



**European Metal Recycling Ltd. (EMR)**

**Dust & Emissions Management Plan  
(DEMP)**

**EMR Brentford (Non Ferrous)**

Transport Avenue  
Brentford  
Middlesex, TW8 9HF  
Permit No: EPR/KP3625ST

**VERSION NUMBER: V3**

**DATE: 03 MAY 2023**

# Issue and Revision Record

Revision	Date	Originator	Checker	Company Approver	Description of Changes
DEMP V1	08/02/2022	Nick White	David Pocklington	Nick White	N/A
DEMP V2	04/03/2022	Nick White	Adam Khoo	Nick White	N/A
DEMP V3	03/05/2023	Nick White	Matt Bumpus	Nick White	N/A

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## **1. Introduction**

A Dust and Emissions Management Plan (DEMP formally DMP) has been produced for the EMR Brentford non-ferrous site at Transport Avenue, Brentford, Middlesex. TW8 9HF (grid reference: TQ16421 78259). This document will form part of the Environmental Management Plan or EMP (formerly Working Plan) for the site, which in turn forms part of the site's wider environmental management system (EMS).

### ***Purpose and Scope***

EMR Ltd recognise that the Brentford site's operations can generate dust, when combined with local emissions from nearby busy roads plus other neighbouring industrial facilities the site has a potential to impact on the environment, and local amenity.

This Dust and Emissions Management Plan (DEMP) is intended to produce a reproducible and consistent approach to dust management at the facility, with the aim of continually reducing the levels of fugitive and point source emissions and dusts generated by the site's activities. This DEMP describes the management initiatives that EMR have implemented to manage, reduce and mitigate against the generation of dust (and other emissions) from the EMR Brentford (non-ferrous) facility.

Specifically the DEMP addresses the following:

- The process for the DEMP development and production
- Site based risk assessment
- The UK framework and dust/air quality targets and quality guidelines
- Measures and practices to minimise and reduce the generation of emissions and dust

### ***Background - Air Quality and Emissions***

Emissions of pollutants to the atmosphere occur from a range of sources. The sources from which emissions arise determine their chemical composition and this together with subsequent chemical reactions in the atmosphere, determines the potential to cause harm to human health and the environment. Certain pollutants can combine together synergistically to cause more harm to a receptor than the individual sum pollutants would (e.g. photochemical smog). In the West London area (Brentford), emissions sources primarily emanate from transport (road and rail traffic) and Industrial sources, along with a

smaller amounts from domestic and natural sources. The combination of emissions from fossil fuels burning in combustion engines (petrol and diesel) and emissions from industrial sources, may in combination (chemically), generate polluting gases such as nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs), hydrocarbons (HCs) 'soot', carbon monoxide (CO), ozone (O<sub>3</sub>), sulphur dioxide (SO<sub>2</sub>) and particulate dust (including PM<sub>10</sub> and PM<sub>2.5</sub>) with trace amounts of other pollutants (e.g. metals: Zn, Cd and Pb etc.). Certain organic pollutants can also combine synergistically (under certain weather conditions) with other pollutants such as ozone to produce additional, more harmful substances e.g. per-oxyacetyl nitrate or PAN, present in photochemical smog (a lachrymatory substance causing eyes to water). Primary airborne pollutants generated by metal recycling facilities normally comprise of (largely) depositional, coarse (and visible) dust and grit, with much smaller concentrations of finer dusts such as PM<sub>10</sub> and PM<sub>2.5</sub> particulate in addition to vehicular transport pollutants such as NO<sub>x</sub>, CO and HCs generated by LGVs, mobile plant and other vehicles that may be present on site.

The main legislation which governs air quality in the UK is the Clean Air Act 1993 and the Air Quality Standards Regulations 2010. Part IV of the Environment Act 1995 requires that local authorities periodically review air quality within their individual areas. The Air Quality Strategy (AQS) for England, (AQS) contains national air quality standards and objectives established by the Government to protect human health (see Table 1 below).

The AQS set out the Government's strategy for the improvement of air quality in the UK. The standards are set at concentrations below which effects are unlikely to occur even in sensitive population groups, or risk to public health would be exceedingly small. Standards are based purely upon the scientific and medical evidence relating to the effects of a particular pollutant, as determined through the Government's Expert Panel on Air Quality Standards.

### ***Operations and activities.***

European Metal Recycling Ltd (EMR) Brentford operates a material resource recovery facility (metal processing and recycling facility) , which currently processes non-hazardous, non-ferrous scrap metal (e.g. copper and aluminium) and waste material from commercial but also from domestic (household) waste streams. The site currently sorts and segregates all

incoming non-ferrous metal material for recycling, or onward transfer to other EMR depots for further processing either further producing or as furnace ready product for smelting.

The activities conducted at EMR Brentford (non-ferrous) site includes:

- Waste (scrap) acceptance, processing and storage of non-ferrous metals (e.g. copper, aluminium, lead, brass,) by mechanical and manual sorting;
- Receipt and temporary storage of batteries.
- Receipt, sorting and storage of non-ferrous metal cables, including plastic coated cables.
- Receipt and storage of PVC plastic and aluminium window frames for bulking and dispatch.

The site currently operates under an S2 and T9 permit exemptions but an application for a bespoke permit (EPR/KP3625ST) has been submitted to the Environment Agency at the time of writing.

The EMR Brentford site is located within London Borough of Hounslow. The area where site is located is declared as an Air Quality Management Area (AQMA). The pollutants declared for this area are nitrogen dioxide NO<sub>2</sub> (annual mean) and particulate matter PM<sub>10</sub> (24-hour mean).

The site's recycling and recovery operations may contribute to dust and particulate matter levels within the site and potentially to the local environment if the site is not operated to the company's defined processes and procedures.

In order to reduce the emissions of dust and particulates dust abatement equipment and practices are in place. The mitigation measures for preventing or reducing dust emissions have evolved over time as the business has developed. These include the fact that most of the site's operations are conducted within a large building, manual hoses are used for dampening material, a contracted road sweeper and manual cleaning/sweeping operations are utilised to prevent dust emissions (see relevant section for details).

This document has been created in order to conform with the requirements of the permit exemptions and the site's environmental management plan.

The purpose of this document is to ensure that potential for airborne dust and particulate matter generated on the site is minimised to its fullest extent and any possible nuisance caused to nearby receptors is kept to a minimum. Its aim is to ensure that any agreed dust and particulate emission strategy for operational working practices is implemented and controlled by site management.

This document forms part of the wider Environmental Management System (EMS). The site manager is responsible for ensuring compliance with its requirements.

### **1.1 Local Receptors**

The EMR Brentford site is located within the boundaries:

- To the south-west: Days Aggregate Recycling, a motorway (M4) and trunk road (A4).
- To the west: Cemex Concrete Batching
- To the west: London Concrete.
- To the west: Suez, West London Waste Authority. Brentford Transfer Station.
- To the west: EMR (ferrous) metal recycling processing depot.
- To the south: Centaurus Business Park.

The site is located in an industrial and commercial area to west London, at about 250 m from the motorway M4 and 30m south from a Nature and Heritage conservation wildlife site (London canals), the river Brent.

The location of the site and its relationship with the surrounding environment and sensitive receptors is shown in *Appendix D Sensitive Receptors Maps*. It presents the identified areas and places which may be considered to be sensitive receptors within 1 km of the site. They have been considered as sensitive due to increased risk of experiencing adverse effect of exposure to high levels of dust by their occupants.

The site is not in the impact consideration zone for a Specified Habitat Designation in the wider local area.

