Dust Emissions Management Plan

Bespoke Permit Application: at

HD White Yard,

The Factory,

Ford Airfield Industrial Estate,

Yapton,

BN18 0HY

Submitted on behalf of:

Refined Metal Recycling Limited

Prepared & Submitted By:

Beyond Waste Ltd

Beyond Waste

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Beyond Waste for Refined Metal Recycling Ltd

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Client: **Refined Metal Recycling Ltd**

Project: **Bespoke Permit Application**

Job No: **RefinedMetal/DEMP/001**

Title: **Dust Emissions Management Plan**

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Authorised	
Signed to confirm acceptance	
To be reviewed	Annually or as necessary

Table of Contents

1 Introduction

This document is the Dust Emissions Management Plan (DEMP) that accompanies the application for a bespoke environmental permit (EPR/ LB3209LY A001) for Refined Metals Recycling Limited on land at The Factory, Ford Airfield Industrial Estate, Yapton, West Sussex, BN18 0HY. The land currently forms part of a larger site subject to environmental permit (EPR/BB3300GN/A001) for scrap metal recycling and processing. This application seeks to permit an additional waste operation on a parcel of land that is also subject to an application to surrender the existing permit (EPR/BB3300GN/S004). As the additional operation is to be conducted by a separate legal entity to the holder of the existing permit, an additional permit is being sought.

The site activities are the manual dismantling of catalytic convertors using physical means including: manual sorting, mechanical shearing (or de-canning) of catalytic convertors from the ceramic catalyst (monolith) and separation into component parts. This is with the primary intention of sending the monolith for processing so that the precious metal content in the form of platinum may be recovered. The purity of metals present in the extracted catalyst monolith will be subject to testing in the laboratory contained within a shipping container on the site. The total annual quantity of waste catalytic convertors accepted will not exceed 750 tonnes per annum and no more than 10 tonnes of hazardous waste (catalytic convertors in whch RCF matting is present) will be treated per day. The site is not situated within an air quality management area as confirmed by the DEFRA interactive map tool.

The activity does have the potential to generate dust emissions in theory however, the fact that the operation will:

1. take place within a building
2. be a small scale operation undertaken using manual means; and
3. involve the use of cutting equipment that has integral HEPA dust collection

the release of dust is not anticipated to occur in reality.

It should be noted that the dust generated includes precious metal, the recovery of which forms the whole basis of the business model of the proposed operation. So there is every incentive for the applicant to ensure all of it is collected for recovery and none escapes.

Notwithstanding the above, this DEMP has been produced to meet the requirements of the Environment Agency Guidance on Emission Management Plans. Therefore it:

1. identifies potential receptors of dust in proximity to the proposed site;
2. details how the site operation might result in the generation of dust,
3. sets out the monitoring to be employed ; and
4. what to do in the event of a release of dust occurring.

This DEMP is intended to form part of the environmental management system (EMS) for the site and all staff working at the site are to be made aware of its provisions.

1.1 Management Responsibilities

The site technically competent manager (TCM) will be responsible for implementing this DEMP The TCM will ensure members of staff have been shown this DEMP and that they understand its contents. A copy of this DEMP will be kept onsite for any authorised person such as, Environment Agency officers and EHOs to view on request .

This DEMP seeks to ensure that by the adoption of best practice and appropriate measures, dust emissions that might arise from the operation are prevention and adequately controlled so that they do not cause any significant adverse impacts on the environment beyond the boundary of the site subject to this application.

2 Environmental Risk Assessment

The Environmental Risk Assessment (Reference: RMR Ford/ERA/v1.1) produced for the site identifies possible sources of emissions associated with the acceptance, physical separation processes include: manual sorting, mechanical shearing (or de-canning) of catalytic convertors from the ceramic catalyst and separation into component parts. These have been assessed against the principal receptor types within the vicinity of the site. The to be permitted area is shown on drawing RMR Ford/Site Layout Plan/ v1.1, whilst the location of the site in relation to the sensitive receptors is shown by RMR Ford/Site Location Plan/v1.0. It should be noted that the proposed operation will be bounded on all sides by an existing permitted operation, which is already subject to conditions relating to dust emission control. It should be noted that the existing operation has never been subject to any complaint or negative observation regarding dust blow.

