



EUROPEAN METAL RECYCLING LIMITED

EMR Darlaston FP/NFE
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Dust Emissions Management Plan V1

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1. INTRODUCTION

1.1 Purpose and Scope

EMR Ltd recognise that their operations can generate dust, and that when combined with naturally occurring background emissions and the emissions from other neighbouring industrial activities they have the potential to impact on the environment, and local amenity.

This Dust Emissions Management Plan (DEMP) is intended to produce a reproducible and consistent approach for dust management, with the aim of continually reducing the levels of fugitive dusts generated by EMR Darlaston FP/NFE activities.

1.2 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.

The main legislation which governs air quality in the UK is the Clean Air Act 1993 and the Air Quality Standards Regulations 2010.

In the Darlaston area, emissions sources primarily consist of transport and industrial sources.

The combination of road and site transport and industrial sources together generate nitrogen oxides (NO_x), volatile organic compounds (VOCs), hydrocarbons (HCs), carbon monoxide (CO), ozone (O₃), sulphur dioxide (SO₂) and dust (including PM₁₀ and PM_{2.5}) with trace amounts of other pollutants (e.g. metals), which can also combine synergistically to produce additional, more harmful substances (e.g. Peroxyacetylnitrate or PAN present in photochemical smog).

Potential pollutants generated from scrap metal processing sites will primarily consist of course dust and grit (which normally settles instantly) with much smaller concentrations of PM₁₀ / PM_{2.5} and transport pollutants (NO_x, CO and HCs) from LGVs and mobile plant.

1.3 Particles

These are typically classified on the basis of their size. Particulate matter (PM) less than 50 micrometers (µm) across are referred to as Total Suspended Particles (TSP). Finer dust particles less than 10µm and 2.5 µm in diameter are referred to as PM₁₀ and PM_{2.5} respectively. TSP is associated with the potential for nuisance or loss/degradation of local amenity.

1.4 Air Quality Standards

Table 1 – Current Air Quality Standards and Objectives for PM₁₀ and PM_{2.5}.

National air quality objectives and European Directive limit and target values for the protection of human health						
Pollutant	Applies	Objective	Concentration measured as ¹⁰	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved (by and maintained thereafter)
Particles (PM ₁₀)	UK	50 µg/m ³ not to be exceeded more than 35 times a year	24 hour mean	31 December 2004	50 µg/m ³ not to be exceeded more than 35 times a year	1 January 2005
	UK	40 µg/m ³	annual mean	31 December 2004	40 µg/m ³	1 January 2005
	Indicative 2010 objectives for PM ₁₀ (from the 2000 strategy and Addendum) have been replaced by an exposure reduction approach for PM _{2.5} (except in Scotland – see below)					
	Scotland	50 µg/m ³ not to be exceeded more than 7 times a year	24 hour mean	31 December 2010	50 µg/m ³ not to be exceeded more than 35 times a year	1 January 2005
	Scotland	18 µg/m ³	annual mean	31 December 2010	40 µg/m ³	1 January 2005
Particles (PM _{2.5}) Exposure Reduction	UK (except Scotland)	25 µg/m ³	annual mean	2020	Target value - 25 µg/m ³	2010
	Scotland	10 µg/m ³		31 December 2020	Limit value - 25 µg/m ³	1 January 2015
	UK urban areas	Target of 15% reduction in concentrations at urban background		Between 2010 and 2020	Target of 20% reduction in concentrations at urban background.	Between 2010 and 2020

2. EXPOSURE LEVELS AND HEALTH EFFECTS

2.1 Particulates

PM₁₀ and PM_{2.5} - Airborne particulate matter (PM) consists of many different substances suspended in air in the form of particles. They can be solid or liquid and vary in size.

The general movement of ferrous and non-ferrous scrap materials, loading and tipping of loads, tracking of vehicles around site etc. are all potential sources of PM₁₀ and PM_{2.5}.

2.2 Sensitive Populations

Certain sensitive populations, listed below, are susceptible to more serious symptoms when exposed to dust. These sensitive populations are:

- Individuals with asthma and other respiratory diseases.
- Individuals with cardiovascular disease
- The elderly
- Children
- Smokers

2.3 Depositional Dust

This dust fraction is 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.