The site is situated within an area that is of a mainly industrial and commercial use. The site is surrounded by multiple potential airborne dust producers including two cement and aggregate plants, two waste transfer station companies 200m from the site and a ferrous metal recycling site (EMR) to the west of the site.

It should be noted that a variety of other industrial and commercial operations (smaller industrial and commercial units) and roads lie between the EMR (non-ferrous) site and the identified sensitive receptors. These activities (combined with vehicles accessing and egressing the sites) will also contribute to the generation of particulate matter and gaseous emissions, affecting local air quality.

*Table 1.1. Distances to Selected, Representative Sensitive Locations.*

Boundary	Closest property	Approximate distance to EMR Brentford site boundary (m)
N	River Brent	30 m
E	Boston Manor Park	300 m
SW	Supermarket	580 m
NE	Boston Manor Road (residential housing)	600 m
N	Boston Manor Train Station	650 m
S	BMI Syon Clinic	700 m
NE	Gunnersbury Catholic School	780 m
SW	Nishkam School West London	800 m
SE	Brentford Railway Station	1000 m

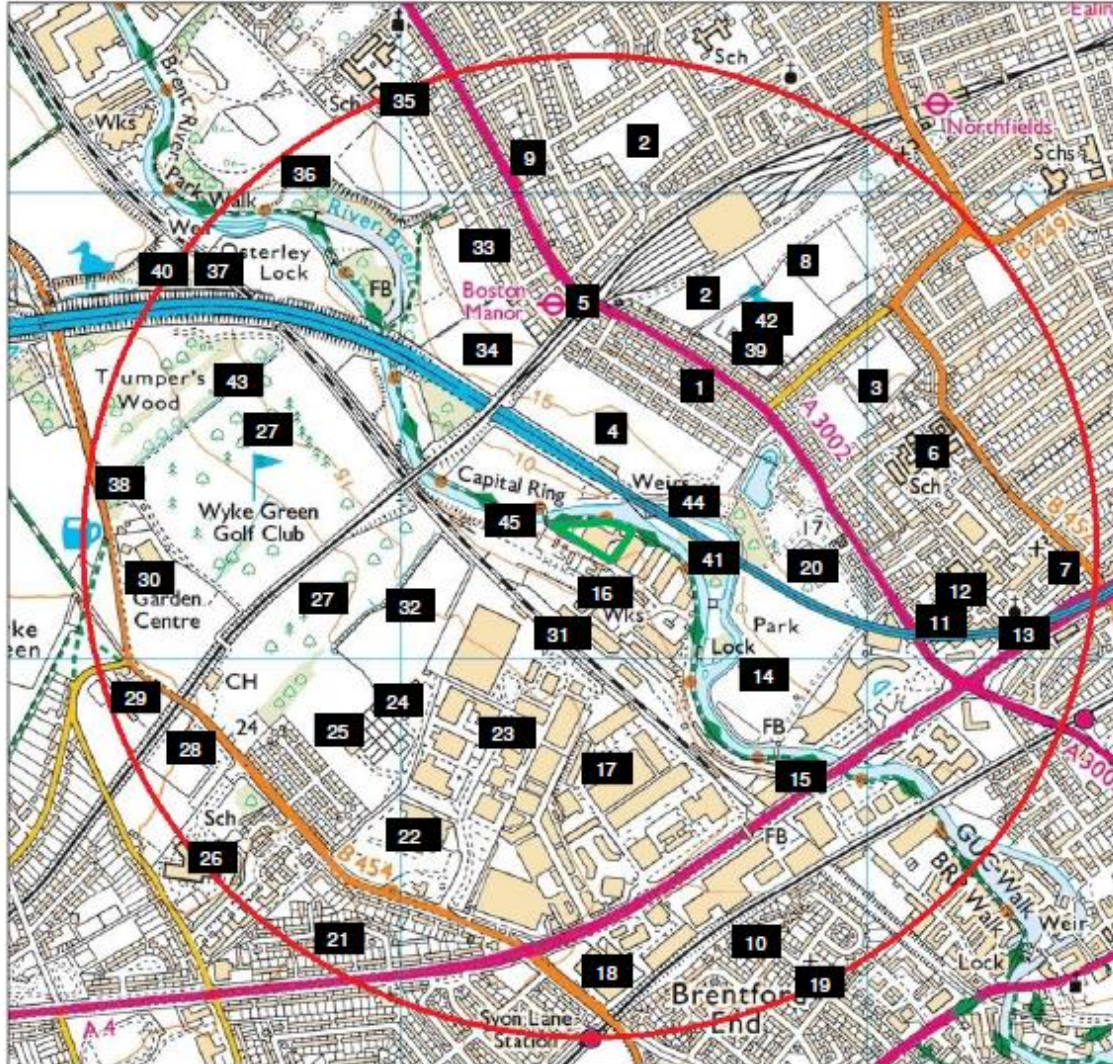
*Table 1.2. Sources of Dust and/or other Emissions.*





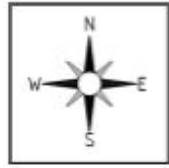
Company	Address	Type of Business	Distance from Brentford site boundary (m)
Day's Aggregate Recycling	Transport Avenue, TW8 9HF	Concrete / Aggregate	Immediate vicinity
Cemex Concrete Batching	Transport Avenue, TW8 9HF	Concrete / Aggregate	Immediate vicinity
Suez, West London	Transport Avenue,	Waste Recycling	Immediate



Waste Authority. Brentford Transfer Station	TW8 9HF		vicinity
London Concrete	Transport Avenue, TW8 9HQ	Concrete / Aggregate	<20 m
EMR (ferrous)	Transport Avenue, TW8 9HQ	Ferrous metal recycling	160m
M4	N/A	Busy motorway (frequent traffic and congestion)	250 m
Great West Road	A4	Busy road (frequent traffic and congestion)	580 m

**Figure 1. - Sensitive receptors and windrose**



<b>Client / Operator:</b> EMR Ltd
<b>Site Address:</b> EMR Brentford Non-ferrous yard, 4 Transport Ave, Brentford, TW8 9HF
<b>Job Title:</b> EMR Brentford Non-ferrous permit application
<b>Drawing Title:</b> Sensitive Receptors within 1km Plan
<b>Date:</b> March 2022
<b>Version:</b> Version 1
<b>Job Ref:</b> 129-001665
<b>National Grid Reference of the centre of the site:</b> TQ 16401 78264
<b>Key:</b>  Permit boundary  1km boundary  Identified receptors
<b>Scale:</b> 1:10 000 0 km  0.5 km