2.1 Possible Hazard

Dust emissions have the potential to have a number of possible adverse effects ranging from visual impacts such as dust plumes generated by the movement of vehicles, to nuisance by deposition on windows, solar panels, refrigeration/heating equipment, on the outside of houses and on cars and then physical impacts causing respiratory and eye irritation,. These effects are typically associated with visible dust rather than finer particulate matter such as PM_{10} or $PM_{2.5}$.

2.2 Possible Receptors

The proposed permitted area is situated in a covered/enclosed area of less than 400m^2 bounded on all sides by HD White's permitted site. Beyond the permitted scrapyard there are fields to the north and east of the site and to its western flank is Arundel Brewery. Rollaston Park road is to the south of the site with access roads to the industrial estate to the east and north of the site boundary. Receptors located within 500m of the site are listed in Table 1 and plotted on the map in Figure 1. This has zones indicating that as the distance increases from the site, the likelihood of any impact falls. It should be noted that the Agency requires applies a threshold of 250m for the passage of bioaerosols which are fine particles. Given that any dust will be heavier than bioaerosols, there is no fixed point of emission or stack associated with the proposed activity, the likelihood of any dust that does escape, reaching beyond 250m must be considered remote. The fields to the north and east would be classed as a less sensitive land use.

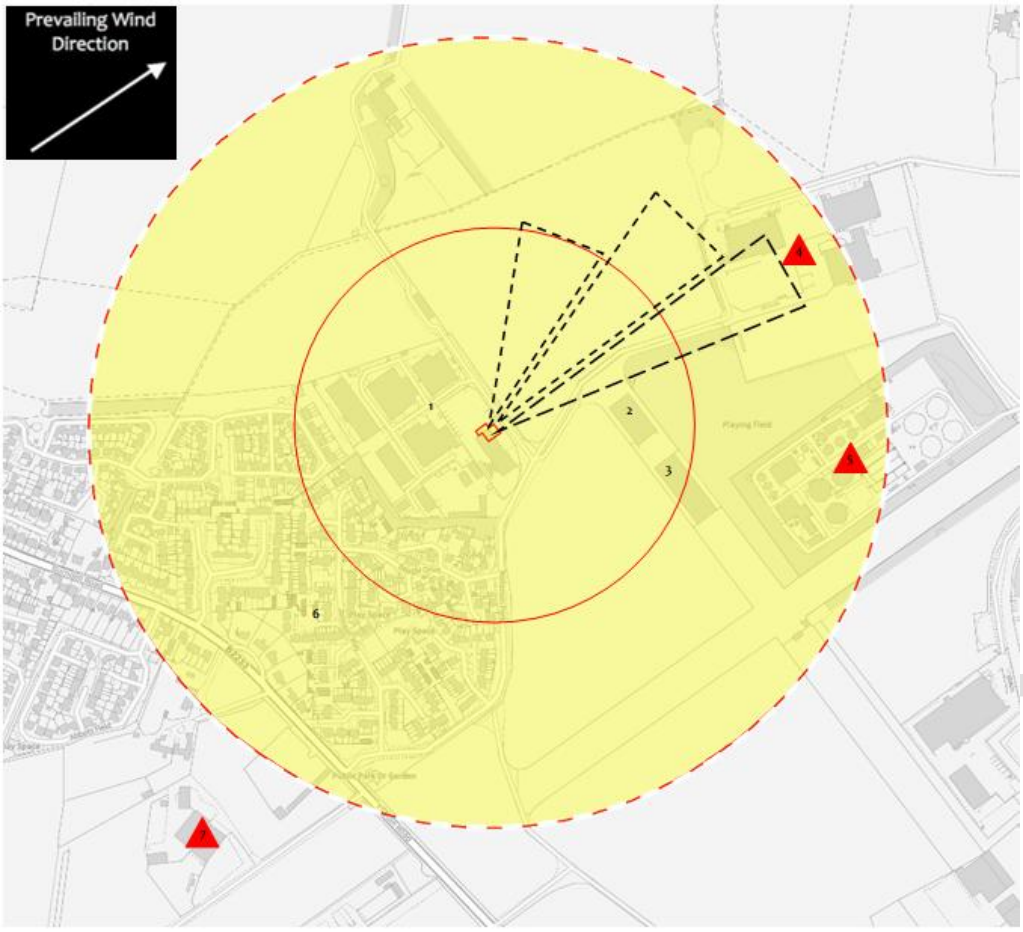

