



European Metal Recycling Ltd. (EMR)

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

EMR Silvertown

Unit 6 Standard Industrial Estate
Factory Road, Silvertown
London, E16 2EJ

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1. Introduction

A Dust and Emissions Management Plan (DEMP) has been produced for the EMR Silvertown site following a request by the Environment Agency after the application for the bespoke permit for the site. The DEMP will form part of the Environmental Management Plan or EMP (formerly Working Plan) for the site, which in turn will form part of the site's wider environmental management system (EMS).

Purpose and Scope

EMR Ltd recognise that the Silvertown site's operations can generate dust, when combined with local emissions from nearby 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 Silvertown 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 East London area, 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 (including on site mobile plant), may in combination (chemically), generate nitrogen oxides (NO_x), volatile organic compounds (VOCs), hydrocarbons (HCs), carbon monoxide (CO), ozone (O₃), sulphur dioxide (SO₂) and particulate dust (including PM₁₀ and PM_{2.5}) with trace amounts of other pollutants (e.g. metals); these can also combine synergistically to produce additional, more harmful substances (e.g. Peroxyacetylnitrate or PAN, present in photochemical smog) under certain weather conditions. The primary pollutant generated by metal recycling facilities normally comprises of (largely) depositional, coarse (and visible) dust and grit, with much smaller concentrations of finer particulate such as PM₁₀ and PM_{2.5}, in addition to transport pollutants such as NO_x, CO and HCs generated by vehicles, LGVs and mobile plant.

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.

The activities conducted at the EMR Silvertown metal recycling facility will include the sorting, separation, grading, shearing, shredding, baling, compacting, crushing, granulating and cutting of ferrous metals or alloys and non-ferrous metals for recovery. The site will receive a range of ferrous and non-ferrous metals from a variety of industries, the majority from long-standing customers. Once processed, recycled materials will be transferred for export or to an EMR shredder (fragmentiser) site for further processing (ferrous metals) or other sites for further processing / recovery. The site will also accept ELVs for depollution and dismantling and a range of WEEE, namely non-hazardous and hazardous cables, Small

Mixed WEEE (SMW) and Large Domestic Appliances (LDA).

European Metal Recycling (EMR) has acquired a metal recycling facility at Standard Industrial Estate, Factory Road, London, E16 2EJ, formally operated by LCM Scrap Company Ltd (LCM).

As EMR is assuming the waste operations at the site, EMR has applied to the Environment Agency (EA) to grant a new bespoke waste operation permit for metal recycling (mixed metals), an End-of-Life Vehicle (ELV) Authorised Treatment Facility (ATF), and a Waste Electrical and Electronic Equipment (WEEE) ATF. The bespoke permit will provide a long term replacement to permit EPR/WE1242AA which was transferred from LCM to EMR as a short-term solution.

The site's recycling and recovery operations can potentially contribute to dust and particulate matter levels within the site vicinity 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 have been installed and implemented on site and the mitigation measures for preventing or reducing dust emissions have evolved over time as the business has developed. These mitigation methods include sprinklers (located at the start of the steel wall that's the current walkway to the shear), road sweeper twice per week and manual cleaning/sweeping operations (see relevant section for details).

The purpose of this document is to ensure that the 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 who are also responsible for its effective application.

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

1.1 Sensitive Receptors

The EMR Silvertown site is situated within an industrial estate at Unit 6, Factory Road, London, E16 2EJ at grid reference: TQ 42825 79905. The site although surrounded by other industry is located approx. 120m south from the nearest residential housing. The River Thames lies directly 180m south of the site and London City Airport is located 0.5Km to the North of the site.

There are no SSSI or RAMSAR sites within 1km of the EMR Silvertown site but the site is located less than 200m (approx. 65m) from the River Thames at its nearest point (due south of the yard). The site is located within an industrial area but the closest residential area is to the North of the site within 1km (approx. 45m due North).

The location of the site and its relationship with the surrounding environment and sensitive receptors is shown in *Appendix 3: Sensitive Receptors*. 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 effects of exposure to high levels of dust by their occupants.

The list of sensitive receptors with the relative distance from the site boundary is shown in *Appendix 3: Sensitive Receptor*.

The *Appendix 6: Wind Rose*, it's been created using the data available in January 2022. The wind blew predominantly from the south west.

Figure 1.1: Sensitive Receptors



Other sources of emission

The site is situated within an area that is of a mainly industrial use with some residential and commercial interspersed. The site is surrounded by multiple potential airborne dust producers for example within 700 metres there is the London City Airport, with relative car park, amenities and busy roads.