Examples of activities that may generate depositional dust (heavier fraction > PM₁₀) include:

- Vehicles moving around site (both HGV vehicles and mobile plant)
- Moving, handling and storing scrap metal materials (by mobile plant, materials handlers e.g. shovels, grab cranes).
- 'Sweeping' ground using wire brush moved by grab crane

3. CLIMATE

A summary of the local climatic conditions for the Midlands has been provided below based on information supplied by the Met Office. An understanding of the weather conditions will facilitate the site management in targeting dust control measures.

The Midlands has a climate that is essentially transitional between northern and southern England in terms of temperature and between Wales and eastern England as regards rainfall. Rainfall tends to be associated with Atlantic depressions or with convection. Precipitation is often low by English standards with the Birmingham area experiencing an average of 40-45 days of rainfall >1mm. The prevailing wind direction within the area is south west.

4. RISK ASSESSMENT

EMR have completed a risk assessment which covers all environmental risks associated with site activities, including dust and emissions. This risk assessment will be updated on a 3-yearly basis or more frequently depending on any operational changes, complaints, changes to receptors etc.

The following elements have been considered in order to ensure that appropriate and effective actions are taken to minimise emissions from the site. Should any of these three elements be absent then there is no risk:

- **Source** – probable or actual particulates, their nature, location and origin.
- **Receptor** – existing and within reason foreseeable targets upon which the source may impact. These may be on site or off site.
- **Pathway** – this is the means by which the source and the receptor may come in to contact.

In conducting the risk assessment the following sources, pathways and receptors have been considered.

4.1 Potential Sources of Particulates

Potential sources of particulates from the site:

- Vehicles: Movements, exhausts, accumulated dirt, tipping, loading
- Shovel loaders: Movements, collecting and tipping loads
- Stockpiles of scrap metal & residual wastes

Review of material and associated dust levels:

Waste stream	Dust Risk	Reason for Risk Level	Storage	Handling / Processing
Fridge Foam	Low	Light fraction	Stored outside on a concrete surface in bags or covered bay	FLT will be used for all handling requirements of the foam within bags. Bags have 4 x lifting eyes incorporated within the bags

Despite knowledge of material type and source, all material is still visually inspected at the weighbridge. If material appears to be dusty then it will be rejected at this point.

EMR's site is located within a mixed industrial/residential area; a number of other commercial and industrial operators who will contribute to localised dust and emissions – these include:

- Veolia – adjacent to our Bentley Road entrance
- Cast Alloy Ltd – adjacent to Heath Road entrance

In addition to other businesses acting as dust sources within the local area there are also busy roads (M6 & Black Country Route) which are used by cars and a number of HGV's.

Upon review of the other sources of dust in the area, EMR would consider scrap handling as low risk for emissions in comparison to major road construction works being carried out at Junction 10 – M6 which is in very close proximity to EMR Darlaston. This has been ongoing for many months and is continuing for many months ahead.

4.2 Potential Receptors

Potential receptors within the vicinity of site:

- Commercial properties – Other nearby industries
- Residential properties – Local residents and community facilities.
- Site workers – May also be potentially affected by dusts

With respect to the site's immediate receptors it is surrounded by industrial commercial properties. The closest residential area is approximately 70 metres away from the site northern boundary on the other side of the railway tracks.

Pathways

The pathway for any particulates to impact upon the receptor will be the movement of air. The effectiveness of this pathway will be dominated by the prevailing weather conditions.

The speed and direction of the wind is critical to the pollution linkage. If the wind is of low speed it is unlikely there will be sufficient energy to pick up and transport particulates. Strong winds will be able to pick up and suspend particulates to transport them to a target.

Furthermore, some winds will not be strong enough to initiate particle suspension unless there is some initiating force. This might include, for example, vehicle movements, handling and movement of materials, or handling at height. Particles released at height may require very little wind to carry them.

The direction of wind is also important. Unless the wind is blowing in the direction of a target, the pollution linkage will not be made.

Rainfall impacts upon the particles available for pick up and distribution by the wind. The addition of water adheres particles together making them heavier and 'sticky' and therefore largely unavailable for pick up by wind movement. It is for this reason that many dust suppression measures employ damping down with water sprays.