Figure 1: Receptors within 500 m of the application site plus sources and prevailing wind blow.

Zone	Entry	Occupier	Use
<250m	1	Ford Airfield Industrial Estate	
		HD White	Scrap Metal Recycler
		John Booth Engineering	Contractor
		Besmoke	Manufacturer
		Fire Extinguisher Valve Co Ltd	Fire Equipment Supplier
		Arundel Brewery	Food & Drink
		Sunbelt Rentals Plant & Tools	Plant Rentals
		Roberts Transport	Haulage & Distribution
		Ebalta Distribution	Manufacturer
		Mopani Trading	Food & Drink
		CFood Catering (UK) Ltd	Food & Drink
		Dando Drilling International	Drilling equipment manufacturer
	2	Flying Fortress	Indoor Play Centre
	3	Arun Sports Arena	Indoor Sports Complex
<500m	4	Grundon Waste Management	Waste-Management
	5	Ford Wastewater Treatment Works	Wastewater Treatment
	6		Residential Area
>500m	7	TJ Waste & Recycling	Waste-Management

2.3 Possible Pathway

Figure 2 shows the prevailing wind monitored at Shoreham-by-Sea, West Sussex, located approximately 18 miles east from the site. This shows that receptors located towards the east north east, north east and north north east of the site are potentially at greatest risk of windblown fugitive emissions should they escape the site.

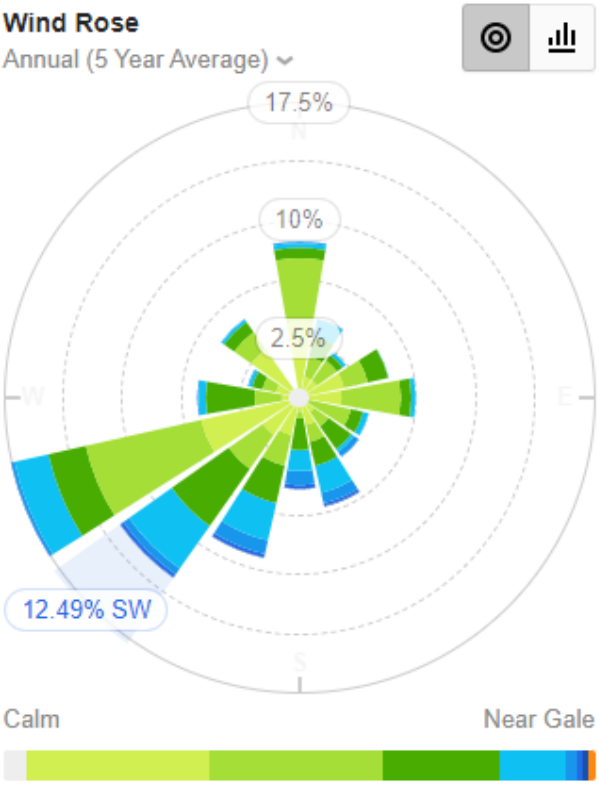

Figure 2: Wind Rose showing prevailing wind direction near application site
Source: Met Office Data – Willy Weather

2.4 Other local contributors of dust and emissions

The application site is positioned within a building surrounded by land subject to an environmental permit on which metal recycling operations take place in the open. The operation has never given rise to complaint or regulatory concern in relation to dust emissions.

