DUST MANAGEMENT PLAN (DMP)

SPENCER RECYCLING LTD
Aggregate Recycling Facility
Unit 4 Weaver Industrial Estate
Speke
Liverpool
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VERSION 1.0 (October 2017)

Contents

Appendix

1 INTRODUCTION

This dust management plan has been produced to accompany an application to the Environment Agency for an environmental permit to authorise a proposed new recycling facility at Speke, Liverpool.

The procedures in this DMP will be implemented throughout the life of the site in order to prevent neighbourly nuisance caused by dust at the facility and comply with the conditions of the permit.

2 SITE SETTING

The facility is located on an established industrial estate but is located 58m North West from the Mersey Estuary. The nearest residential properties are located 360m to the East and 377m to the North East, however with extensive warehousing and industrial operations between such that these residences are not considered potential dust receptors.

To the North (adjacent but on a separate estate) is the Veolia solvent recovery plant and then the Garston Dock complex. To the East are other industrial premises comprising a mixture of old brick warehouse units and open yards used for civil engineering, scrap processing, general storage etc.

The Mersey Estuary is a SSSI and SPA site due to migrant wading bird populations, and the boundary to this is 58m to the South West of the site where a dock wharf is located. There are extensive mudflats beyond here at low tide. Although in close proximity to the Estuary, the protected habitat is submerged twice daily by the tide, hence the potential for dust to smother is limited.

There are no schools, hospitals or other sensitive receptors within 1km of the site, and the site is not within an Air Quality Management Area (AQMA).

See plans 2.1 and 2.2 overleaf for aerial context.

Potentially dust-sensitive receptors are listed in Table 2.1 below.

The proposed site comprises an open concrete yard, which is surrounded by a mixture of palisade fencing and steel corrugated fencing. There is also a substantial (8m) brick wall of the old dock complex located to the West which helps shelter the site from Westerly and North Westerly winds off the Estuary.

The yard has been used in the past for storage of aggregates and inert materials, and there are remnants of dust screen netting on the palisade fencing which will be replaced. The operator will install a weighbridge, portacabin offices and concrete storage bays. Access is via the internal estate road, and the nearest public highway is Blackburne Street (170m to the North).

Table 2.1 - Potential receptors

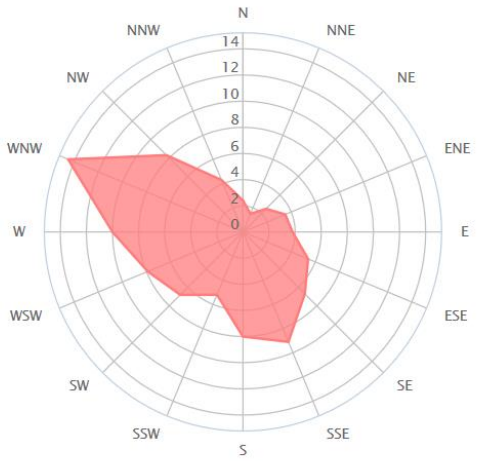
Potential Receptor	Sensitivity	Distance from site
Industrial storage yards	low	Adjacent to the NE
Veolia Solvent Plant	low	Adjacent to the N
Mersey Estuary	medium	58m to the SW

Plan 2.1 Immediate Vicinity - Aerial View

Plan 2.2 Wider Vicinity – Aerial View

The wind rose (Figure 1 below) for the weather station at Liverpool Airport (2.2km to the SE) indicates that the prevailing winds blow from the Northwest across the Estuary. Data also shows that the strongest winds are from the West and North West. Winds blowing from the N/NNE/NE/ENE (ie blowing towards the Estuary) do so for only 7.5% of the time.

Figure 1. Liverpool Airport Wind Rose (2000-2018)



3 SITE OPERATIONS

The site will be used for the recycling of inert excavation materials (ie stone, tarmac, gravels, concrete, sand and subsoils). There will be no degradable waste, no hazardous waste and no contaminated waste authorised. Loads will arrive in bulk tippers and grab wagons to be stored in bays. They will then be processed by crushing/screening to produce secondary aggregates for reuse to the utilities sector. The yard will operate Monday to Friday 0730-1730.

It should be noted that the proposed processing is limited to simple mini grab attachments on the JCB plant, as opposed to the loading into large mobile screener/crushers. Hence this is only a small-scale operation, both in size, throughput and treatment capacity.

4 POTENTIAL FOR DUST EMISSIONS

The potential dust sources anticipated at the Speke site would be from:

- loading and unloading of aggregate materials
- vehicle movements on the concreted yard
- stockpiles (wind loss)
- processing using mini grab attachment

Of these, transport and unloading/loading operations have the highest probability of raising dusts. Windblown dust emissions may also occur when moderate to high winds blow across loose materials on the ground and in stockpiles. Typically, the greatest proportion of dust emitted from mineral workings is deposited within 100 m of the dust source(s)[1].