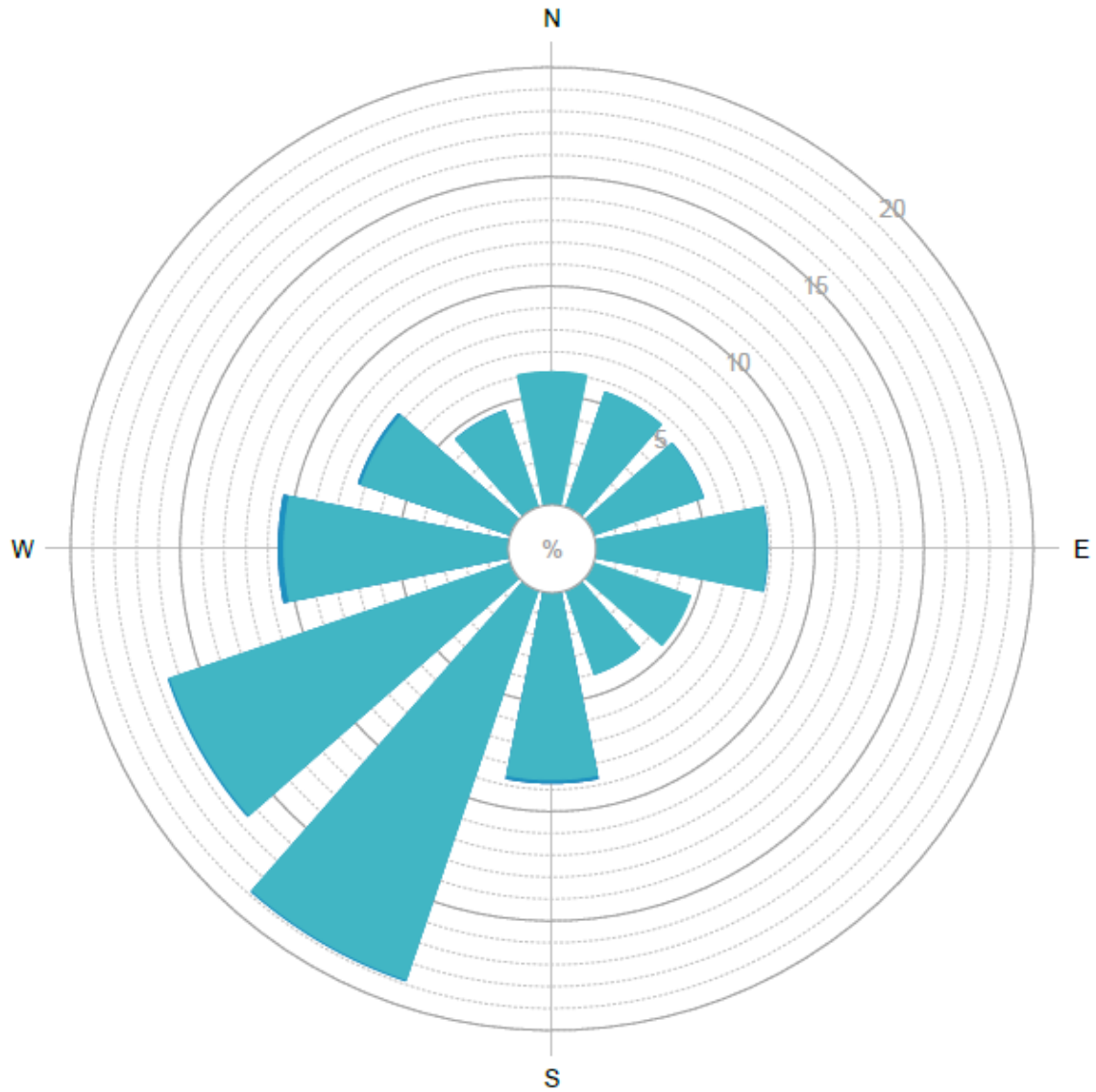




# HOURLY MEAN WIND ROSE FOR KEW GARDENS

NGR: 5185 E 1773 N  
SEASON: ANNUAL

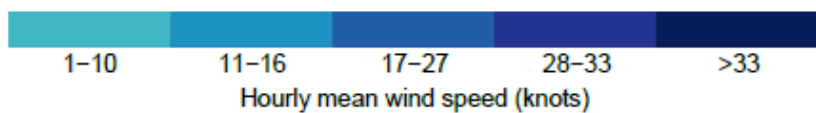
ALTITUDE: 6 metres AMSL  
Period of data: Jan 2009 – Dec 2018



83,162 OBSERVATIONS

0.9% CALM

0.0% VARIABLE



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## **2. Operations at Brentford**

### **2.1 Waste Deliveries to Brentford (Non-ferrous)**

Waste materials delivered to the EMR Brentford site for processing typically comprises mainly non-ferrous metals such as aluminium plate and copper cables and other associated mixed non-ferrous metal materials (including lead acid batteries), sourced from local authority civic amenity sites, auto breakers, merchants, factories or inter-group depots. EMR has a very good understanding of these materials, with 85% of scrap metal materials received from regular, longstanding customers or inter-group depots. Ferrous metal materials (apart from stainless steel) is not accepted at this site but diverted to Brentford (Ferrous).

All incoming waste (scrap) material strictly follows the EMR Waste Acceptance, Inspection and Rejection Environmental Protection Procedures (EPPs), listed and attached in the Appendix to this document. All incoming scrap metal loads are weighed in on the weighbridge, and in accordance with the Scrap Metal Dealers Act 2013, driver ID is checked. A visual check of the material, aided by CCTV, is carried out whilst the vehicle is still on the weighbridge. Where duty of care paperwork (waste transfer notes) or hazardous waste consignment notes are provided with the load (including EMR's own vehicles collecting from a customer's premises), EMR ensures the description on the paperwork matches the visual appearance of the material before booking in the load. The vehicle is then directed to the appropriate tipping area, and a trained member of EMR staff inspects the load as it is tipped.

If the load has been identified as having a potentially significant quantity of dust or risk of dust being generated (e.g. load containing dust generating materials such as plaster-board or soil contamination etc.), the load shall be rejected or if contamination is small enough it will be accepted (and customer 'knocked' i.e. fined for the disposal of the non-conforming material); the material shall also be dampened down with water spray hoses before being allowed to tip. Once completed, the vehicle is weighed on the out-going weighbridge and a two-part Weighbridge Ticket/Waste Transfer Note is raised. One part is taken by the driver of the vehicle and the other remains on site.

The quality of materials (in addition to environmental compliance) is a key aspect in generating requisite product to meet customer requirements (and following required treatment processes) to obtain optimum prices for a product; this quality requirement can

therefore be described as an additional 'driver' to reduce contamination in loads (facilitated by the implementation of a Quality Management System – ISO 09001).

*[See Appendix for relevant list of Environmental Protection Procedures].*

## **2.2 Overview of Waste Processing, Dust, and Emission Controls**

The site's coverage area is approximately 11,420 m<sup>2</sup>. The site layout is present in the appended site plan (please refer to *Appendices Brentford Site Plan*). The height of the boundary walls is minimum 2 metres (it consists of steel structure with timber modular panel fencing and both concrete fencing and metal fencing at the back of the yard). The fencing are higher at the northern side of the yard. The maximum height of combustible stockpiles stored in the open will not exceed 4 metres.

The permit is planned to authorise a non-ferrous metal recycling facility, to include the operation of a baler and shear. The processes on site mainly comprise the processing (shearing & baling), segregation and storage of non-ferrous metal wastes, for example sorting, baling, stripping, cutting, shearing, dismantling, separation, breaking and which mainly includes the different grades of the metals: aluminium, copper, brass, lead, zinc and stainless steel. This also includes plastic insulated copper cables (and will include POPs containing plastic cables) but excludes ferrous metals (apart from stainless steels).

The site also accepts lead acid battery wastes (either individual batteries or in bulk) from both trade customers and householders. These batteries are sorted, segregated and stored in battery bins prior to transfer to an approved and permitted battery treatment and recycling facility. No treatment of batteries will take place.

Due to the recent regulatory focus on the composition of cables, both from WEEE (Waste Electrical and Electronic Equipment) and non-WEEE sources, and their potential to contain Persistent Organic Pollutants (POPs) and other hazardous substances, the permit will also enable the acceptance, sorting segregating and storage of hazardous (POPs containing) plastic insulated copper cables prior to transfer to a permitted treatment site. The yard is kept clean (use of contracted sweeper) and the concrete only contributes a minimal amount of dust. The yard also has its own internal drainage system and underground interceptor tank for collecting surface rainwater run-off.