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

Table 1.1 Sources of Dust and/or other Emissions.

Company	Address	Type of Business	Distance from Silvertown site boundary (m)
London City Airport	Hartmann Road, London E16 2PX	Airport	700m
Albert Road	A117	Busy Road with access to Woolwich Ferry – North Terminal	100 m

2. Operations at Silvertown

2.1 Waste Deliveries to Silvertown

Waste materials delivered to the EMR Silvertown site for processing typically comprises of ferrous and non-ferrous metals, post-consumer scrap metal, depolluted end-of-life vehicles (ELVs), Large Domestic Appliances (non-hazardous WEEE such as washing machines, dish washers, other white goods etc. but not fridges) and other mixed metal materials, 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.

The inter depot movements are taking place using EMR roro trucks, all EMR vehicles are equipped with dust netting fitted to the top of the container to minimise dispersion of dust.

Customers that arrives on site will have and possess many different types of vehicle (different cars, vans, flatbeds etc.), of different sizes and capacities with incoming scrap metal potentially contaminated with material which may generate high levels of mud or dust. There are robust waste acceptance and rejection materials for all incoming waste to control this (see Appendix 5_EPP index).

All incoming waste (scrap) material strictly follows the EMR Waste Acceptance, Inspection and Rejection Environmental Protection Procedures (EPPs), listed and attached in the Appendix 5_EPP to this document. 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 that 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. Training will include waste acceptance, inspection and rejection procedures and mud and dust control procedures (see EPPs with questions and also Tool Box Talks as refresher training); in addition it is the responsibility of the Depot Manager to remind staff of these procedures and to discuss any issues during the regular huddles with all staff (held at least 3 times per week).

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 building rubble 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) and the material will 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.

A similar process is conducted for small loads of non-ferrous metals which are weighed on the platforms scales located in the Non-Ferrous Shed.

The acceptance of waste material with low quantities of emission contaminants helps to ensure environmental compliance but also contributes to keeping levels of dust on site to a minimum.

Additionally, the quality of materials accepted on to the site is key in obtaining a high quality product which will meet customer's requirements and therefore quality requirements (e.g. absence of dust forming contaminants) are an additional driver supporting environmental drivers for improvement. Quality improvements will be facilitated by ISO 9001 management systems. For example ferrous products to meet EoW (End of Waste) specification requirements are regularly sampled as part of the QMS EoW protocol and dependant on the product, levels of contaminants must be below a given threshold to meet these quality requirements (e.g. for ferrous 3b, non-ferrous metal contaminants and non-metallic contaminants must be <2% by weight).

[See Appendix 6 for relevant list of Environmental Protection Procedures].

2.2 Overview of Waste Processing, Dust, and Emission Controls

The site's coverage area is approximately 1.26 hectares. The site layout is present in the appended site plan (please refer to *Appendices A Dust Suppression System*). The yard is surrounded by a combination of steel and brick wall to a minimum height of 1.5 metres.

The maximum height of combustible stockpiles (e.g. light iron / frag feed, tyres) stored in the open will not exceed 4 metres.

The main yard is used primarily for shearing of ferrous metals e.g. light iron /frag feed in addition to the storage of ferrous construction materials (see *Appendix 1 Dust Suppression System* for details of the location of materials).

The site employs a contracted mobile (drivable), vacuum sweeper, equipped with mechanical rotary brushes which sweeps the yard on a twice a weekly basis (frequency dependent on weather conditions, and which is increased during warm and dry periods). The dust and debris is removed from site with the mobile sweeper.

All operational areas are accessible by mobile sweeper.

The yard is kept clean to ensure that the concrete surface is free of dust and debris and will only generate a minimal amount of dust. The company used is listed as an EMR approved contractor, which meets minimum health, safety and environmental requirements as stipulated by the company's approved contractor policy.

The contractor guarantees fully maintained vehicles including brush repairs, addressing blockages and keeps the road sweepers running efficiently. The vehicles are fitted with reversing cameras, a water spray system and a water purging system (enables the discharge of water from the sweeper system to avoid damage to equipment in freezing conditions). The yard also has its own internal drainage system and underground interceptor tanks for collecting surface rainwater run-off. The interceptor outfall discharges to sewer (regulated by Thames Water).

The site's infrastructure comprises of an impermeable concrete surface across the whole site with boundary walls, a sprinkler is located at the start of the steel wall that's the current walkway to the shear to reduce the dust on site.

(See Appendix 1 Dust Suppression System).