As shown in Figure 1, the prevailing winds blow from the NW and W, though the yard is sheltered from these winds by a substantial brick wall and a corrugated steel fence which forms the boundary with the Veolia solvent plant to the North.

[1] Best Practice Guide appended to The Environmental Effects of Dust from Surface Mineral Workings, HMSO, 1995.

5 PREVENTION MEASURES

The operations will be governed by conditions attached to the environmental permit, and such conditions will include specific requirements in respect of the control of dust. The following means of prevention are based on existing site management procedures and current best practice guidance from the Environment Agency. Relevant parts of current best practice for minerals extraction[2] can also be taken to apply to inert waste management and processing operations and will be referred to as appropriate. The essence of the guidance is that dust impacts can be controlled by effective site management.

5.1 Weather Conditions

The weather forecast for the day will be assessed at the start of the day using the Met Office website, with attention being taken of wind speed and direction, and rainfall. Conditions will then be monitored visually during the day.

If during dry windy conditions any operations are identified as causing or likely to cause visible emissions across the site boundaries, or if dust emissions are observed within the site, the Site Manager, or deputy, will immediately instruct the following:

1. Cease any associated activity eg loading/unloading or treatment until situation is remedied
2. Instruct staff to apply water suppression (via hose) to area/activity (yard, stockpile etc)
3. Instruct staff to damp down all yard surfaces with bowser as a precaution.
4. Once the above measures have been implemented, the activity will recommence and the situation assessed. If the remedial measures are seen to be ineffective, the activity will cease until wind speeds reduce.

5.2 Loading and Tipping

All tipping and loading of materials will take place as close to the sheltered North boundary as possible.

For unloading, the drop height is standardised at approx 1.5m by the mechanism of the tipper vehicle. This operation will be subject to spraying using the hand-held house if the soil/hardcore material is seen to be dry.

For loading using the shovel, drop heights will be kept to a minimum, for example unloading within the body of the receiving container whenever possible in order to reduce wind loss.

Operators of all loading machinery are trained to ensure drop heights are minimised as much as possible (to minimise both dust and noise). During windy conditions the water hose will be used to spray materials whilst being loaded/unloaded.

The external stockpiles of inert material will be kept damp (using the hose) during dry or windy conditions, as observed throughout the day by site staff.

No external inert materials will be stored at a height in excess of the storage bays.

Routine spraying of stockpiles of inert waste with a handheld hose will take place to dampen the material and to reduce dust emissions during dry and windy conditions.

[2] Minerals Policy Statement 2, Appendix B, *Methods for Controlling Dust*, ODPM, 2005

5.3 Processing
Processing will be limited to attachments on the JCB plant, as opposed to the larger stand-alone crusher/screener plant. Thus, processing is on a much smaller scale and there is no loading of mobile plant at height. Instead, the JCB operator is able to keep the crush/screener attachment close to ground level. The potential for dust arising from processing is therefore greatly reduced.

A mains water supply is also in place to allow the use of hoses to damp down waste prior to screening, during processing and in stockpiles as conditions dictate (ie if any dust is observed despite the above measures).

5.4 Site Traffic
All traffic movements are on a concrete surface. All site traffic routes will be dampened in periods of dry weather using the mains water hose or bowser. This will be checked twice a day as part of the daily Dust Record in Appendix A.

Standard good practices will be adopted for site traffic, including:

- regular maintenance of integrity of concrete surfaces;
- constant clearing of site surface using machine blade, FLT brush attachment or manual brushing
- site speed limit of 5 mph;
- evenly loading vehicles to avoid spillages; and
- regular application of water to yard so that a damp yard surface is the norm.

5.5 Road Traffic
All lorries carrying material into or out of the site will be securely sheeted. The wheels, chassis and under-bodies of departing transport will be inspected for any entrained mud by the driver. If necessary, the vehicle will be cleaned and further inspected by the driver before exiting the yard. It is unlikely that any significant mud will be lost from the yard on tyres since all surfaces are concreted and are maintained in an excellent condition.

The site entrance will be inspected throughout the day to ensure that track-out is not carried out onto the estate road. If daily observations show any mud deposits on the road, a road sweeper will be hired immediately to remedy the situation.

5.6 Wind Loss
The yard is sheltered from the North and West by brick walls and substantial fencing which affords protection from the strongest and most frequent wind direction. In addition, the following is proposed:

(1) Storage of inert waste will be within concrete bay walls, with stockpile heights limited to the height of these walls
(2) Container units will be positioned along the Southern boundary fence in close proximity to each other in order to further enclose the storage areas and protect from winds from the SW.
(3) All palisade fencing to be supplemented with dust sheeting (as previous) to reduce the wind speeds across the site and act as dust screens. The taller steel framework (3m)

along the Southern boundary will also be supplemented with this sheeting. Specification will be similar to http://asj-metalnet.com/Product52/332.html

(4) Concrete yard surface to be kept damp using mains water hose during dry windy weather.

(5) Weather conditions and dust conditions to be recorded (visual observation by site manager) twice per day in the site diary as part of site EMS procedures (see Appendix A).