The site's infrastructure of a concrete impermeable surface, high boundary walls, dust suppression system (20,000L water tank and manual hoses) and road sweeper, all contribute to dust mitigation on site.

Additionally a contracted sweeper, cleans the whole site twice per week (frequency is dependent on weather conditions, and is increased during warm and dry periods).

### ***Management Controls***

'SMART' (operational) Practices will be used at all times by operators of mobile plant (those applicable to dust control). SMART practices will include:

- Ensuring waste acceptance / rejection procedures are strictly adhered to, to ensure loads containing excessive dust or dust producing materials is minimised.
- Take care in the movement and loading of scrap / material containing dust, debris or dust producing materials (e.g. soils).
- Speed limits are strictly kept below 5mph
- Idling of stationary vehicles and lorries (exhaust fumes) is discouraged; displayed signs: 'No Idling' are posted at certain locations.
- Steel girders to scrape the ground (with grab cranes) are prohibited, using wire or rubber conveyors instead (reducing the generation of dust and noise).
- Better positioning of the material handlers to reduce handling distances (and avoid double handling of metal and potentially further generation of dust).
- Minimise drop heights (when releasing scrap metal from grabs); ensure that drop heights are within a maximum of 2 metres (i.e. scrap must not be dropped greater than this height), reducing the generation of dust (and noise).
- Position grab crane correctly so that distance material travels will be minimised, reducing the production of airborne dust (swinging of grab is sometimes inevitable in managing heaps effectively).
- Lorries to be parked as close to specific material stockpile as safely possible to be loaded efficiently and reducing double handling. If required to locations of material stockpiles will be moved to facilitate effective loading and unloading of vehicles, to reduce double handling.
- Ensure dust suppression is used, when scrap containing excessive amounts of dust or dust producing materials are moved / handled.

SMART working practices such as the above, will be reinforced / monitored on a daily basis by Site Management (as part of manager's / supervisor's daily walk round / site inspection) and recorded on the site log. Disciplinary measures may ultimately be taken if SMART practices are consistently not used.

### 2.3 Mobile Plant and Equipment.

Nitrogen Dioxide gas is a by-product of internal combustion engines and the site uses several items of mobile plant with internal combustion engines (diesel engines).

The mobile plant used on site consists of 4 cranes, 1 shovel, 1 forklift truck and a Shear.

The following table lists the type, mobile and emission ratings for the mobile plant and equipment used on site:

Description	Make	Emission rating
Mobile crane	Liebherr L934	Tier IV
Mobile crane	Liebherr L934	Tier IV
Shovel	Liebherr	Tier IIIB
Shear	Lefort 600	Fixed plant
Baler	Logemann	Fixed plant
Forklift truck x 5	Mitsubishi	Tier IIIB

The fuel used for mobile plant is gas oil class A2 (low sulphur) that meets the requirements of British Standard for Industrial Fuel Oils (BS2689).

The internal maintenance schedule is arranged by the purchasing department in line with manufactures specification and relevant regulations (e.g. LOLER for cranes) which comprises daily pre-use inspections of all plants and scheduled Allianz (insurance) engineering inspections of relevant assets and plant.

The priority system is used for any defects and necessary repairs (high, medium and low) based on what is entered on to the Action log in turn based on daily pre-use check sheets and scheduled Allianz inspections of all mobile plant. If the equipment needs to be replaced, then this is arranged with the servicing company/manufacturers of the equipment, e.g. Liebherr after sales maintenance service department.

To reduce the emissions and remove harmful pollutants (nitrogen oxides in particular) EMR transport fleet uses a propriety solution i.e. Ad Blue.



## **2.4 Training**

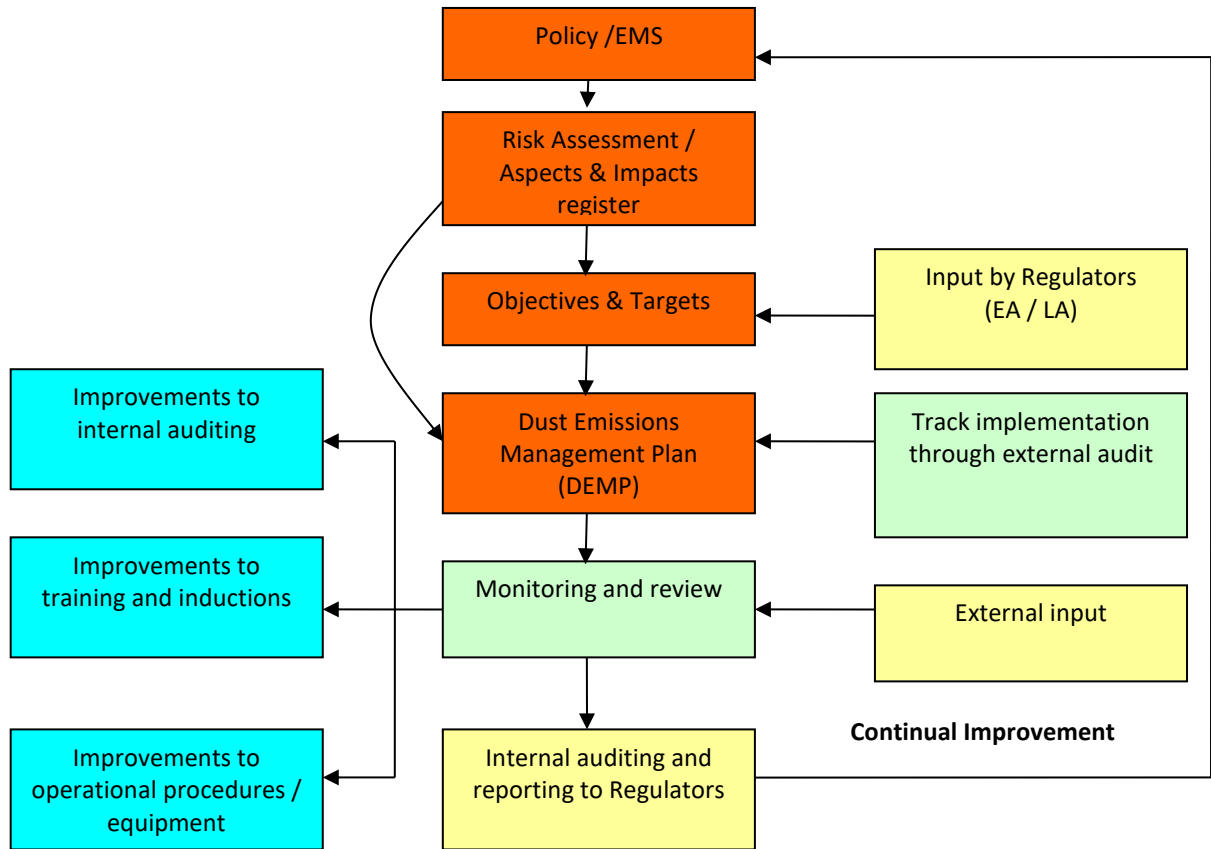
The depot manager and the relevant operational staff will be made fully aware of the requirements of the DEMP and will be trained by the depot SHE Specialist in its use.

EMR also uses its in house Learning and Development (L&D) for most of its formal training needs, including SHE (Safety, health & Environmental) training at all levels (up to NVQ 5/6 level). EMR L&D's portfolio includes apprenticeship training, functional skills, nationally accredited training programmes and short courses which can support continuous professional development but also ensures compliance with the appropriate regulators. Prior to producing any training from an EMR department / function, they will work with the department / depot to develop a training package that supports and enhances short and long-term strategic aims.