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 kept below 5mph.
- Avoid using steel girders to scrape the ground (with grab cranes), using wire or rubber conveyors instead (reducing the generation of dust and noise).
- Better positioning of the material handlers to reduce handling distances.
- Minimise drop heights (when releasing scrap metal from grabs, i.e. < 1m in height); ensure that drop heights are within a maximum of 1 metres (i.e. scrap must not be dropped greater than this height).
- 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, material stockpiles will be moved to facilitate effective loading and unloading of vehicles, to reduce double handling.
- No idling of vehicles is permitted on site; all lorries and other vehicles are expected to turn their engines off whilst queueing at the weighbridge, waiting to be loaded etc. thus reducing exhaust emissions.
- Ensure dust suppression is used, when scrap containing excessive amounts of dust or dust producing materials are moved / handled.
- Housekeeping will be carried out during the course of work activities to ensure workstations and access routes remain safe, clean and tidy. All major cleaning / housekeeping activities will be recorded in the site diary; any incidents noted (such as spillages etc.) during cleaning will be recorded on an electronic Event log.

SMART working practices (e.g. drop heights must be < 1m) 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 action may ultimately be taken if these practices are consistently not used.

Table 2.1 Typical waste types brought to EMR Silvertown*.

EWC code	Product description	Average tonnage/month	Destination within facility
120101	Ferrous metal filings and turnings	13.5	Ferrous Yard
120103	Non-ferrous metal filings and turnings	1	Non Ferrous Metals Shed
160214	Discarded equipment other than those mentioned in 16 02 09 to 16 02 13	1.3	Ferrous Yard
160601*	Lead batteries	15	Non Ferrous Shed in battery boxes
170405	Iron and steel	90	Ferrous Yard
170411	Cables other than those mentioned in 17 04 10	64	Ferrous Yard
191202	Metal from waste and water treatment - Ferrous metal	122	Next to Shear
191203	Metal from waste and water treatment - Non-ferrous metal	244	Non Ferrous Shed
200135	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)	75	SMW Bay
200136	Discarded electrical and electronic equipment	8	SMW Bay

* Data representative for Q1 2023 only.

2.3 Mobile Plant and Equipment.

Nitrogen Dioxide gas (and other NOx gases) 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 3 cranes and 2 forklift and 1 tele truck, owned by EMR.

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

Table 2.3

Description	Make	Emission rating
Mobile cranes	Liebherr LH40	Tier IV
Forklift truck	Mitsubishi	Tier 3b
Forklift truck	Linde	Tier 3b
Tele truck	JCB	Tier 3b

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 this is arranged with the servicing company/manufacturers of the equipment, e.g. Liebherr after sales maintenance service department.

EMR transport fleet uses Ad-blue, a non-flammable, high purity urea solution injected into the exhaust system just ahead of the catalytic converter to reduce Nitrogen Oxide (NOx) emissions.

2.4 Training

All site personnel responsible for implementation of the Dust Emission Management Plan will include supervisors and operatives, who will be responsible for conducting daily visual inspections of the site for fugitive dust emissions and will all be trained to the same basic level.

Refresher training will be conducted regularly using Tool box Talks and 'huddles', if there are any changes made to the Dust Emission Management Plan or following a major environmental incident e.g. major dust pollution event or if a series of complaints from local community etc.