5. MANAGEMENT, CONTROL, MONITORING & REPORTING OF DUSTS, FIBRES AND PARTICULATES

5.1 Waste Acceptance

The primary method for reducing dust and particulate being generated on site is prevention; this comprises of a number of methods, including strict waste acceptance criteria as outlined in the site's EMS (specifically the Environmental Protection Procedures or EPPs) including the prohibiting of non-permitted (mainly non-metallic) wastes from being delivered into the site and also the non-acceptance of contaminated permitted wastes e.g. ferrous metal contaminated with excessive, soil, rubble etc.

Incoming scrap metal that contains waste with the potential to generate high levels of dust shall not be accepted on to the site.

The site's Environmental Protection Procedures (EPPs) as part of the site's EMS (Environmental Managements System) establish the controls for mitigating dust and particulate emissions.

Every load is inspected by EMR's trained operatives - Upon arrival to site, monitoring for potential dust emissions is conducted at the weighbridge (visual inspection). If this initial inspection does not identify any issues, material is directed to the appropriate stockpile for tipping / unloading. When tipped, a crane operative will oversee this activity in order to monitor dust levels / risk (this will be done for every load when it is tipped).

If any concerns are raised regarding potential for emissions or quality of material then action will be taken immediately to prevent unnecessary emissions from site. This may include rejection of the entire load, quarantine of material or additional controls being applied prior to movement of material.

5.2 General Dust Control

- All operatives trained to take care when loading and unloading wastes likely to cause dust issues (e.g. minimising drop heights). This will be relevant across the entirety of the site when moving material. Staff receive training on how to handle material in a manner that minimises dust and any incidents of poor material handling will be logged and reported to Site Management.
- Once accepted over the weighbridge material will be tipped directly next to the relevant stockpile. This will ensure that material is deposited in the correct area of the yard and can be moved directly via crane into the main stockpile.
- Existing stockpiles will only be disturbed when material is being loaded for export or processing. This methodology ensures that double handling is not carried out.
- The 'first in first out' procedure will be followed for any material that is going to be processed on-site; ensuring stockpiles of historic material do not build up – When material arrives, the Weighbridge Operative directs vehicles to the appropriate tipping area at the back of the relevant stockpile to be offloaded, checked and then swept into the stockpile. Material is then processed from the front of the stockpile which ensures material is processed in line with the 'first in first out' principle.
- Regular housekeeping completed to prevent potential accumulation of dust, mud and litter – At a minimum this will be done on a daily basis and will consist of litter picking, manual sweeping, jet washing and damping down (not required if it is raining).
- Fridge foam will be discharged straight into bulk bags. Once full, these will be secured and stored in a 3 sided bay. Any spills from the bags will be cleaned up promptly.

5.3 Vehicle movement

- EMR fleet of vehicles are fitted with netting systems that are applied to prevent any windblown emissions when in transit - This netting is applied by the driver over the top of vehicle loads which ensures that material cannot blow off or escape the body of the vehicle. The netting is a

breathable textile material with a tightly knotted stitch which acts as a physical barrier for any dust lift-off when in transit.

- Speed limit of 5mph enforced.
- Vehicles asked by the weighbridge operative to turn off engines if they are going to be in a queue / stationary for a period of time.
- Cranes used on-site are fitted with telematics – This allows the site to monitor fuel use and efficient operation of machines. If any machines appear to be using excessive fuel or operating inefficiently they will undergo additional maintenance checks. If there are no issues with the equipment then the operator will receive additional training to improve effective operation of the equipment.
- Cranes used on site use AdBlue – The AdBlue solution is injected into the exhaust system before NOx leaves the exhaust which in turn significantly reduces the amount of NOx particles in the exhaust emissions.
- All roadways and surfaces are concrete / tarmac reducing build-up of mud / dust and also making them easy to clean.
- Vehicle routes are regularly cleaned and damped down as required.

5.4 Dust Control Measures – Site Specific

- A road sweeper is used to clean the site and is contracted in on a regular basis.
- Mobile water tank – Used to control of dust on the site haul roads and areas outside of the sprinkler systems range (utilised regularly in periods of dry weather).

5.5 Processing Operations

- Processing will be conducted inside a building in enclosed equipment.