### **3. Dust and Particulate (PM<sub>10</sub>) Environmental Management Systems**

An electronic SHE (Safety, Health & Environmental) integrated management system (IMS) is currently employed by all EMR depots. An electronic system (Evotix Assure) incorporates the recording, reporting of Event logs and Action logs for any SHE related incidents or issues and supports the company's IMS / EMS.

The Dust Emissions Management Plan (DEMP) forms part of the site (and company's) Environmental Management System, a risk assessment and aspects and impacts register will inform the objectives and targets for the EMS and including the DEMP.



**KEY**

Planning	
Checking	
Consultation	
Implementation	

As part of the EMR ISO/IMS roll out across the UK, an accredited Environmental Management System or EMS (ISO14001), which will also include the HSMS and QMS ISO45001 and ISO9001 respectively has been implemented at the Brentford non-ferrous site, accredited by LRQA (Lloyds Register).

### **3.1 Responsibility for Implementation of the DEMP**

The EMR Brentford Site Manager is responsible for:

- The day-to-day delivery of the site's Dust and Particulate Emission Management Plan aims, objectives and requirements;
- Operational control of the site's dust/particulate control measures and infrastructure;
- Delivering operational staff training and awareness (including refresher training as required/deemed necessary);
- Maintenance of the site's dust control infrastructure;
- Recording and reporting of all dust emission incidents and complaints on the SHE Event logs.

The SHE Specialist (formerly Environmental Coordinator) is responsible for:

- Ensuring that the Dust & Particulate Emission Management Plan has been fully implemented at the site;
- Periodically reviewing the requirements of the Dust & Particulate Emission Monitoring Plan (in conjunction with the Site Manager) as deemed necessary;
- Ensuring provision of site training and continued awareness in conjunction with the Site Manager as deemed necessary, to prevent complacency at the workplace or when the processes or emission levels change. This is a continuous process with regular 'Huddles', Tool Box Talks etc.
- Reviewing and tracking actions associated with any dust/particulate-related complaints or non-compliance on the Event log.

In the event of the absence of site manager, the member of the site management team and site foreman are responsible for fulfilling the Dust management Plan requirement with the support of the SHE specialist.

### **3.2 Sources and Control of Fugitive Dust/Particulate Emissions**

Potential dust emissions from the site might be generated from activities associated with:

- Vehicles movements and exhaust emissions in/out of the site;
- Waste loading, tipping, handling and movement operations in the open (external to main building);
- Wind blowing across stockpiles materials.

(Further details provided later in document).

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud/debris	Tracking dust on wheels and vehicles; Mud/debris dropping of the wheels/vehicles;	As per <i>Appendix Sensitive Receptors Map</i>	Visual soiling; Consequent resuspension as airborne particulates;	<ul style="list-style-type: none"> <li>• Most of the site's operations (60%) takes place within the main building.</li> <li>• Manual sweeping the surface;</li> <li>• Use of a road sweeper on a frequent basis to clean the yard surface and the surroundings;</li> <li>• Use of manual hoses to dampen surfaces as deemed necessary;</li> <li>• Use of netting/cover on the lorries to prevent waste from escaping.</li> </ul>
Vehicle exhaust	Atmospheric dispersion;	As per <i>Appendix Sensitive Receptors Map</i>	Airborne particulates;	<ul style="list-style-type: none"> <li>• Speed limit on site (5 mph);</li> <li>• Use of fuel (low-sulphur);</li> <li>• No idling: Turning the engines off when not in use and not leaving them running unnecessarily while on site (vehicles and mobile plant).</li> </ul>
Waste handling – loading, tipping and movement operation in the open	Atmospheric dispersion;	As per <i>Appendix Sensitive Receptors Map</i>	Visual soiling; Airborne particulates;	<ul style="list-style-type: none"> <li>• Environmental Protection Procedures (EPPs) and Safe Working Procedures (SWPs) for lorry drivers, crane operators and other mobile plant users.</li> <li>• Use of SMART practices e.g. – minimise source strength by means of low</li> </ul>

				<p>drop heights (placing material on stockpiles);</p> <ul style="list-style-type: none"> <li>• Weather conditions consideration (cease operations in high speed winds);</li> <li>• Material dampen down with hoses before tipping dusty loads;</li> <li>• Use of hoses to keep the particulates down when handling;</li> <li>• Stockpiles height restrictions.</li> </ul>
Plant sorting/treating waste – shear,	Atmospheric dispersion;	As per <i>Appendix Sensitive Receptors Map</i>	Airborne particulates;	<ul style="list-style-type: none"> <li>• Material dampen down when necessary before entering the shear;</li> <li>• Working procedures for crane operators – minimise source strength by means of low drop heights;</li> <li>• Use of water hoses to keep the particulates down when handling materials</li> </ul>
Wind blowing across the stockpiles	Atmospheric dispersion;	As per <i>Appendix Sensitive Receptors Map</i>	Airborne particulates;	<ul style="list-style-type: none"> <li>• Stockpiles height restrictions;</li> <li>• Profiling of stockpiles from wind whipping;</li> <li>• Damping down the material with hoses</li> </ul>

Abatement measure	Description/effect	Trigger for implementation
Impermeable concrete surface	Creating an easy to clean surface; Reducing the amount of dust and particulate generated at ground level by vehicles and activities;	N/A
Good housekeeping	Reducing the dispersion of dust and particulates; Managing larger debris, dust and particulates; Contracted sweeper Formal & Tool Box Talk training provided.	Regular housekeeping regime;
Manual sweeping the surface	Managing larger debris, dust and particulates;	Regular housekeeping regime; As deemed necessary
Use of a road sweeper regularly to clean the yard surface and the surroundings	Managing larger debris, dust and particulates;	Regular housekeeping regime (daily);
Use of dust bosses/manual hoses to dampen surfaces as deemed necessary	Reducing re-suspension of particulates by vehicle wheels; Dampening down large areas of the site; Managing larger debris, dust and particulates;	As deemed necessary (visual dust monitoring); Alert from the dust monitor
Material dampen down with water suppression system before tipping	Reducing the dispersion of dust and particulates using hoses.	As deemed necessary (visual dust monitoring); Alert from the dust monitor
Use of water hoses to keep the particulates down when handling	Reducing the dispersion of dust and particulates;	As deemed necessary (visual dust monitoring); Alert from the dust monitor

Vehicles' maintenance – wheels washing/cleaning	Removing dirt, dust and particulates from the lower parts of vehicles; Reducing re-suspension of particulates by vehicle wheels;	As deemed necessary; Regular cleaning regime for equipment;
Speed limit (5 mph)	Reducing vehicle movements and idling; Reducing re-suspension of particulates by vehicle wheels;	Enforced at all times;
Use of fuel (low-sulphur)	Minimising vehicles exhaust emissions;	Used at all times;
Turning the engines off when not in use and not leaving them running unnecessarily while on site (vehicles and mobile plant)	Reducing vehicles and mobile plant exhaust emissions;	Good practice and safe working procedure enforced at all times;
Working procedures for lorry drivers, crane operators – minimise source strength by means of low drop heights	Minimising the height at which waste is handled; Reducing the distance over which debris/dust/particulates could be blown and dispersed by winds;	Good practice and safe working procedure enforced at all times;
Sheeting of the vehicles	Prevent the escape of debris, dust and particulates;	Some of the lorries are fitted with covers/netting; In particular for transporting lighter fraction (e.g. trommel fines).
Weather conditions consideration (high speed winds)	Ceasing operations with dust generating material during high speed winds conditions; Reducing peak pollution events;	When the circumstances occur



Stockpiles height restrictions; Profiling of stockpiles from wind whipping	Reducing the distance over which debris/dust/particulates could be blown and dispersed by winds; Reducing the surface area over which particulates can be mobilised;	Good practice and safe working procedure enforced at all times;
Dust and particulate monitor with trigger alarm	Alerts when concentration is above set limit; Monitors environmental performance	Used at all times;
Most of site operations (<60%) takes place within large building (which occupies most of site).	Attempt to move any 'dust' generating operation within building	At all times
Non-ferrous metal only; the site only accepts non-ferrous metals which inherently contain far less dust and dust producing materials than ferrous metal wastes.	Reject ferrous metals or other waste materials; divert ferrous metal loads to separate EMR ferrous metal facility (also separately permitted), further down transport avenue.	At all times

### 3.3 Other Considerations

#### Water usage/availability:

The water based dust suppression system will comprise mostly of hoses connected to 10,000L water tank, which will be installed in 2022. About 55% of the site is external and much of the site operations occurs within the main building.