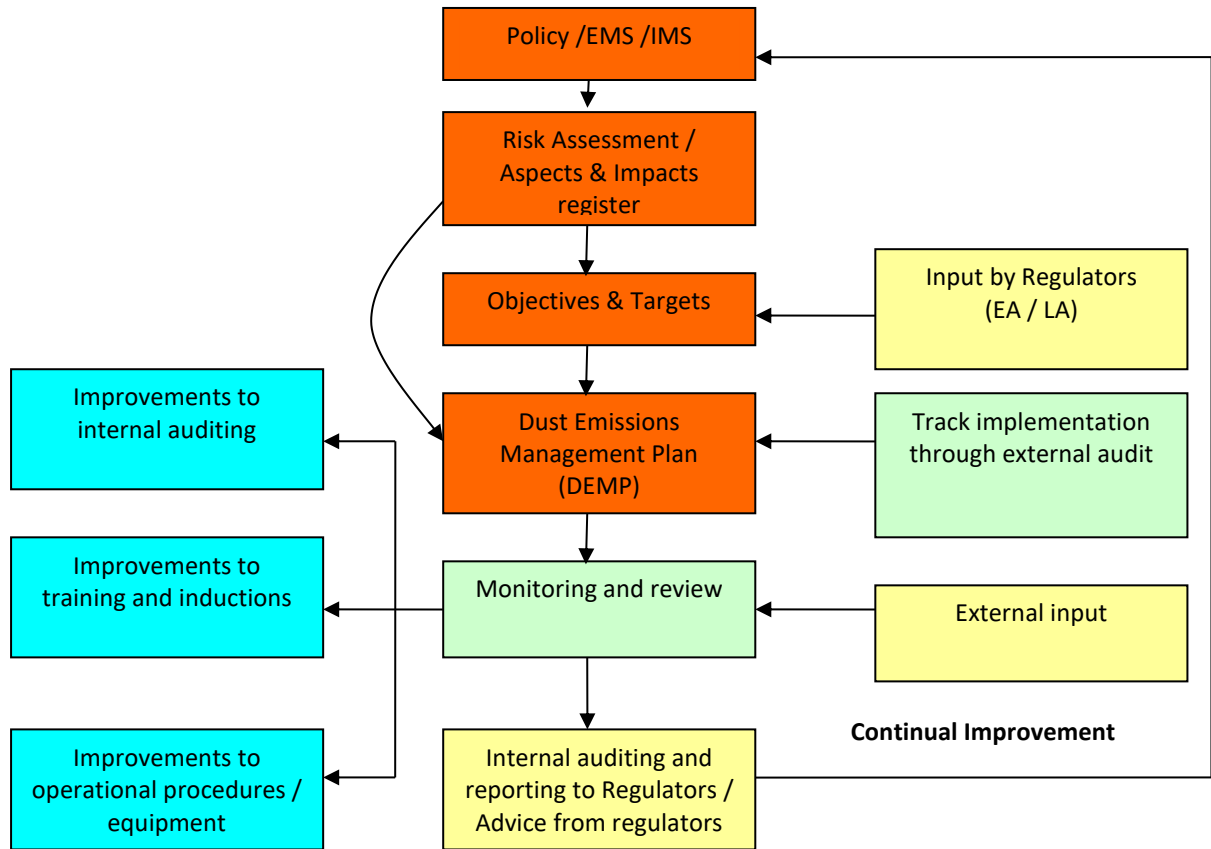
Training documentation can be found in each personal training folder present on site in hardcopy and also electronically.

3. Dust and Particulate (PM₁₀) Environmental Management Systems

An electronic SHE (Safety, Health & Environmental) integrated management system is currently employed by all EMR depots, (Assure). This electronic system 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.

This document and associated appendices are available to all the relevant staff to the Environmental Folder, (saved electronically on the system and physically present on site) and on the notice board, accessible to anyone on site.



KEY

Planning	
Checking	
Consultation	
Implementation	

As part of the EMR ISO/IMS roll out across the UK, an accredited, Environmental Managements System (ISO14001) which in turn forms part of an IMS system (including ISO45001 and ISO9001) will be rolled out at the EMR Silvertown site in October 2023. This DEMP will then be fully integrated within this. The accreditation body and external auditor is LRQA (Lloyds Register).

3.1 Responsibility for Implementation of the DEMP

The EMR Silvertown Site Manager is responsible for:

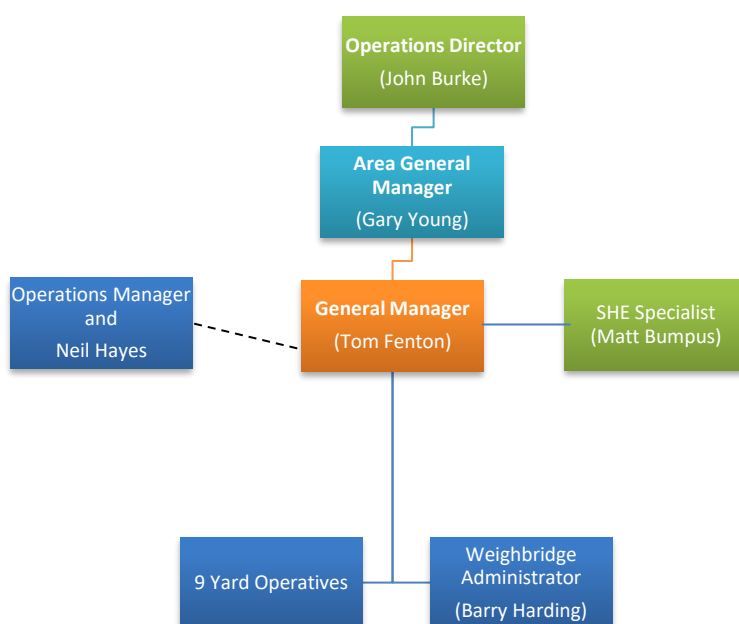
- The day-to-day delivery of the site's Dust and Particulate Emission Management Plan aims, objectives and requirements;
- Operational control of the site's dust/particulate control measures and infrastructure, including the use of the dust suppression system;
- Delivering operational staff training 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.
- Adjusting / amending management and control of dust emissions based on data received (e.g. monitoring, Event logs)

The SHE Specialist is responsible for:

- Ensuring that the Dust & Particulate Emission Management Plan has been fully implemented at the site;
- Reviewing the requirements of the Dust & Particulate Emission Monitoring Plan (in conjunction with the Site Manager) every 3 years or if an operational or process change occurs;
- 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 Assure system.