Significant potential sources of emissions in the vicinity of the site are as follows:

- Ford Wastewater Treatment Works some 300m away to the east
- Grundon Waste Transfer Station some 350 m to the north east east
- TJ Waste & Recycling some 600 m to the south west.

These are also marked on the receptor map with a red triangle along with the prevailing wind direction.

3 Proposed Operations

The site will be equipped with one shear for cutting open (de-canning) catalytic converters, a top and tail shear, a plasma cutter for cutting bolts that secure the monolith catalyst block to the container and a dust extraction system using a high-efficiency particulate air (HEPA) filter to isolate and contain any dust. HEPA air filters capture particles down to the size of PM2.5.

All equipment will be inspected in accordance with manufacturers' guidelines on a regular basis to ensure it is functioning effectively.

The site manager will record all checks undertaken and any repairs required.

3.1 Waste Deliveries

Waste catalytic converters will be delivered to site by third parties. All suppliers will be vetted to ensure they hold a valid waste carrier registration. On arrival, the relevant documentation (Waste Transfer Notes/Hazardous Waste Consignment Notes) will be checked.

All loads will be inspected prior to offloading to ensure only catalytic convertors are accepted. Non-conforming loads will be refused entry and details recorded.

The types of waste accepted at the site as well as details of how they are stored/processed is set out in Table 2. Resulting waste are also identified with management methods.

Table 2 Wastes to be Managed with details of how they are handled/processed

PROCESS INPUTS

Waste Type	EWC	Containment/ storage	Max. volume/ tonnage stored at any one time	Treatment	Comments/ notes
Catalytic converters	**Metallic** 16 01 22	250 converters to a cage, 125 converters to an IBC (Cage holds 250 converters)	1 tonne separated into bulk bag	Processed offsite.	Stored prior to recycling.
	Ceramic 16 01 21* 16 08 07*		2 cages (500 converters total) pending processing	Processed onsite.	Processed ASAP to reduce risk of theft. Max. 2 bulk bags of ceramic catalyst stored pending offsite processing
	DPFs 16 01 21* 16 08 07*				

PROCESS OUTPUTS

Ferrous (convertor casings)	[redacted]	20 yard skip	Skip will hold up to 11 tonnes converter shells	Split by shear	Moved to a skip on H.D. White on sale.
RCF		Double bagged in polythene, sealed with cable ties and placed in 40-gallon drum	24 x 40 gallon drums (4 drums per pallet x 6 pallets)	Processed offsite following extraction.	Removed by authorised collector for disposal as hazardous waste 16 01 21*.

3.2 Overview of Waste Processing, Dust Emission Controls

The site layout plan (ref: RMR (Ford)/Site Layout Plan/v1.1) outlines the positioning of the equipment, storage areas and the office/analysis lab. Apart from the 'cat monolith storage container' and 'office/analysis lab', the majority of the activity occurs inside the building shown in Photograph 1 below..

This shows how the area where the catalytic converter processing operation will be separated from the rest of the building using two shipping containers and internal walls.

The site surface is smooth concrete which is easier to clean and hence prevent dust/particulate build up and escape.

Figure 2 – Photograph inside the building where the catalytic converter de-canning will occur

4 Dust and Particulate (PM10) Management

4.1 Responsibility for Implementation of the DEMP

The site's Technically Competent Manager's (TCM) (or otherwise delegated person) has primary responsibility for implementing the following dust management, monitoring and mitigation measures set out below.

Staff are trained on the importance of dust prevention/control and the measures by this DEMP. Training is undertaken upon induction at the site and refreshed as and when required.

All records of training including toolbox talks will be retained onsite for inspection.

4.2 Sources and Control of Fugitive Dust/Particulate Emissions

The site operates on the basis that prevention of dust emissions is priority in the first place is more effective than implementing dust emission response actions such as operation of suppression systems. It is primarily controlled by good operational practice through the effective implementation and monitoring of this DEMP along with relevant sections of the site EMS relating to regular checks and cleaning of the site surfaces to avoid dust building up.