The site benefits from a fully enclosed drainage system (no runoff across site boundaries) and any surface water run-off will be discharged via interceptors to foul sewer. Water supplies and drainage capacity are sufficient to supply the demand of the dust mitigation measures.

In the event of a drought:

In the extreme event of a sustained drought, consideration will be to minimise the dust fugitive emissions using additional methods e.g. extra hoses, increased frequency of sweeper.

Depositional Dust:

Most dust generated by scrap metal yards normally comprises of mainly 'depositional dust' as opposed to finer, more airborne and respirable dusts such as PM<sub>10</sub> and PM<sub>2.5</sub>. Depositional dust fractions are typically associated with annoyance / nuisance and a potential degradation of local amenity. Depositional dust may be observable by the deposited residues or by the cloud of dust itself, which often settles again quite quickly once generated.

There are no statutory or official air quality criteria for depositional (deposited) dusts. This is the same at the UK, EU and WHO levels. Nevertheless in England and Wales a custom and practice limit of 200mg/m<sup>2</sup>/day is adopted (Source: Environment Agency document M17).

Depositional dust (heavier fraction > PM<sub>10</sub>) generated on the Brentford site from a number of operations activities, including:

- Tipping of scrap metal loads from LGVs (but this mostly applies to ferrous metal loads which are not permitted at the Brentford (non-ferrous) site).
- Loading of LGVs (aluminium) – by Material Handlers (grab cranes).
- Vehicle unloading and tipping: Movement and dropping of various (mainly) non-ferrous metals dislodges particles from the surface of metal fragments although more applicable to ferrous metals (e.g. iron oxides, rust) not accepted at this site.
- Vehicles moving around site: exhausts, accumulated waste (dirt).
- Moving, handling and storing non-ferrous metal materials (by mobile plant, materials handlers e.g. shovels, grab cranes); this includes dropping of scrap materials from material handlers.
- Stockpiles: Different grades of non-ferrous metals (differing proportion of accumulated dust).

- Ground / roads and concrete abrasion: movement of vehicles, tipping, movement, (movement of scrap metals abrading concrete paving.
- 'Sweeping' ground using wire brush moved by grab crane

These dust sources do not remain as separate entities but mix with other dusts (e.g. from concrete) and contribute to the general dust emissions produced in the local site environment.

From time to time and as required depositional dust will be monitored using gravimetric analyses such as the installation of 'frisbees' situated at suitable locations around the site, to support other dust monitoring in addition to airborne dust monitoring.

### **3.3 Enclosure of Waste Processing & Storage Areas.**

Much of the site operations (40%) are enclosed inside the main non-ferrous operations building, including movements and storage of non-ferrous metals, limited operations are undertaken outside.

Most of the external area is currently used for movement and turning of vehicles and storage of empty containers and rollonoff skips and this arrangement is planned to be continued, minimising any waste material handled, treated or stored externally). The only exception to this is the shearing of aluminium plate performed in a L600 Lefort shear but the aluminium waste material is inherently 'clean' (free of dust and other debris inherent in ferrous wastes) and does not produce dust on shearing. However, hoses connected to a 10,000L water tank are located nearby and can be used as dust suppression during dry periods.

### **3.4 Visual Dust Monitoring.**

Visual dust monitoring is a part of Site Manager's daily walk around as well as Site Foreman responsibility during the day to monitor the activities and operations, any observations are recorded in the site diary /log.

The monitoring locations have been considered to include the boundary walls and the stockpiles where there risk of fugitive emissions is present. If the site is to be observed

to create dust and/or cause nuisance and the source of emission is identified, it is Site Manager's responsibility to action and apply available control measures, e.g. water sprays, dampen down the yard surface to prevent the re-suspension of particulates or increasing the frequency of the sweeper operation. Any findings are recorded on the manager's site inspection forms and/or site diary.

If significant dust emissions are observed the site manager will inform the SHE specialist to raise an Event log and follow up with a review of practices onsite and any corrective actions agreed. Should there be a concern with regard to dust emissions on site, the monitoring results will be discussed at site meetings (Health and Safety and Environmental meeting) and the plan of action agreed.

If the dust complaint is received it is the Site Manager's responsibility to action or seek advice from the SHE specialist to carry out the investigation, provide the response and feedback (please refer to *Section 6* of this document for more details)

#### **4. Particulate Matter Monitoring.**

The site's environmental permit does not presently require the installation of a continuous dust monitor.

The site is surrounded by various companies that can generate dust (e.g. concrete, cement and aggregate companies), the installation of dust monitoring equipment would not give any useful information of the dust produced on site, due to the smaller footprint of the site and the presence of the other much larger and more dust producing companies in the vicinity. For this reason a visual monitoring regime and control process will be more effective and faster (see paragraph 3.4).

Following the Study of Ambient Air Quality conducted by the Environment Agency between February and June 2019, EMR commissioned Mayer Environmental Ltd (MEL) to carry out two sessions of dust monitoring in the Brentford (Ferrous) yard, located approximately at 160m north from Brentford non-Ferrous site at the end of Transport Avenue.

The formal monitoring periods were 26<sup>th</sup> April to 30<sup>th</sup> May and 13<sup>th</sup> June to 1<sup>st</sup> August 2019.

The **average PM10** over the monitoring period was **33.60**. There were 17 exceedances and these were mainly between Monday through to Thursday with the average wind direction at 175.66.

A compositional analysis for the dust was carried out using Scanning Electron Microscopy and visual characterisation methodology; in summary the analyses revealed the following results:

Concrete (CaFeAlSiO <sub>3</sub> /CaSiO <sub>3</sub> /MgAlSiO)	73 %
Quartz / silica	4 %
Limestone (CaCO <sub>3</sub> )	6 %
Glass (NaSiO)	3 %
Angular iron-based (ferrous)	4 %
Spherical fly-ash	1 %
Calcium sulphate	5 %
Sea salt (NaCl)	3 %
Iron-titanium-calcium	1 %
Soot - Light to medium covering of soot present as occasional discrete 0.1 – 0.3µm particles	

These results clearly demonstrate that the vast majority of the dust generated in the Transport Avenue area are due to dust emissions from the concrete, aggregate and cement facilities (e.g. London Concrete) in the vicinity and the remainder from the motorway and trunk road, M4 and A4 (plus other roads).

## 5. Reporting and Complaints Response.

### Immediate Response

Upon receipt of a dust complaint the Site Manager shall be immediately notified. The Site Manager will record the details of the complaint on a Dust Complaints Form and record on an Event log. The Site Manager will then carry out a site walkover and

inspection of the site activities to identify the source of dust, which caused the complaint.