In the event of the absence of site manager, the member of the site management team and site supervisor / foreman will be responsible for fulfilling the Dust management Plan requirement with the support of SHE Specialist.

Organisational chart for EMR Silvertown:



3.2 Sources and Control of Fugitive Dust/Particulate Emissions

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

- Waste loading, tipping, handling and movement operations in the open;
- Wind blowing across stockpiles materials.
- Tipping of scrap metal loads (ferrous metal loads) from LGVs.
- Loading of LGVs (ferrous metals) – by Material Handlers (grab crane).
- Vehicle unloading and tipping: Movement and dropping of various (mainly) ferrous metals dislodges rust particles from the surface of metal fragments.
- Vehicles moving around site: exhausts, accumulated waste (dirt).
- Moving, handling and storing scrap metal materials (by mobile plant, materials handlers e.g. grab crane); this includes dropping of scrap materials from material handlers.
- Stockpiles: Different grades of scrap (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

Table 3.2 Pollution Linkage and Control Measures

Source	Pathway	Receptor	Type of impact	Control Measures
Mud/debris	Tracking dust on wheels and vehicles; Mud/debris dropping of the wheels/vehicles;	<i>Spread on surrounding roads to nearest sensitive receptors</i>	Visible soiling; Consequent resuspension as of mud and debris as airborne particulates;	<ul style="list-style-type: none"> • Manual sweeping the surface every time mud and debris are noted; • Use of a road sweeper on a scheduled, frequent basis to clean the yard surface and the surroundings; • Use of yard sprinkler system to dampen surfaces. The trigger is visual assessment by the Depot Manager (recorded in site diary); • Vehicles' maintenance – wheels washing/cleaning; • Use of netting/cover on the lorries to prevent waste from escaping.
Vehicle exhaust	Atmospheric dispersion;	<i>Contribution to overall dust pollution affecting receptors; due to SW prevailing wind direction potential increased affect on receptors to the North East of the site.</i>	Airborne particulates;	<ul style="list-style-type: none"> • Speed limit on site (5 mph). A 'Stop Work Authority' is in place for use by EMR staff at the weighbridge for preventing, and reporting unsafe acts or conditions • Use of fuel (low-sulphur); • No idling: Turning all vehicle engines off (EMR, 3rd party and Customer vehicles) when not in use and prohibition in leaving them running unnecessarily whilst on site (vehicles and mobile plant).
Waste handling – loading, tipping and movement	Atmospheric dispersion;	<i>Contribution to overall dust pollution affecting receptors;</i>	Visible soiling; Airborne particulates;	<ul style="list-style-type: none"> • Environmental Protection Procedures (EPPs) and Safe Working Procedures (SWPs) for lorry drivers, crane operators and other mobile plant users.

operation in the open		<i>due to SW prevailing wind direction potential increased effect on receptors to the North East of the site.</i>		<ul style="list-style-type: none"> • Use of SMART practices e.g. – minimise source strength by means of low drop heights (placing material on stockpiles); • Weather conditions consideration (cease operations in high speed winds). The dust monitoring constantly records the wind speed and the wind direction and the data are available online; • Material dampen down with water based suppression system before tipping. The depot manager will assess the condition visually to decide when activate the water dust management system; • Use of the sprinkler to keep the particulates down when handling. • Stockpiles height restrictions: < 4m.
Plant sorting	Atmospheric dispersion;	<i>Contribution to overall dust pollution affecting receptors; due to SW prevailing wind direction potential increased affect on receptors to the North East of the site.</i>	Airborne particulates;	<ul style="list-style-type: none"> • Working procedures for crane operators – minimise source strength by means of low drop heights (< 1m); • Use of sprinkler to keep the particulates down when handling materials if visually it is possible to assess that the local environment is ‘dusty’. • Use the sprinkler as a preventative measure, before carrying out potentially dusty activities, for example mechanically moving oversize ferrous material contaminated with concrete, rubble or are dusty due to lack of movement

