undergoes heating (at temperatures $\sim 100^{\circ}\text{C}$) under vacuum conditions. The heating drives off electrolyte which is an organic solvent. Electrolyte will be collected in a condenser and stored within a suitable container within a bund before being sent for hazardous waste disposal.

6.3.3 All storage of electrolyte will be in lidded containers with the lids kept closed to minimise fugitive emissions of VOCs.

6.3.4 From the condenser the air is routed via a wet scrubber and carbon filter to remove any remaining particulate or solvent before being discharged to atmosphere.

6.3.5 The remaining material is screened. With the finer material constituting the black mass portion, being collected and sold to third party recovery/reprocessing. Black mass is collected via a sealed chute into a container and the containers will be sealed before being placed in storage inside the building.

6.3.6 The coarser materials are collected and treated via air sifting and a ball mill to separate steel, aluminium, copper and mixed plastics to be sent off site for recycling. Air extraction from these activities will be directed to the wet scrubber.

6.3.7 The delivery driver for the outgoing recyclate or liquid waste for disposal will be issued with the necessary paperwork inclusive of waste transfer documentation and full material specification. Hazardous waste consignment notes will be issued for movements of electrolyte.

6.4 Processing Research Facility

6.4.1 Materials brought into the research facility will be subject to pre-arranged trials. For each trial a written procedure will be prepared setting out the waste to be treated,

the treatment process, any environmental considerations and the expected outputs.

- 6.4.2 The research facility includes small scale shredding and granulating equipment and a ball mill for size reduction.
- 6.4.3 Waste can also be sorted in one of a multitude of possible techniques available on site. Waste can be screened to separate waste by particle size, sorted by density via an air separator, sorted by density via a water table, or sorted using an optical sorter to sort by colour.
- 6.4.1 Sorted waste may be dried on drying tables, where needed, before being stored. All processed wastes will be stored in bulk bags on impermeable pavement, to prevent cross contamination from differing waste streams.
- 6.4.2 Screening, shredding and granulation equipment is enclosed and provided with local air extraction directly above the unit to direct all emissions to air via the bag filter.
- 6.4.3 A site layout plan is provided as drawing reference LANBL2023/03/23.

7 OPERATIONAL CONTROLS TO PROVIDE ENVIRONMENTAL PROTECTION

7.1 General

- 7.1.1 The site has been designed to provide environmental protection for land, water and air.
- 7.1.2 Potential hazards that could cause harm are subject to strict preventative or control measures to ensure that all risks are minimised.
- 7.1.3 Operations will be undertaken in a manner compliant with relevant guidance and the EMS, ensuring good housekeeping and minimising any potential impacts. Further commentary is provided in the Environmental Risk Assessment.

7.2 Air

- 7.2.1 Emissions to air could occur from the recovery of electrolytes. To mitigate this impact the emissions are recovered by a condenser so that the electrolyte can be collected in a liquid form. The remaining air is passed through a wet scrubber and activated carbon filter to recover any residual VOC, before venting outside.
- 7.2.2 The abatement plant will be designed to reduce total VOCs to $<15\text{mg}/\text{Nm}^3$ and CFCs to $<10\text{mg}/\text{Nm}^3$, in accordance with BAT-AELs.
- 7.2.3 The wet scrubber is part of the sealed unit for battery treatment and will be located inside the building on impermeable pavement. Liquor will be recirculated in the unit and where it needs to be refreshed it will be collected in a sealed drum and stored pending disposal off site.
- 7.2.4 Particulates may arise from shredding and screening operations. All such plant is equipped with local air extraction, directing contaminated air from the process via bag filters before emission to atmosphere. The bag filters have a manufacturer's guarantee to reduce emissions of particulate to less than $5\text{mg}/\text{m}^3$. This is in line with the BAT-AEL.

7.3 Odour

- 7.3.1 Wastes accepted at the site have a low odour potential and are not expected to cause any issues during receipt and storage. Site staff will remain cognisant of potential odour problems during the working day.
- 7.3.2 In the event that an odour problem is identified, or a complaint received, the Site Manager will be informed, and investigations will be undertaken in order to identify the source of the odour and provide any necessary mitigation.

7.4 Noise

- 7.4.1 All plant will be maintained in accordance with the manufacturer's recommendations and will be subject to regular servicing in order to minimise noise.
- 7.4.2 The site is located on an industrial estate surrounded by other industrial activities, with the closest residential receptor located 90 metres to the east on Adderley Road.
- 7.4.3 Treatment activities will be restricted to the working day and will not take place overnight. Waste treatment takes place inside buildings, which will provide a degree of noise attenuation.
- 7.4.4 If noise at the site is perceived to be an issue, a noise management plan will be produced and agreed with the local Environment Agency office, but it is not envisaged that this is required at this stage as the site is within an industrial area.