5.6 Weather conditions

During periods of dry weather / high winds measures will be taken to reduce the impact on the local community / sensitive receptors. These will include but is not limited to:

- Increased use of mobile water bowser
- Increased use of water hoses/sprinklers
- Ongoing daily dust monitoring (recorded and reported in daily diary)
- Increase frequency of sweeper contractor visiting site

5.8 Dust Monitoring

- All site operatives are responsible and trained to monitor dust levels across the yard in line with EPP 4.12
- CCTV is provided across the site and is monitored out of hours by an external security contractor – If they identify any significant issues (such as major dust lift off or fire) they will immediately advise the key holder for the site.
- In the event of complaints / notification that dust levels are excessive then internal monitoring will be reviewed and improved (if the complaint / notification is substantiated).
- Internal 'EPP monitoring' will be completed if investigations / monitoring show that the dust issues are a result of operator error / failure to follow procedure – This is a formal inspection that checks operator's compliance, knowledge and training records in relation to relevant Environmental Protection Procedures.

The following trigger points will be used alongside the above monitoring controls to identify if dust emission levels / particulate concentrations are elevated:

Trigger 1 - Report within 'daily dust log' or other report / visual assessment from internal EMR staff that dust levels or particulate concentrations from operations are elevated and have the potential to escape site under the correct conditions.

- Manager to review site operations and source of dust.
- The Manager will implement additional dust controls (will vary depending on the source of the issue).
- The Manager will review effectiveness of these controls before normal operation resumes.

Trigger 2 - Report within 'daily dust log' or other report / visual assessment from internal EMR staff that there is dust escaping the site boundary that could affect local receptors or raised particulate concentrations outside the boundary.

- Cease work
- Record on event log and investigate
- Review operations and dust suppression measures before recommencing.

Trigger 3 - Complaint from Environment Agency, member of public or other receptor.

- Cease work
- Record on event log and investigate
- Review operations and dust suppression measures before recommencing.

6. COMPLAINTS AND INVESTIGATION

If any complaints are received or there is believed to be a serious dust problem then the Site Manager and SHE Specialist will be contacted immediately and the incident / complaint logged on the electronic event log. This process will also be followed in the event that control measures in place fail.

When inputting complaints onto the event log as much detail as possible will be requested from the complainer – This will specifically include:

- Time and date.
- Location of issue.
- Complaint timescale (i.e. ongoing / isolated event).
- Suspected source of dust (if known).

Once added to the event log formal investigation procedures will be followed which will include root cause analysis and associated actions (with timescales) to prevent re-occurrence.

Feedback from complaints will be provided to relevant parties when requested – Method of feedback will be via email or telephone call.

The Environment Agency will be notified (in line with permit conditions) if any formal complaints are made in relation to excessive/significant dust levels from EMR operations.

Escalation of complaints

If there are a 5 or more dust complaints from different receptors /sources within a time period of 1 month additional actions will be implemented. This will include cessation of any high risk activities (screening) and the 'Dust Management Review Meeting' will be brought forward - Allowing for a full review of the suitability, adequacy and effectiveness of the DMP.

7. RESPONSIBILITIES

All EMR employees have responsibilities in relation to dust management.

Site Manager / Operations Manager:

- Ensures the site operates in accordance with the DEMP
- Ensures site staff are aware of their obligations under the DEMP
- Implements the Dust Emissions Management Plan (DEMP)
- Ensures appropriate resources are available
- Reports back to the SHE Specialist on dust performance
- Facilitates monitoring of dust on-site

Site Supervisor / Foreman:

- Ensures the DEMP is followed and maintained on site
- Reports back to the Site Manager on issues/operations which lead to or may lead to dusty conditions
- Ensures the site staff adhere to standard operating procedures

All Site Staff:

- Report dusty conditions and faulty equipment that may result in dusty conditions
- Adhere to standard operating conditions
- Suggest dust control improvements

SHE Specialist:

- Support the Site Manager by assisting with compliance with the DEMP
- Conducts site audits in support of the DEMP
- Coordinates the DEMP meetings and review process
- Communicates and liaises with the regulators over the DEMP
- Supports the site by including dust management training along with other training

8. DUST MANAGEMENT REVIEW

The feedback from monitoring, suitability, adequacy and effectiveness of the DMP will be reviewed each year or brought forward in the event that 5 or more dust complaints within a time period of 1 month.

This review will be incorporated into existing SHEQ meetings that are already held on an annual basis in line with requirements under the sites ISO accreditation. This meeting involves Senior Management ensuring relevant issues are communicated and reviewed on a regular basis.