				for some time / lengthy storage period.
Wind blowing across the stockpiles	Atmospheric dispersion;	<i>Contribution to overall dust pollution affecting receptors; due to SW prevailing wind direction potential increased affect on receptors to the North East of the site.</i>	Airborne particulates;	<ul style="list-style-type: none"> • Stockpiles height restrictions (<4m); • Profiling of stockpiles from wind whipping; • Damping down the material when a dusty load has been identified or the weather conditions are particularly windy and dry.
Ground / roads and concrete abrasion	Atmospheric dispersion;	<i>Contribution to overall dust pollution affecting receptors; due to SW prevailing wind direction potential increased affect on receptors to the North East of the site.</i>	Airborne particulates;	<ul style="list-style-type: none"> • Use of a road sweeper on a scheduled, frequent basis to clean the yard surface and the surroundings; • Use of the yard sprinkler to dampen surfaces. The trigger is visual assessment by the Depot Manager (recorded in site diary);
'Sweeping' ground using wire brush moved by grab crane	Atmospheric dispersion;	<i>Contribution to overall dust pollution affecting receptors; due to SW prevailing wind direction potential</i>	Airborne particulates;	<ul style="list-style-type: none"> • Use or road sweeper on a scheduled, frequent basis to clean yard surface and surroundings; • Use of sprinkler to dampen surfaces. The trigger is visual assessment by the Depot Manager (recorded in site diary);

		<i>increased affect on receptors to the North East of the site.</i>		
Vehicle loading and tipping: movement and dropping of various (mainly) ferrous metals dislodges rust particles from the surface of metal fragmets.	Atmospheric dispersion;	<i>Contribution to overall dust pollution affecting receptors; due to SW prevailing wind direction potential increased affect on receptors to the North East of the site.</i>	Airborne particulates;	<ul style="list-style-type: none"> • Use of a road sweeper on a scheduled, frequent basis to clean the yard surface and the surroundings; • Use of the sprinkler to dampen surfaces. The trigger is visual assessment by the Depot Manager (recorded in site diary);

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;	Regular checking, inspection of the concrete and ensuring fit for purpose. Forms part of scheduled, formal depot manager audits / inspections; damage recorded in site diary. Major resurfacing planned and budgeted for.
Good housekeeping	Reducing the dispersion of dust and particulates; Managing larger debris, dust and particulates; Contracted sweeper Formal & Tool Box Talk training provided.	<ul style="list-style-type: none"> • Housekeeping carry out during the course of work activities to ensure workstations and access routes remain safe, clean and tidy (and recorded in site diary). • Additional housekeeping carried out at the end of the day / shift to ensure all work areas, equipment

		<p>and pedestrian routes are kept clean and tidy.</p> <ul style="list-style-type: none"> • Wind blown litter must be cleared and prevented from building up and potentially crossing site boundaries
Manual sweeping the surface	Managing larger debris, dust and particulates;	Daily sweeping of the surface in the non-ferrous shed and car park. Manual sweeping in the main yard every time the weather is windy and dry and when the surface appear to be dusty.
Use of a road sweeper regularly to clean the yard surface and the surroundings	Managing larger debris, dust and particulates;	Use of road sweeper twice per week - frequency dependent on weather conditions; the frequency of which is increased during warm and dry periods.
Use of sprinkler 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;	<ul style="list-style-type: none"> • if visible it's possible to assess that the environment is dusty; • Alert from the dust monitor
Material dampen down with sprinkler before tipping	Reducing the dispersion of dust and particulates using water	<ul style="list-style-type: none"> • Trained staff will decide when to damp down the load during the acceptance of the material, as a preventative measure. • If visible it's possible to assess that the environment is dusty; • 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;	The drivers are responsible in keeping the vehicles clean and free from dust and mud. They regularly jet wash the vehicles in the yard.
Speed limit (5 mph)	Reducing vehicle movements and idling; Reducing re-suspension of particulates by vehicle wheels;	<ul style="list-style-type: none"> • Enforced by installation of signage; • Stop Work Authority system in place for use by EMR staff at the weighbridge for preventing, and reporting unsafe acts or conditions

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 (<1 m)	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;	All 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 pollutions events;	The depot manager checks the weather condition daily logging on to Met office website, printing out data and recording wind speed and wind direction in the site diary. If there is an indication of adverse weather conditions on the website (e.g. dry, warm and windy), dust suppression measures will be enacted throughout the day.
Stockpiles height restrictions (combustibles < 4m, non-combustibles < 8m); 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, environmental protection procedures (EPPs) and safe working procedures are 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;

3.3 Other Considerations

Water usage/availability:

Water based dust suppression system currently includes 1 sprinkler fed by a 30,000 Litre tanks.