In circumstances where the complaint is related to a previous period of working, the Site Manager shall meet with the Foreman and Staff to establish the activities carried out during the previous working period. The activity identified as the potential dust source will then be monitored by the Site Manager for a minimum period of 1 working day. The Manager will ensure that a review of dust suppression measures is carried out for any activity suspected of causing a dust complaint. Dust suppression measures will be adopted for any activity suspected as the cause of a dust complaint.

Where the site walkover by the Site Manager is able to identify the possible dust nuisance which caused the complaint, appropriate dust suppression measures are to be adopted including the use of water hoses, spray hoses or/and the road sweeper. The details of the dust source and the control measures adopted shall be recorded on the *Dust Complaints Form* and ASSURE Event log and feedback given to the complainant within 2 working days. The Environment Agency will also be informed if deemed necessary (e.g. severe or repeated episodes).

### **Recording and Reporting**

Any dust complaints received are logged and recorded on the Dust Complaints form; following this a ASSURE Event log (electronic SHE managements system) is raised, (the completed form is scanned and uploaded onto the relevant Event log). Items recorded will include information, which may be used as part of any investigation, to provide any feedback, inform any formal monitoring which may be required and also to provide data to show trends and facilitate any planned improvements.

All complaints are investigated by the Site Manager / SHE Specialist and recorded through EMR's internal (electronic) SHE management systems (Event log). Details of the complaints are recorded and an investigation is completed to ascertain any

immediate/root causes and actions that may be taken. All complaints are notified to the General Manager and the regional SHE Manager.

A request will be made to the Environment Agency that any complaints received (via the EA), that they ask the complainant to give a *descriptive* detail of the complaint (nature, colour etc.), in addition to the times and dates of the events, to facilitate identification and location of the source. All event data obtained (including times, dates and wind direction etc.) will be recorded in the Event log / complaint log.

On receiving a noise complaint EMR staff will inform the depot manager immediately (if the depot manager does not receive the complaint directly) and then:

1. If complaint is received directly from complainant, the depot manager will note in site diary /log, complete complaints form and entry in the Event log, inform SHE Specialist, investigate complaint, identify source, describe activity in TVM Event log, apply any mitigation measures identified and inform EA (local officer) by e mail or phone.
2. If complaint is received via the EA the depot manager will note in site diary/log, complete complaints form and complete entry in the Event log, inform SHE Specialist (who will raise an Event log), investigate complaint, identify source, describe activity in Event log and apply any relevant mitigation measures identified and inform EA officer by e mail the outcome / mitigation measures applied.

### **Complaints investigation**

As part of the investigation a dust assessment may be conducted as required to ascertain:

- What times did the dust event occur?
- At what locations around the area (of receptor) was dust identified?
- Material description of the dust (colour, fine / coarse, whether it leaves a stain)
- What activities may have resulted in dust event (e.g. vehicle loading, unloading, tipping)?
- Weather at time of event (wind direction, speed etc.)
- The type and number of plant or equipment being used at time of dust event?

Much of this information will be recorded / uploaded on the (Total Compliance Management) Event log as the investigation proceeds.

Investigations recorded on the SHE Managements system (as an Event log) will also facilitate assessment and monitoring of the data, trends etc.

### ***Control measures.***

If the complaint is substantiated then the processes can then be brought back into compliance and control e.g. SMART practices employed / re-employed / dust suppression measures increased or targeted etc.

The Environment Agency (local EA officer) will then be informed (by e mail) of any control measures / contingency plans that have been taken or need to be taken and the outcome (e.g. monitoring results, cessation of complaints, description of mitigation measures applied, review of DEMP etc.).

Formal quantitative dust monitoring will be organised from time to time if deemed necessary (e.g. due to dramatic increase in number of complaints or significant change in site activities, generating additional dust) and dependent on the right conditions – operational/weather/wind direction etc. This may entail the use of an approved



external consultant and the use of appropriate dust monitoring equipment as required.

### **5.1 Engagement with the Community.**

It is of a great importance to EMR to have positive relations with the neighbours and local community. The contact details are easily accessible (phone numbers or email address, website) and any issue/point raised is taken under consideration and response/feedback is provided. For example site representatives may if possible, participate in the local council community meetings, forums etc.

### **5.2 Reporting of Complaints.**

Following the receipt of a complaint about the dust nuisance the Site Managers shall investigate the issues raised and review controls onsite. The details of the dust source and the control measures adopted and feedback given to the complainant and Environment Agency if necessary.

In the event that numerous complaints are received the issue may escalate to a higher priority. If the source of nuisance can be identified at the time of the complaint the appropriate measures will be put in place to prevent reoccurrence of the nuisance (e.g. water suppression, cease activities). The abatement measures will then be reviewed in line with Dust Emissions Management Plan to prevent reoccurrence of dust nuisance.

### **5.3 Management Responsibilities.**

The Site Manager will be responsible for the management and control of dust at the site. Site management will ensure that all personnel operating on site are adequately trained to implement the dust control measures and that they are strictly adhered to.

If the control measures the control measures outlined in the DEMP are fully implemented at the site then dust generation will be kept to a minimum and any nuisance which may be caused to sensitive receptors will be avoided.

In the event that dust nuisance effects a nearby sensitive receptor or a complaint is received, an investigation and review of site activities will be carried out and appropriate actions raised by the responsible persons.

#### **5.4. Summary.**

The main aim of the Dust Emission Management Plan (DEMP) is to minimise and where practicable eliminate dust being generated on site but also to prevent any dust produced (on site or offsite) migrating across the site boundaries. It also aims to ensure potential nuisance caused directly to nearby sensitive receptors from dust migration is kept to an absolute minimum (the target will be zero)

The developed dust minimisation strategy (DEMP) will be implemented by the site management assisted by the SHE team, both of whom will ensure that all operations and activities onsite have fully taken into consideration with regard to the potential for dust generation (and expected levels) from the activity in question.

The DEMP will be periodically reviewed by the SHE (Safety, Health & Environmental) team in conjunction with operations (as site level and above) as required - at least annually or when the processes or emission levels changes (or following an incident, complaints etc.).

The material processing activities on site, although potentially significant with regards to dust emissions are deemed to be a lower risk at the Brentford site than compared to other metal processing facilities (e.g. ferrous metal shredder sites).

If the control measures as prescribed in this document are fully implemented at the site, it is considered that the risk of dust migrating the site boundaries and the subsequent nuisance to nearby receptors will be minimal.