In this instance, the operation of manual sorting, mechanical shearing (or de-canning) of catalytic convertors and removal of the ceramic catalyst and separation into component parts could be the source of potential dust emissions. In particular during the cutting and catalyst monolith removal stage dust might arise. However the process has an integral dust collection unit that feeds to a HEPA filter.

4.3 Other Considerations

If absolutely necessary to achieve control, water will be used to dampen down site surfaces. However prevention and retrieval of dust is preferable. If this fails to achieve the desired level of control, dust producing operations will cease.

4.4 Enclosure of Waste Processing & Storage Activity

The Environment Agency considers the enclosure of activities inside a building to be 'appropriate measures' especially if a permitted site is located within an Air Quality Management Area. The proposal will ensure that all potentially dust generating activities will be undertaken within a building. This is on the following rationale:

Waste Weight	Enclosure keeps waste dry and therefore can reduce onward disposal costs significantly.
Water Saving 1	Enclosure can reduce water usage therefore ensuring waste operations continue during drought conditions when use of water based systems may be subject to restriction.
Water Saving 2	Less water use will reduce water bill
Water Saving 3	It can preserve the quality of the separated streams improving their residual value.
Management Savings	It is easier to control dust inside a building without wind affecting the spread of emissions. It is a passive control measure and works regardless of staffing levels and management oversight.
Odour & Noise Control	Buildings can also help contain any odour and noise that might be generated.

4.5 Dust Monitoring

As the site is not located within an air quality management area (AQMA) it is not necessary to install a Particulate Matter Monitoring system.

Visual dust monitoring will be undertaken on a routine basis throughout the day with site staff remaining alert to the risks arising from dust generation. Any adverse observations and details of the action taken will be recorded in the Site Diary.

As the activity involving the de-canning of catalytic converters is the potential source of emissions, attention will be focussed on that part of the operation with inspections of the decanning equipment and check on the integrity of seals on the vacuum collection system feeding the HEPA filter.

Monitoring of dust is not just restricted to looking up into the air for dust releases. It also includes the monitoring of surfaces in and around the site such as car bonnets, roofs and windowsills.
If a dust assessment indicates that dust is arising from the site an assessment of the materials handling process will be carried out to trace any observed dust to the source so that appropriate corrective action can be taken.

The finding of the assessments will be recorded in the Site Diary along with any abnormal or extreme events that may affect dust generation/control. This feedback loop will ensure that corrective and preventative measures are in place if dust escape becomes problematic in the future. In the event of on-site sources being identified as a source following assessment or complaint, or as a result of any assessments made by regulatory bodies such as the Environment Agency and/or Local Authority Environmental Health Officers, appropriate corrective and preventative action will be taken.

Where dust emissions are identified as an issue at the site boundary and complaints are received, the TCM will review the mitigation measures and monitoring techniques detailed in this DEMP improve emissions control from the site.

5 Actions when Dust Emissions Risk Escaping the Site

1) A competent member of the site management team assesses potentially dust generating activities prior to the 'alert' being activated to understand where the emission is arising.
2) If the source of the dust cannot be ascertained with 100% confidence, the responsible person on duty suspends the likely dust generating activity.
3) If the source of the dust is the storage of feedstock or product then suppression will be deployed to dampen the storage areas.
4) If the source of the dust is within the site's control, then the responsible person will take the appropriate action in terms of dust abatement to ensure that the 'alert' is not reactivated. The following actions will be taken:
   a) Investigating the source of dust to prevent a re-occurrence.
   b) Increase the use of dust suppression.
   c) Suspend operations.
   d) Actions logged in the Site Diary and reported back to management.

The Site will operate a 'traffic light' system for dust that may arise from site activities, as detailed below. This will be displayed within the site for easy reference in the event of dusty activities occurring, along with the procedures to be followed in the event of dust arising that may escape the site. The proposed dust control measures to be employed on site are set out below.