The tanks is supplied by the mains, this guarantees that the tank is constantly full.

The average consume usage for the sprinkler is about 4 litres/hour, this means:
 $30000 / 4 = \mathbf{7500 \text{ hours}}$ of continuously use of water that are guaranteed with the sprinkler even if there is an interruption of water supply.

The site benefits from a fully enclosed drainage system (no runoff over 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 demands of the dust mitigation measures described in this document.

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. SMART focussed suppression measures, increased frequency of sweeper and even suspension of some dust producing activities. Other methods may also be considered during a severe drought such as the use of calcium magnesium silicate (binding agent) in the water bowser (IBC) to prevent dust becoming airborne again once wetted, reducing the amount of water required.

Depositional Dust:

Most dust generated by scrap metal yards actually comprises (visible) 'depositional dust' as opposed to finer, more airborne and 'respirable' dust such as PM₁₀ and PM_{2.5}. Depositional dust fractions are typically associated with annoyance and therefore a possible 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 on generation.

Depositional dust (heavier fraction > PM₁₀) generated on the Silvertown site from a number of operations activities, including:

- Tipping of scrap metal loads (ferrous metal loads) from LGVs.
- Loading of LGVs (ferrous metals) – by Material Handlers (grab crane).

- Vehicle unloading and tipping: movement and dropping of various (mainly) ferrous metals dislodges rust particles from the surface of metal fragments.
- Vehicles moving around site: exhausts, accumulated waste (dirt).
- Moving, handling and storing scrap metal materials (by mobile plant, materials handlers e.g. grab crane); this includes dropping of scrap materials from material handlers.
- Stockpiles: Different grades of scrap (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.

3.3 Enclosure of Waste Processing & Storage Areas.

Due to the nature of the operations, volumes of the material and the site coverage/size, EMR does not see the feasible possibility to fully enclose all site operations in a building in the near future, although a significant proportion of the the site’s activities are enclosed in a building (e.g. ELV depollution, non-ferrous metal processing and storage). However, EMR has implemented dust abatement measures to prevent the dust and this minimise the possibility of dust crossing the boundaries where the material is stored in the open.

3.4 Visual Dust Monitoring.

Visual dust monitoring is a part of Site Manager’s daily walk around as well checking the activities and operations on site. The monitoring locations have been considered to include the boundary walls and the stockpiles (where a 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 take action and apply available control measures, e.g. dampen down the yard surface to prevent the re-suspension of particulates; the findings are then recorded on the manager’s site inspection forms and/or site diary, in more severe cases an electronic Event log will be raised. If the significant dust emissions are observed the site manager needs to inform Environmental Coordinator to raise a NCR form and follow up with review the practices onsite and corrective actions. Should there be a concern in regard to dust

emissions on site, the monitoring feedback would be discussed at the site meetings (Health and Safety and Environmental meeting) and the plan of action agreed.

5.2 Recording and Reporting

Any dust complaints received are logged and recorded on the Dust Complaints form; following this an 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 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 SHE Specialist.

A request will be made to the EA that with any complaints received via them, that they ask the complainant to give a *descriptive* detail of the complaint (nature, colour etc.) to facilitate identification of the location of the source, with times, dates and wind direction obtained and this will be recorded in an Event log / complaint log under 'description'.

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 Event log, inform Environmental co-ordinator, investigate complaint, identify source, describe activity (updating Event log if required) , 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 incident Event log, inform Environmental co-ordinator (who will raise 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 incident 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 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 also 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.

6. Reporting and Complaints Response.

6.1 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 and email address) on the signage at the site entrance and on EMR website, including the EMR Emergency out of hours telephone. Any issue/point raised is taken under consideration and response/feedback is provided. The site representatives when possible participates in the local council community meetings and forum.

6.2 Reporting of Complaints.

Following the receipt of a complaint about the dust nuisance the Site Managers shall investigate the issues raised and reviewed the controls onsite.

The details of the dust source and the control measures adopted shall be recorded on the Appendix 2 *Dust Complaints Form* and feedback given to the complainant and Environment Agency if necessary. In the event that numerous complaints are received the issue would escalate to higher priority. If the source of nuisance can be identified at the time of the complaint the appropriate measures must be put in place to stop the nuisance (e.g. water suppression, cease activities). The abatement measures must be then reviewed in line with Dust Management Plan to prevent reoccurrence of dust nuisance.

6.3 Management Responsibilities.

The Site Manager shall be responsible for the control and management of dust at the site. Site management shall 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 stated are implemented at the site then dust generation should be kept to a minimum and nuisance to sensitive receptors should be avoided. In the event that dust nuisance is caused to a nearby sensitive receptor, and a complaint is received by the site management, the investigation and the review of the activities will be carried out.