7.5 Fugitive Emissions of Particulates

- 7.5.1 Dust will be controlled using the following controls:
- dusty wastes will be received in appropriate containers and transferred directly into one of the site buildings;
 - all wastes will be stored and treated inside the site buildings with fine materials held in suitable containers;
 - active air extraction is provided over all shredding, granulating and screening operations. The air extraction systems of units 5-7 & 4 direct air via bag filters which will reduce the concentration of dust to less than 5mg/m³ before it is vented outside;
 - outgoing waste that may be dusty will be transported in suitable enclosed containers; and
 - hardstanding will be swept as necessary, keeping the site clean and tidy.
- 7.5.2 Daily inspections of the site will include an assessment of dust. Should there be any visible dust beyond the site boundary, the source will be investigated, and mitigation measures will be implemented.
- ## 7.6 Leaks and Spillages
- 7.6.1 All plant and equipment will be serviced and maintained in accordance with the manufacturer's recommendations, minimising the risk of spills from site plant and equipment.

- 7.6.2 All areas where waste will be received, treated or stored will be provided with impermeable concrete surfacing.
- 7.6.3 Any liquids stored on site as waste or for plant maintenance will be kept in appropriate lidded containers in bunds or drip trays.
- 7.6.4 The drainage system will be inspected regularly and maintained as required so that it remains fit for purpose. External areas drain to the foul sewerage system.
- 7.6.5 In the event of a spill, this will be cleared using suitable absorbent material. The waste absorbent will then be placed into a suitable bin or container awaiting removal from the site.
- 7.6.6 In the event of a fire, firewater will be contained via the use of temporary bunds and drain covers, to prevent runoff. Further detail is provided in the Fire Prevention Plan.
- 7.7 Litter Prevention**
- 7.7.1 The facility will accept permitted wastes for processing. Waste pre-acceptance and acceptance procedures will minimise the potential for litter forming materials to be present.
- 7.7.2 Light materials will be accepted in suitable containers to prevent them becoming windblown.
- 7.7.3 All waste storage (other than ELVs) and treatment takes place inside the buildings or sealed containers.
- 7.7.4 The site will be inspected by a trained member of staff daily. In the event that there is any litter around the site, this will be collected and placed in the appropriate container.
- 7.7.5 The control measures in place mean that litter will be controlled at source, preventing any significant emissions to the environment. It is unlikely that litter will be generated.

8 MONITORING AND RECORD KEEPING

- 8.1 The site will be inspected daily with staff carrying out a visual assessment around the site boundary to check for emissions of contaminated run-off and particulates.
- 8.2 Site inspections will include the condition of site infrastructure, including impermeable surfacing, tanks, pipework and secondary containment infrastructure.
- 8.3 Should any issues be noted these will be raised with site management and appropriate remedial action will be agreed. Details of the inspection and any remedial action will be recorded in the site diary.
- 8.4 The site diary will be made available to warranted officers of the Environment Agency on request.
- 8.5 Should any incident have the potential to cause significant emissions, the Environment Agency will be informed by telephone and remedial action will be agreed with the local environment officer.
- 8.6 Records will be kept on site, in either electronic or hard copy format, recording:
- pre-acceptance details for each waste stream;
 - waste transfer notes or consignment notes for incoming and outgoing wastes;
 - details of any rejected loads and any associated remedial action taken;
 - details of plant and infrastructure inspections, including any maintenance that is required; and
 - details of any complaints received and the action taken to resolve them.
- 8.7 Records will allow for tracking of wastes, showing when and how they were treated and their eventual fate.

9 SITE CLOSURE PLAN

- 9.1 A Site Closure Plan will be developed to ensure the site will be safely decommissioned without causing pollution or harm and the site is returned to a satisfactory state, that is, a similar condition to that which existed prior to permit issue.
- 9.2 All raw materials will be removed from site in an appropriate manner. Where possible these will be returned to the supplier, possibly under a sale or return agreement, otherwise they will be sent for reuse or recycling at a suitable permitted facility.
- 9.3 Where possible, all waste materials will be processed through the plant and removed from site for recovery. All remaining wastes will be removed from site and will be recycled or disposed of in accordance with the requirements of the Waste (England and Wales) Regulations 2011, or the relevant waste legislation at the time of decommissioning.
- 9.4 All process plant will be emptied and, if necessary, cleaned prior to dismantling to minimise the potential for fugitive emissions.
- 9.5 The impermeable surfacing and sealed drainage will be maintained until all plant decommissioning to guard against spills or leaks during decommissioning.
- 9.6 Soils samples will be undertaken, if required, so that the condition of the site at decommissioning can be compared to that at commencement of the facility. However, inspection and maintenance of the concrete surfacing at the site will be the main mechanism for ensuring no pollution occurs and where records show high standards of containment throughout the life of the site sampling may not be necessary.
- 9.7 The methodology used to decommission process plant, and other structures will minimise the impact of:
- noise;
 - odour; and
 - disturbance to the environment.
- 9.8 Protection of the environment will be a priority and no risk to air, land, water or human health will be experienced during closure and decommissioning of the site, which will be subject to the Environmental Management System requirements.

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