## APPENDICES

### Appendix A – Environmental Protection Procedures (EPPs)

Reference	Title
<b>Waste Acceptance</b>	
EPP 1.1	The Duty of Care - Acceptance of incoming material
EPP 1.2	Inspection of Incoming Materials
EPP 1.3	Identification of Hazardous Waste
EPP 1.4	Completion of hazardous waste consignment notes
EPP 1.4a	Completion of special waste consignment notes
EPP 1.5	ELV Acceptance
EPP 1.6	Identification of Radioactive Items
EPP 1.7	Identification of Potential Explosive Items
EPP 1.8	Rejection of Material
EPP 1.9	WEEE & Refrigerator Acceptance
EPP 1.10	Duty of Care - Waste Removals
EPP 1.11	Battery Acceptance
EPP 1.12	Steel Can Waste Acceptance
EPP 1.13	Catalytic Converters
EPP 1.14	Inspection of Baled Materials
EPP 1.15	Radioactive Item Disposal
EPP-1.16	Duty of Care – Disposal of Soil & Dirt
<b>Storage of Potentially Polluting Materials</b>	
EPP 2.1	Storage of ELV
EPP 2.2	Storage of Oils & Fuels
EPP 2.3	Storage of Batteries
EPP 2.4	Storage of Engines
EPP 2.5	Storage of Turnings
EPP 2.6	Storage of Gas Cylinders
EPP 2.7	Storage of Scrap Metal
EPP 2.8	Storage of Fragmentiser Waste

Reference	Title
EPP 2.9	Storage of Waste Tyres
EPP 2.10	Storage of WEEE
EPP 2.11	Storage of Putrescible Waste
EPP 2.12	Storage of Radioactive Items
<b>Infrastructure Requirements &amp; Maintenance</b>	
EPP 3.1	Interceptor Inspection and Maintenance
EPP 3.2	Bund Inspection and Maintenance
EPP 3.3	Sump Inspection and Maintenance
EPP 3.4	Taking Water Samples
EPP 3.5	Management & Control of drainage & surface water discharge
EPP 3.6	Water Discharge Failure of Effluent Treatment Plant (YBNF)
EPP 3.6-01	Daily Waste Water Testing Schedule (YBNF)
EPP 3.7	Infrastructure – Taking Soil Samples
<b>Nuisance</b>	
EPP 4.1	Pest Control
EPP 4.2	Litter Control
EPP 4.3	Noise Control
EPP 4.3b	Noise Control (Bedford)
EPP 4.4	Mud and Dust Control
EPP 4.5	Odour Control
EPP 4.6	Vibrations
EPP 4.7	Explosions
EPP 4.8	Fly control
EPP 4.9	Light Pollution
EPP 4.10	Management and Control of Invasive Species
EPP 4.11	General Housekeeping
<b>Environmental Occurrences</b>	
EPP 5.1	Fire Prevention & Response
EPP 5.2	Spill Response
EPP 5.3	Hazardous Substance Deliveries
EPP 5.4	Fuel Tank Checks (YOLD)

Reference	Title
EPP 5.5	Environmental Incidents – Spill Response (Tilbury Dock)
<b>Operations</b>	
EPP 6.1	ELV Depollution
EPP 6.2	Fragmentiser Operation
EPP 6.3	Production Burning
EPP 6.4	Shear and Baler Operation
EPP 6.5	Weighbridge
EPP 6.6	Contractors
EPP 6.7	Trommel Operation
EPP 6.8	Ship loading and Despatch
EPP 6.9	Plastics processing and storage
EPP 6.10	Train Loading and Dispatch
EPP 6.11	Drivers
EPP 6.12	Mobile Baler
EPP 6.13	Factory Contract
EPP 6.14	Loading Steel Turnings for Export
<b>Other</b>	
EPP 7.1	Environmental Permit
EPP 7.2	Exporting of Material
EPP 7.3	Office Activities (YCEN)
EPP 7.4	Energy and Resource Efficiency Monitoring (YOLD)
<b>Fridge Plant</b>	
EPP 8.1	Refrigeration Unit Unloading (DARFDG)
EPP 8.1	Fridge Unit Acceptance and Unloading (WILFRG)
EPP 8.2	Refrigeration Unit Treatment (DARFDG)
EPP 8.2	Refrigeration Unit Treatment (WILFRG)
EPP 8.3	Fridge Plant Storage (DARFDG)
EPP 8.3	Fridge Plant Storage(WILFRG)
EPP 8.4	Fridge Compressor Checks (DARFDG)
EPP 8.5	Fridge Plant Monitoring (DARFDG)
EPP 8.5	Fridge Plant Monitoring (WILFRG)

## Appendix B - Dust Complaint Form

Customer Details	
<b>Customer Name -</b>	
<b>Address -</b>	
<b>Postcode -</b>	
<b>Customer Contact Details -</b>	
<b>Tel -</b>	
<b>Email -</b>	
<b>Date -</b>	
<b>Complaint Ref Number -</b>	
<b>Complaint Details -</b>	
Investigation Details	
<b>Investigation carried out by -</b>	
<b>Position -</b>	
<b>Date &amp; time investigation carried out -</b>	
<b>Weather conditions -</b>	
<b>Wind direction and speed -</b>	
<b>Investigation findings -</b>	
<b>Feedback given to Environment Agency and/or local authority -</b>	
<b>Date feedback given -</b>	
<b>Feedback given to public -</b>	
<b>Date feedback given -</b>	
Review and Improve	
<b>Improvements needed to prevent a reoccurrence -</b>	
<b>Proposed date for completion of the improvements -</b>	
<b>Actual date for completion -</b>	
<b>If different insert reason for delay -</b>	
<b>Does the dust management plan need to be updated -</b>	
<b>Date that the dust management plan was updated -</b>	
Closure	
<b>Site manager review date</b>	
<b>Site manager signature to confirm no further action required</b>	

## Appendix C – Site Diary

<b>Site Location/Name:</b>		EMR Brentford			<b>Date of report:</b>		
<b>Technically Competent Manager Name:</b>							
<b>Time In:</b>					<b>Time Out:</b>		
Check Items		Circle as applicable			Comments/Issues		
1	Any non-permitted waste?	Y	N	n/a	Describe:		
2	Is dust / mud leaving site?	Y	N	n/a	Describe:		
3	Is there excessive noise/vibration?	Y	N	n/a	Describe:		
4	Is there a strong odour on site?	Y	N	n/a	Describe:		
5	Are security measures fully operational? (gates, fences/walls, locks, CCTV etc.)	Y	N	n/a			
6	Is pest control in place?	Y	N	n/a			
7	Any smoke/dust generated on site?	Y	N	n/a	Describe:		
8	Are radiation detectors functioning?	Y	N	n/a			
9	Any significant maintenance/construction work in progress?	Y	N	n/a	Describe:		
10	H&S and Env. signage in place?	Y	N	n/a			
11	Traffic routes clear of debris?	Y	N	n/a			
12	Loading/Unloading/Tipping areas suitable? ( <i>ground condition, gradient, weather conditions etc.</i> )	Y	N	n/a	Describe:		
13	Vehicle and pedestrian circulate in a safe manner; pedestrian walkways and crossings in good condition and pedestrians wearing high-vis, safety helmet & correct PPE?						
14	Process plant operating?	Y	N	n/a	<b>Machine Name</b>	<b>Start</b>	<b>Finish</b>
		Y	N	n/a			
		Y	N	n/a			
15	All emergency exits clear?	Y	N	n/a			
16	Dust curtain/netting intact?	Y	N	n/a			
17	Any plant/equipment breakdown?	Y	N	n/a	Describe:		
18	Housekeeping / litter controlled?	Y	N	n/a	Describe:		
19	Spillages cleared up?	Y	N	n/a			
20	Any complaints received?	Y	N	n/a			
21	Bunded Storage sound & secure? (ELV, Derv/Gas Oil, Drums, Turnings, Engines etc)	Y	N	n/a			
22	Dust suppression in use?	Y	N	n/a	Describe:		
23	Fire Fighting equipment operational?	Y	N	n/a			
24	Fire watch / checks completed?	Y	N	n/a	Describe:		
25	Discharge point running clear?	Y	N	n/a			
26	Gullies, drains, interceptor inspected?	Y	N	n/a			
27	Site free from flooding/ponding?	Y	N	n/a			
28	Any Waste rejected from site	Y	N	n/a			
29	Batteries stored correctly? (Ref. EPP 2.3)	Y	N	n/a			
30	<i>Other Issues to note (e.g. external activities potentially causing a nuisance/impact):</i>						