6.4. Summary.

The main aim of the Dust Emission Management Plan (DEMP) is to minimise and where practicable eliminate dust being generated but also to prevent any dust produced 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)

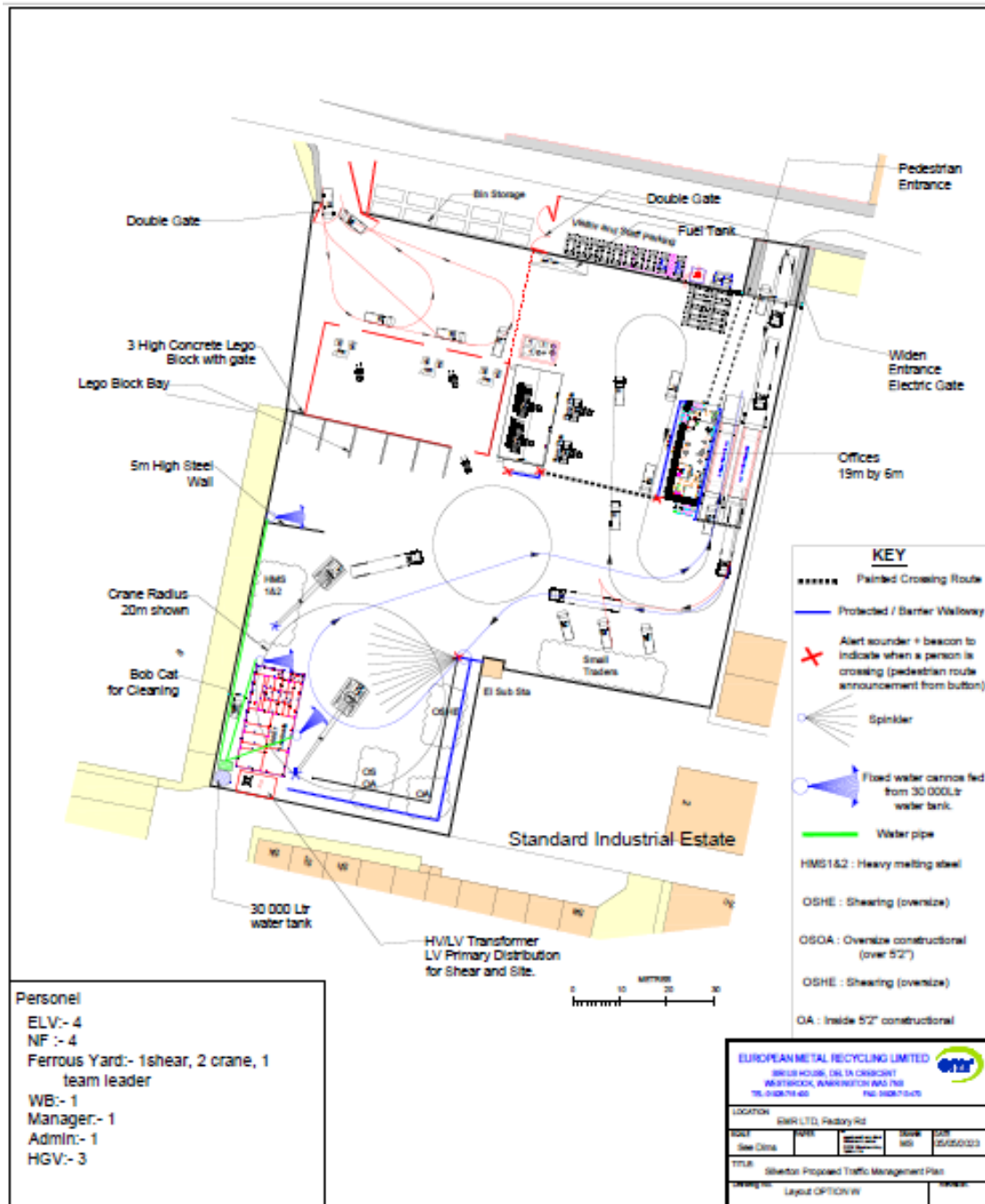
The developed dust minimisation strategy will be implemented by the site management assisted by the SHE team, both of whom will ensure that all operations and activities onsite have fully taken into consideration with regard to the potential for dust generation (and expected levels) from the activity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

Appendix 1: Dust Suppression System



Appendix 2: Dust Complaint Form

Dust Complaint Form

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

APPENDICES INFORMATION

[See Attached]