5.7 Other

Staff will receive environmental awareness training when they start their employment, together with refresher training via toolbox talks. This includes the importance of vigilance for dust issues throughout the day and the proper implementation of dust prevention measures

6 MAINTENANCE

Effective control of dust emissions requires the maintenance and proper operation of all plant and equipment. A programme of planned maintenance will be carried out on all plant and equipment in accordance with the manufacturers' recommendations to ensure that it operates at optimum efficiency.

Stocks of essential spares and consumable items will be held at the site or kept readily available for use at short notice.

Any malfunction or breakdown leading to abnormal emissions (eg defective dust suppression system or fencing) will be dealt with promptly and operations will be modified or suspended until normal working can be restored. All such malfunctions, and the actions taken, will be recorded in the site diary.

7 SITE MANAGEMENT

The Site Manager will exercise day-to-day control of the site, either personally or by delegation to suitably trained and responsible staff. The Site Manager will be responsible for the satisfactory working of the site and for ensuring compliance with the dust management scheme.

Daily records, a copy of which is attached as Appendix A, will be kept at the start of operations and again in the middle of the working day. The records will be kept on site for a minimum of two years and will be made available on request for inspection by the relevant authorities.

Staff at all levels will receive the necessary training and instruction in their duties relating to all operations and the potential sources of dust emissions. Particular emphasis will be given to plant and equipment malfunctions and abnormal conditions. The Site Manager will ensure that external hauliers and other visitors are aware of the need to comply with the provisions of this scheme so far as they are relevant to their activities on site.

Any member of staff who fail to comply with the provisions of the dust management scheme will be re-trained as necessary.

8 EMISSIONS MONITORING

Activities with the potential to cause dust emissions, as detailed in Section 4, will be monitored at the start-up of operations and again during the working day. This will include a visual assessment of any dust loss at the downwind site boundary.

All yard staff have the duty to report and respond to dusty conditions immediately, and are instructed/trained to do so. Routine/ recorded monitoring of dust conditions in the yard and at the downwind boundary are undertaken twice in the morning and twice in the afternoon.

All observations and findings, including wind and other weather conditions, will be noted in the daily records.

Should visible dust be generated, the Site Manager will act promptly to identify the source(s) of the dust and take the necessary corrective action. Each event, its cause and the action taken will be noted in the daily records.

If necessary to avoid potential nuisance, the Site Manager will suspend any operation or process causing visible dust emissions across the site boundary towards any sensitive receptor until the emissions can be controlled.

All site personnel will be instructed to inform the Site Manager whenever visible dust emissions are observed, or appear likely to occur, as a result of any operation or process.

9 COMPLAINTS

Any complaints received will be logged and investigated as per the complaints procedure (see appendix) which will be available to the Environment Agency. A change in the frequency of complaints will be used as an indicator of the effectiveness (or otherwise) of dust control measures or changes to operational practices.

Information regarding the nature of the complaint will be used to assess the severity of the issue. Subsequent investigation of the complaints will either substantiate or fail to substantiate the incident.

In the first instance, the complaint will be screened taking into account the following information:

- The type of complainant (local resident, industrial neighbour, organisation)
- The number of complaints against the alleged nuisance
- The frequency of complaints, e.g. a single event or a regular occurrence
- Knowledge of potential sources within the site (cross referenced with details of any plant problems and where the complaint was received and distance of the complaint to the site
- Knowledge of potential sources other than the site

10 REVIEW AND UPDATE

This DMP will be reviewed on an annual basis by the operator. The aspects to be assessed will include:

- Effectiveness of mitigation measures
- Additional mitigation measures implemented within the previous 12 months

- Complaints received in relation to dust impacts on off-site receptors
- Review of any adverse dust effects recorded within the previous 12 months
- Maintenance of the daily log book
- Review of the effectiveness of the dust control measures.

Any updates to the document will be sent to the Environment Agency for approval.

Appendix A: Dust Daily Record

Date:	8am	2pm	Action Taken
Weather: Wind Strength/Direction Sunny/dry/showers/rain			
Current Operations: ➢ Unloading ➢ Loading ➢ Processing			
Dust Suppression in use?: ➢ Handheld hose (H) ➢ RoadSweeper (RS) ➢ Bowser (B)			
Mud visible at entrance or on access road?			
Check no visible dust creation at the following: ➢ Entrance ➢ Stockpiles ➢ Yard Surface ➢ Down-wind boundary			

Appendix B Complaints Procedure

Details of Complainant **Name**	
Address **Phone**	
Date & Time of Complaint	
Nature of Complaint (eg dust, odour, noise)?	
Who else was aware of the complaint?	
How was Complaint Investigated?	
Complaint Substantiated?	
What caused the problem?	
Actions taken to prevent reoccurrence?	
Was there any significant pollution or nuisance caused	
Have you informed the Environment Agency? When?	
Has the complainant been responded to? When?	
Print & Sign your name:	

APPENDIX C: PROPOSED SITE LAYOUT