Colour Coding System	Operating Conditions	Preventative Measures
No risk of dust escape	Normal Operating Conditions	Primary and secondary mitigation in effect; Enclosure plus LVA system
Heightened State of Alert	Dust emissions arising within the site	Tertiary mitigation in effect i.e., dust suppression activation. Incident recorded within Site Diary
Red alert	Dust emissions could escape the site boundary.	Dust suppression activation; Activities giving rise to excessive dust to cease until conditions improve Incident recorded within Site Diary

In the event of significant dust being generated within the site, additional control measures will be instigated, in particular, wetting of site surfaces.

In the event dust is observed leaving the site boundary, additional measures such as ceasing dust generating operations will be considered.

6 Reporting and Complaints Response

Any complaints received will be dealt with as matter of priority. Given complaints in themselves do not constitute evidence of actual emission, investigation to confirm or otherwise their veracity will be instigated.

On receipt of a dust complaint the responsible person will visit the location of the reported affected property to determine dust presence/ absence, dust characteristics and intensity. The time to which the complaint relates will be correlated with on-site activities – the Site Diary will be checked for 'abnormal' site operations/ adverse conditions at the time of the complaint.

The details will be recorded on the Dust Complaint Log Form (Appendix 1) including the duration of the dust release to which a substantiated compliant relates and any corrective and preventative action taken in response to the complaint. The aim will be to complete and report on such investigation within 2 working days of the complaint having been received. Feedback will be offered to the complainant at that time via their preferred method of communication. If the complaint has been received by a third party such as a regulatory body, feedback will be provided to be forwarded on.

All Dust Complaint Log Forms will be kept until the surrender of the permit. All records will be available for inspection by authorised officers of the Environment Agency or EHO.

The TCM is responsible for responding to complaints and implementing the complaint procedure in the first instance.

Appendix 2 provides details of how complaints will be noted and recorded. Following investigation of a complaint the complainant will be contacted to be informed what the source of the dust was, why the issue occurred and what mitigation measures have been implemented to prevent any re-occurrence.

6.1 Summary

This dust emissions management plan (DEMP) accompanies the bespoke permit application for Refined Metal Recycling Ltd for the primary activity of the manual sorting, mechanical sharing (or de-canning) of catalytic convertors from the ceramic catalyst and separation into component parts. This plan identifies the potential receptors that could be impacted by increased dust emissions caused by operations at the proposed site, how in the event of increased dust emissions this is managed/monitored, the procedure to be followed to address increased dust emissions and how dust specific complaints are dealt with.

This plan will be reviewed on a regular (annual or as frequently as required) basis as part of the operation of the site Environmental Management System (EMS). This will include:

- Review of any complaints received and remedial action taken
- Review of reported incidents of dust release to establish effectiveness of mitigation measures
- Recommendations on additional measures to be implemented as appropriate

In the event of the site operation being modified that may impact on dust generation potential, this plan will be reviewed and updated as appropriate.

To be reviewed June 2024

Appendix 1: Dust Complaint Record Form

Site dust complaint form		
Complaint Ref:	Date:	
Name & address of complainant		
Tel no. of complainant:		
Time & date of complaint:		
Date, time and duration of offending dust:		
Location of dust, if not at the above address:		
Weather conditions (i.e., dry, rain, fog, snow):		
Wind strength and direction (light, steady, strong, gusting):		
Complainant description of dust (colour, origin):		
Intensity of dust (light, moderate, strong, persistent):		
Any other comments about the dust:		
For completion by the TCM (or delegated person)		
Are there any other similar complaints relating to the site?		
Any other relevant information:		
On site activity at the time the dust occurred (e.g., recycled aggregate processing)		
Operating condition at time dust occurred (e.g., normal, abnormal, maintenance/special):		
Remedial action taken		
Corrective action planned		
Corrective action completed		
Form completed by	Signed:	Date: