Swadlincote Energy Recovery Facility (SERF)

Dust Management Plan

on behalf of R&P Clean Power Limited

Application for Environmental Permit

May 2024

Prepared by Stantec

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1 Introduction

1.1 *Site Location*

The proposed SERF (the 'Facility') is located in South Derbyshire at Cadley Hill. Approximately 2 km west of Swadlincote, Derbyshire. The Facility is centred at National Grid Reference SK 268 190, with the nearest postcode at DE11 9EN. The surrounding area is characterised by a mix of rural and residential land. Immediately adjacent land uses include; Willshee's Materials Recycling Facility (MRF), Stanton Sewage Works, the A444 (Burton Road), residential properties to the north and south, and arable farmland to the west and south. See Figure 1 for the site location.

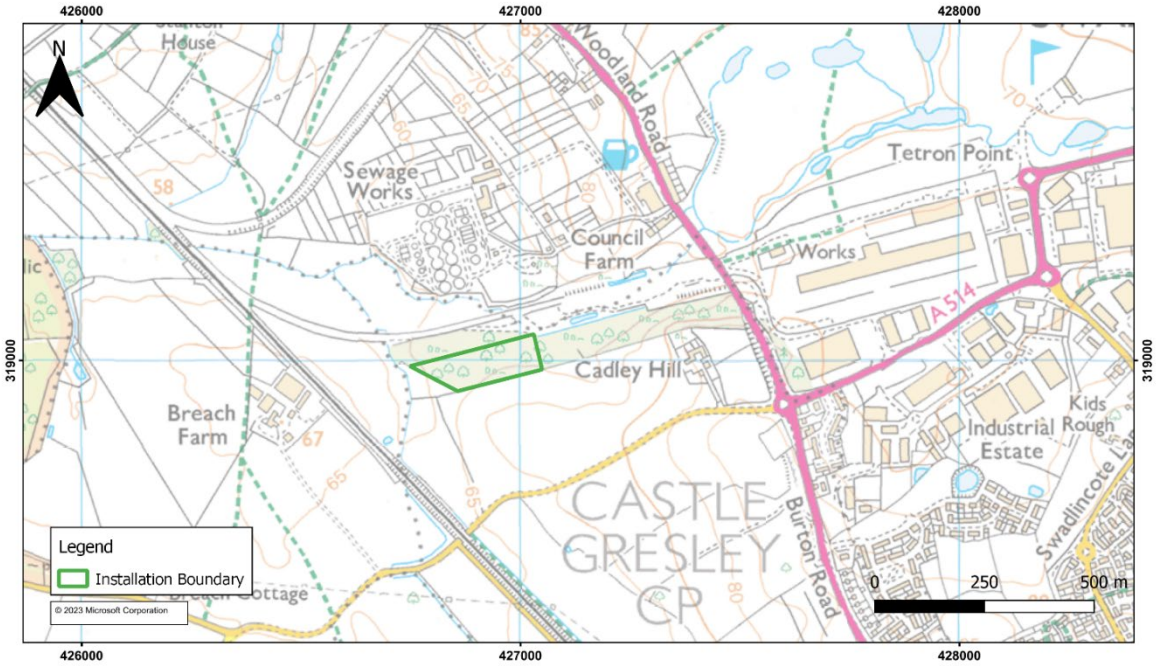


Figure 1: Site Location

1.2 *Proposals*

In summary, the proposal comprises of:

- An Energy Recovery Facility (ERF) with a maximum annual throughput of 230,000 tonnes per annum (tpa) of non-hazardous residual (post-recycled) waste and a stack of 60m height above ground level;
- The ERF will comprise of a mass incineration system, fed by single line, linked to a dual burner system. The fuel used in the Facility will be sourced and delivered to the Facility by a third party on a contracted basis;
- A steam turbine driven power generation capacity of approximately 20.5 MW of electricity;
- Grid connection cables, plant and equipment including a high voltage power distribution system to enable electricity to be supplied to the public supply network;
- Infrastructure to enable Combined Heat and Power (CHP) which includes the provision of a steam take off; and

- Installation of weighbridges, access and internal roads and parking facilities.

The energy recovery operation will run on a 24/7 basis, and the Facility will be permanently staffed. Facility walk downs at regular intervals will be part of standard operational procedures. The acceptance of fuel will be restricted to specified hours.

1.3 *Role of this Report*

This Dust Management Plan (DMP) has been prepared in order to support the requirement of the permit application for the Facility.

2 Objectives of this Dust Management Plan

The objective of this document is to detail the measures that will be employed to control dust emissions and manage the potential environmental impacts from dust that could arise during the operation of the Facility.

Specifically, the scope of this DMP will consider:

- The site setting: identification of sensitive receptors and site-specific meteorological conditions that may affect dust dispersion;
- Dust sources and their control;
- Monitoring processes;
- Process overview
- Risk assessment; and
- Management, communication, and reporting information.

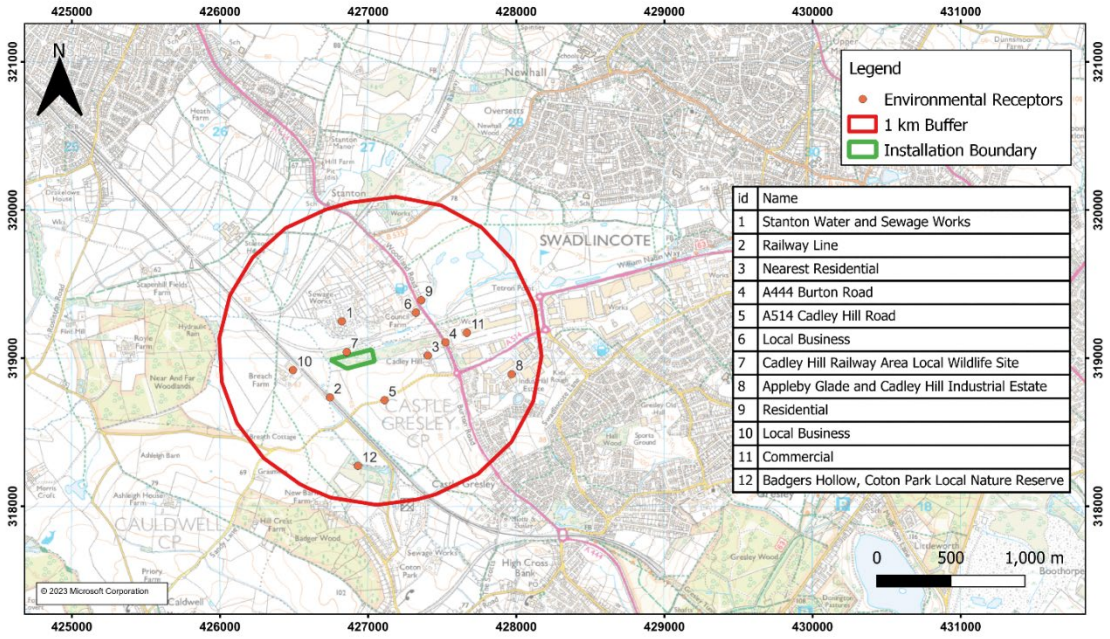
3 Site Setting: Receptors and Meteorological Conditions

The determination of appropriate dust control measures requires consideration of the potential dust impacts. The potential for dust impacts is determined by the potential for dust generation, the distance to, and sensitivity of receptors in the surrounding area and prevailing meteorological conditions (precipitation, wind speed and direction).

1.4 *Site Surroundings and Potential Receptors*

3.1.1 Local Sensitive Receptors

Figure 2 and Table 1 illustrates the Facility in relation to its surroundings and the range of potential receptors.



id	Name
1	Stanton Water and Sewage Works
2	Railway Line
3	Nearest Residential
4	A444 Burton Road
5	A514 Cadley Hill Road
6	Local Business
7	Cadley Hill Railway Area Local Wildlife Site
8	Appleby Glade and Cadley Hill Industrial Estate
9	Residential
10	Local Business
11	Commercial
12	Badgers Hollow, Coton Park Local Nature Reserve

Figure 2: Local Receptors Plan

The proposed SERF is approximately 600m west of the Swadlincote built-up area. The Facility's surroundings are predominantly agricultural, with a small number of residential properties. The SERF adjoins the Willshee's MRF. A wastewater treatment works (WWTW) lies approximately 150 m north. Other industrial and commercial areas lie about 650m east.

The Facility sits in the Mease-Sence Lowlands Landscape Character Area (LCA), a very gently undulating and open, arable farmland landscape with hedgerows and woodland blocks which forms the wider context to the west.

The Facility is also influenced by the immediately adjacent Leicestershire and South Derbyshire Coalfields LCA, which occupies the slightly elevated, rising ground to the east, and is influenced by a legacy of coal mining and urban development.

The whole Facility lies within the National Forest designation. The countryside north of the Facility is designated as Green Belt. It is also located within Cadley Hill Railway Area Local

Wildlife Site (LWS).

Table 1: Sensitive Receptors

Number	Name	Direction	Distance (metres)
1	Stanton Water and Sewage Works	North	150 m
2	Railway Line	South-west	300 m
3	Nearest Residential	East	420 m
4	A444 Burton Road	East	550 m
5	A514 Cadley Hill Road	South	330 m
6	Local Business	North-east	470 m
7	Cadley Hill Railway Area Local Wildlife Site	North (within the Facility)	50 m
8	Appleby Glade and Cadley Hill Industrial Estate	South-east	950 m
9	Residential	North-east	570 m
10	Local Business	West	415 m
11	Commercial	East	650 m
12	Badgers Hollow, Coton Park Local Nature Reserve	South	690 m

3.1.2 Meteorological Conditions

Research has shown that winds greater than 3m/s can suspend and carry dusts. The wind rose for 2021 from the Nottingham East Midlands meteorological station presented in Figure 3 demonstrates that the prevailing wind in the region is from the southwest, with winds less frequently blowing from the northeast. In general, dust will be transported by the wind and will not be detectable at locations upwind of a source. The exception to this is during very light wind conditions when dust may disperse against the wind direction, although typically only for short distances.

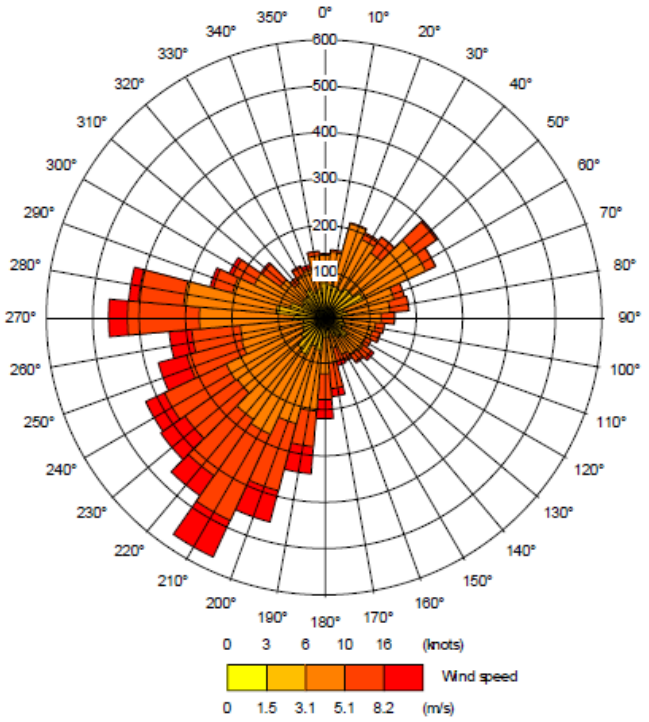


Figure 3: Wind Rose for Nottingham East Midlands, 2021[1]

Rainfall is a natural dust suppressant, rainfall of greater than 0.2mm per day is considered sufficient to effectively suppress wind-blown dust emissions. The data presented in Figure 4 below presents average rainfall data for the area and indicates that typically in any month there may be up to 22 days in which dust control measures may need to be applied in the absence of sufficient rainfall to control fugitive dust emissions. This highlights the need for monitoring of weather forecasts in order to be pro-active in the application of dust control measures.

[1] Dust Assessment: Swadlincote Resource Recovery Park (SRRP). Air Quality Consultants Ltd, July 2022

Climate period: 1991-2020

Station: Sutton Bonington

Month	Maximum temperature (°C)	Minimum temperature (°C)	Days of air frost (days)	Sunshine (hours)	Rainfall (mm)	Days of rainfall ≥1 mm (days)	Monthly mean wind speed at 10 m (knots)
January	7.51	1.92	9.20	51.63	50.72	10.90	7.80
February	8.14	1.89	8.47	76.06	41.19	9.63	7.78
March	10.54	3.01	5.90	115.59	40.60	9.60	7.84
April	13.55	4.57	3.00	152.04	44.32	9.56	7.05
May	16.68	7.17	0.87	182.85	46.29	8.93	6.77
June	19.62	10.14	0.03	161.83	63.66	9.50	6.10
July	22.02	12.12	0.00	190.14	61.79	9.62	5.80
August	21.75	12.15	0.00	175.57	54.57	8.60	5.86
September	18.72	10.07	0.00	136.69	49.18	8.90	5.92
October	14.48	7.54	1.17	100.78	62.66	10.37	6.69
November	10.38	4.41	4.37	61.45	56.91	10.99	6.82
December	7.75	2.13	9.19	47.73	58.14	11.67	7.03
Annual	14.29	6.45	42.20	1452.36	630.03	118.27	6.78

Figure 4: Long Term Station Averages from Sutton Bonnington (24 km NE of Facility)[2]

1.5 *Other Potential Sources of Dust*

Other local potential sources of dust include:

- Adjacent Willshee's MRF; and
- Former Bison Precast Concrete Works, now closed and recently purchased by Mulberry Developments.

Other land uses adjacent to the Facility include Stanton Water and Sewage Treatment Works and industrial buildings.

[2] Met Office - https://www.metoffice.gov.uk/public/weather/climate/gcjg4205u

4 Monitoring Processes

4.1 Monitoring

4.1.1 Weather Forecast

Weather forecasts available on the internet will be used to aid decision making, e.g., with regard to scheduling activities with a high potential to produce dust, identifying the need to commence additional mitigation.

4.1.2 Wind Conditions

Banner flags that indicate wind direction will be installed on the Facility boundary to aid decision making with regard to the risk of dust impacts and appropriate mitigation.

4.1.3 Visual Dust Monitoring

On-site and off-site visual inspections will be carried out on a regular basis and recorded in the on-site log. The Facility's Environment Manager will have specific responsibility for day-to-day administration of environmental tasks.

Visual surveys will make observations for:

- Dust plumes (dusts dispersing beyond the Facility boundary); and
- Dust soiling on surfaces such as cars or windowsills.

The frequency of inspections will be increased as appropriate in response to:

- Activities with a high potential to produce dust are being carried out;
- Prolonged periods of dry or windy conditions; and
- As part of an action in response to complaints. All inspection results will be recorded in the on-site log.

4.2 Site Action Plans

The on-site action plans shall be 'triggered' in the event of:

- Complaints received during or after a dust event; or
- Identification from visual monitoring of dust plumes crossing the Facility boundary.

4.2.1 Complaint(s) Received (during dust event)

The following action plan presents the course of action that shall be taken in the event that a complaint is registered by a member of the public whilst the source of the problem is still in operation.

Table 2: Dust Event Action Plan

1. Complaint registered by a member of the public;
2. Verify validity of the complaint by visual survey;
3. Identify source of dust emissions on-site and mitigate as soon as practicable;
4. If mitigation ineffective, cease activity resulting in dust emissions until activity can be undertaken without significant dust emissions;
5. Complete dust event reporting in log book, recording on-site meteorological conditions (including wind speed, wind direction and recent rainfall patterns);
6. If dust complaints continue – investigate further mitigation methods that can be applied to the operation or activity;
7. Maintain correspondence with complainant and inform of actions taken.

4.2.2 Complaint(s) Received (post dust event)

The following action plan presents the course of action that shall be taken in the event that a complaint is registered by a member of the public following the cessation of a dust event.

Table 3: Post-Dust Event Action Plan

1. Complaint received by a member of the public;
2. Investigate operations and weather conditions at the time of the event to verify the validity of the complaint and identify source of dust emissions;
3. Complete dust event reporting in log book;
4. Implement dust mitigation measures reduce potential for repeat episode;
5. If dust complaints continue – investigate further mitigation methods that can be applied to the operation or activity;
6. Maintain correspondence with complainant and inform of actions taken.

4.2.3 Visual Monitoring of Dust Plumes across the Facility Boundary

The following action plan presents the course of action that shall be taken in the event that a member of personnel report visible plumes of particulate matter crossing the Facility boundary.

Table 4: Visual plume monitoring procedure

1. Visual monitoring identifies dust plume beyond the Facility boundary;
2. Record details of event and operations currently being undertaken on-site;
3. Assess wind direction, i.e., whether the dust plume is travelling in the direction of sensitive receptors;
4. Identify dust source on-site and investigate further mitigation measures or cease activities resulting in dust emissions if mitigation proves ineffective;
5. Complete dust event reporting in logbook;
6. Continue visual monitoring to ensure source of dust has been effectively managed.

4.3 Management

4.3.1 Management Responsibility

The Environment Manager is directly responsible for the day-to-day administration of environmental issues. This shall include, but not be limited to:

- Managing and advising on environmental matters affecting the Facility;
- Implementing the EMS;
- Carrying out regular internal audits and procedure reviews on environmental matters;
- Review and updating of environmental system procedures and method statements;
- Review and mitigate all environmental impacts of method statements;
- Record and maintain all environmental matters/incidents in accordance with reporting procedures; and
- Ensure all team members work in accordance with the environmental procedures.

4.4 Communications

4.4.1 Contact Information

The relevant contact details shall be displayed at the Facility entrance to ensure that complaints can be registered. A 24-hour emergency contact number will be set up and distributed accordingly to ensure enquiries can be registered at all times.

4.5 Records and Reporting

Records relating to the management and monitoring dust will be maintained as described below.

4.5.1 Records

Records shall be maintained in the on-site log book and include the following details:

- Results of inspections and monitoring carried out by Facility personnel;
- Weather conditions from observations on-site;
- Problems including date, time, duration, prevailing weather conditions and cause of the problem;
- Details of corrective action taken and any subsequent changes to operational procedures; and
- Complaints received including address of complainant (if available).

Records of all monitoring, inspections and services of equipment shall be maintained on the Facility and these records shall be made available to the regulator to examine on request.

4.5.2 Dust Event Reporting

Reporting of dust events shall be completed in the on-site logbook; an example of the details to be recorded is presented in Appendix 1.

5 Process Overview

5.1 Delivery of Waste

The ERF will accept the following wastes from the List of Wastes (LoW), hereafter referred to as the 'fuel':

- 19 12 10 - Combustible Waste (Refuse Derived Fuel)
- 19 12 12 - Other Wastes (Including Mixtures of Materials) from Mechanical Treatment of Wastes other than those mentioned in 19 12 11
- 20 03 01 - Mixed Municipal Waste
- Other wastes listed in Table 1b of Form 3B

The proposed ERF will have a maximum waste processing capacity of approximately 230,000 tonnes per annum (tpa). It will operate 24 hours per day, 365 days a year. Residual waste fuel will be delivered 07.00-18.00 Monday to Friday and 07.00 to 14.00 Saturday. Waste will be delivered to the Facility in covered Heavy Good Vehicles (HGVs), or on occasion, wrapped bales.

Waste will be delivered to the Facility by covered tipping, walking floor or ejector trailers bulk haulage vehicles, accessing the Facility via Keith Willshees Way over the weighbridge. Following acceptance, they will then proceed to the south of the MRF prior to being diverted into the required operational areas.

During unusually dry periods of weather the process of vehicles accessing the Waste Reception Hall, to deliver their waste load, is one of the main potential sources of dust associated with the operation of the Facility. To minimise the potential for dust releases, the delivery door will open only as the vehicle reverses into the Waste Reception Hall. Once the vehicle is fully within the Waste Reception Hall, the door will close immediately to minimise any escape of process air from within the fully enclosed building.

Once the vehicle has discharged its load and has been cleared to leave the Waste Reception Hall by the Mobile Plant Operator or Operations Technician, the driver will be directed to exit by signage through an available reception door to return to the weighbridge.

The reception hall is kept at negative pressure by the operation of the combustion process air fan. In situations where this may not be available due to breakdown or maintenance, the auxiliary air extraction system will provide permanence of negative pressure within the hall to prevent odour escape. The auxiliary system will consist of an appropriately sized air extraction fan passing through a wet scrubbing unit and/or activated carbon filters.

All fuel will be delivered by HGV, which will enter the process building via the fuel reception hall, whose doors will be open for as little time as possible, with fast acting roller shutter doors to minimise the escape of air from the building.

5.2 Storage

Incoming waste will be stored in a waste storage bunker of a capacity of approximately 8,500m^3. The bunker will facilitate the continuous operation of the Facility, as it enables material delivered during the day to be stored and used on a 24-hour basis. The bunker will also provide sufficient storage to allow weekend and bank holiday operation when there are no waste deliveries, and for

deliveries to continue during maintenance or Facility shutdown.

The total fuel storage capacity on-site is therefore estimated to be 2,000-3,000 tonnes (depending on fuel density) at any one time and under normal operating conditions the duration of storage will be 4 to 5 days (depending on fuel NCV). The annual throughput of fuel is to be up to 230,000 tonnes per year.

All waste handling will take place within the Waste Reception Hall building, which will be maintained under negative pressure to ensure that the escape of air to the outdoors is kept to an absolute minimum. A deodorising/dust suppression misting system will also be in use when necessary, within the building. The air extracted from the Waste Reception Hall will be used in the incineration process. During maintenance periods when the incineration process is offline (typically around 30 days per year), the deodorising/dust suppression misting system will be in operation and the air extracted from the Waste Reception Hall will be treated within an odour abatement unit and exhausted to air from the roof of the building, at 25–30 m height.

5.3 Fuel Feeding

The delivered fuel will be tipped into the fuel bunker within the Waste Reception Hall. Overhead fuel cranes operating on a pre-programmed cycle will move the waste around the fuel bunker to create a homogeneous mixture. The cranes will also deliver waste to the fuel feeding chute serving the incineration unit. From this point onwards the system is sealed, and there should be no escape of material.

5.4 Combustion Process

The waste fed to the fuel delivery chutes is then incinerated, generating flue gas and bottom ash. The bottom ash produced is discharged from the incineration units and stored in an ash bay before being removed for off-site treatment. This bottom ash will be stored within the process building.

Once within the feed grate, waste is combusted with the aid of primary and secondary air to the combustion process which will be provided by electric fans. The gas temperature in the combustion chamber is maintained by the DCS by adjusting the flow of primary and secondary air; this aids the control of thermal NOx created by high temperatures in the chamber.

Oil-fired auxiliary burners are installed for start-up and shut down of the plant and to maintain the combustion space temperatures at 850°C as required for compliance with the Industrial Emissions Directive on the rare occasions when it becomes necessary to use auxiliary fuel to do so.

The hot gases from combustion pass through a boiler where the heat is transferred to the water circuit and where steam is raised. Subsequently, the flue gases exiting the boiler are cleaned and discharged to atmosphere.

Two systems are used to extract ash from the combustion chamber and boiler surfaces. Bottom ash (from the combustion grate) is collected within a quenched system from hoppers beneath the grate and conveyed to a dedicated collecting room. Boiler ash, from radiant and conductive parts of the boiler, is collected in hoppers at the bottom of the boiler passes and conveyed to the bottom ash handling system by enclosed conveyors.

In addition, the Facility is equipped with a Selective Non-Catalytic Reduction (SNCR) system

that can dose an aqueous solution of urea with a concentration of 40% to reduce fuel NOx.

5.5 Power Generation

The combustion gases will flow from combustion chamber through the boiler, where they will transfer the heat to the boiler pipes where the water evaporates. The steam is then "superheated" via the boiler superheater to temperatures in excess of 400°C. The superheated steam is then delivered to the steam turbine for electrical power production. Steam enters the turbine through a hydraulic emergency stop valve, and the rate of flow into the turbine is controlled via a hydraulic throttle valve.

The expected gross electricity generation is 20.5 MW, with a gross electrical efficiency is 30.3%. The actual gross electricity efficiency will be ratified during the commissioning of the Facility. The net electricity generation (taking into account the parasitic load of the plant, other auxiliary consumptions, and electrical losses) is 18.5 MWe, an equivalent net electrical efficiency of 27.3%.

The electricity produced at 33kV is connected to the electricity substation, as per the Connection Agreement with National Grid Electricity Distribution. A back-up diesel generator will be provided, to provide power to shut-down the Facility in safety operation mode in an emergency scenario. This will be switched on once a week to run for approximately 5 - 10 minutes, as part of routine maintenance procedures.

Steam from the steam turbine exhaust, flows into the main steam duct to the air-cooled condenser. The steam is condensed inside a heat exchanger using air as the cooling medium. The cooling air is forced through the heat exchanger by axial fans, driven by electric motors and speed reducing gearboxes. The condensate formed is collected by gravity into the condensate tank, from where it is pumped to a de-aerator to be recycled to the steam boiler for a new cycle.

5.6 Exhaust Emissions

Exhaust gases from the fuel combustion are mixed with lime and active carbon in the vertical reaction tower. Following this process, exhaust gases are sent to a dust separator system that consists of filter bags to ensure the emissions comply with the limits specified in the BAT Reference for Waste Incineration and the Industrial Emission Directive (IED).

Exhaust gases are discharged through a stack, with an approximate height of 60m. The plant is designed to meet the exhaust emissions limit values (ELVs) shown in Table 5. A continuous Emission Monitoring System (CEMS) (with redundancy) is installed to ensure compliance with permitted emission limits at the point of discharge.

Table 5: Proposed emission limit values (ELVs)

Parameter	Half Hour Average (mg/Nm^3)	Daily Average (mg/Nm^3)	Periodic Limit
Continuously monitored pollutants			
Particulate matter	30	5	-
VOCs as Total Organic Carbon (TOC)	20	10	-

Hydrogen chloride	60	6	-
Carbon monoxide	100	50	-
Sulphur dioxide	200	30	-
Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400	120	-
Ammonia	-	10	-
Periodically monitored pollutants			
Hydrogen fluoride*	-	-	1
Cadmium & thallium and their compounds (total)	-	-	0.02
Mercury and its compounds**	-	-	0.02
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	-	-	0.3
PCDD/F***	-	-	0.04
PCDD/F + dioxin-like PCBs***	-	-	0.06
All expressed at 11% oxygen in dry flue gas at standard temperature and pressure.			

5.7 Water Treatment

A demineralised water production plant will be installed to make up the small amount of water lost in the steam cycle. The process requires a potable water supply of approx. 5 m^3 per hour on average, with a peak demand of ca. 25 m^3 per hour (only during Start-up). This process is not a potential source of dust.

5.8 Facility Control Systems

Process control at the Facility will be an important factor in dust control. The Facility will be equipped with an automatic process control unit, which measures and records various process parameters that indicate whether the process is operating within design parameters. The Facility operator can control the process via the Human Machine Interface (HMI) which delivers a complete overview of the process components, reports system status and shows any alarms.

In addition, and emergency shutdown system is provided as a separate system that can be used to detect emergency situations and perform the required emergency shutdowns.

5.9 End Products

As described above, the end products associated with these processes are flue gases that have the potential to be a source of dust, including bottom ash, boiler ash and Air Pollution Control (APC) residues.

Exhaust gases from the combustion process are normal products of gas combustion and

closely controlled and monitored for particulate content.

The bottom ash is discharged via a wet conveyor system to a dedicated storage area, from which it is transferred into appropriate bulk vehicles for transport to reprocessing into secondary products and/or disposal.

APC residues are conveyed to an enclosed silo. This material is subsequently collected via a pneumatic system into bulk vehicles for onward transport to reprocessing and/or disposal.

5.10 Management of Operational Phase

An Environment Management System (EMS), that accords with the appropriate Environment Agency guidance, has been submitted alongside this DMP. This EMS is required to incorporate dust control measures and will cover the following elements:

- **Operations**: potential operational dust sources and techniques for their control;
- **Maintenance**: to ensure that dust control measures/equipment are correctly maintained;
- **Accidents**: an accident action plan will be in place detailing potential accident/failure scenarios e.g., spillages of dusty material or damage to containment, and contingency plans;
- **Incidents and non-conformances**: techniques for monitoring dust and detecting a non- conformance, i.e., fugitive emissions from visual monitoring or complaints from public, contingency actions and investigative procedures;
- **Competent persons and resources**: this will list personnel responsible for particular dust control measures and scheme to ensure resources e.g., water bowsers are in place; and
- **Records**: for use in monitoring the effectiveness of dust control measures and to demonstrate compliance.

5.11 Best Available Techniques

Best Available Techniques are derived from the Best Available Techniques Reference Document (BREF) for Waste Incineration and the Environment Agency's Sector Guidance Note EPR S5.01 'The incineration of Waste' provides indicative Best Available Techniques (BAT). This guidance has been reviewed for measures that are relevant to controlling dust emissions.

Indicative BAT for dust control of incoming waste and ash handling at the Facility are outlined in Table's 6 and 7.

Table 6: BAT for waste delivery

BAT – for incoming waste	Facility Design features
Maintain a high standard of housekeeping in all areas and provide and maintain suitable equipment to clean up spilled materials.	Addressed by implementation of O&M procedures

Only load and unload vehicles in designated areas provided with proper hardstanding and such areas should have appropriate falls to an adequate drainage system.	Unloading only within waste reception hall.
Incoming municipal waste should be in covered vehicles or containers and unloaded into enclosed reception bunkers or sorting areas with dust control.	All fuel delivered in vehicles that are covered or enclosed. All unloading within reception hall.
Use design and handling procedures to avoid any dispersal of litter.	All unloading within reception hall.
Operate low volume water fog sprays above the storage bunkers if you need to control dust emissions. Minimise liquid run-off and wash down from the storage and handling areas and use them in the process, such as in the ash quench, wherever possible.	System available but expected average moisture content is high enough to avoid dust generation within bunkers.

Table 7: BAT for ash handling

BAT – for Ash Handling	Facility Design features
Water quenched bottom ash should be held at an intermediate point to ensure it is fully drained before being transferred to skips to protect against leakage in transport.	Bottom ash held within dedicated storage area to drain prior to being transferred to container/bulk transport.
All ash transport containers to be covered.	All transport vehicles will be covered before leaving the Facility.
Adequate cleaning equipment, such as a vacuum cleaner, should be provided and maintained, to clean up promptly any spilled ash.	Mobile plant to be provided.
Fly ash and APCR residues to be handled in completed sealed system.	APC residues to be handled in a sealed conveyor and silo storage systems before being loaded pneumatically into transport vehicles for reprocessing and/or disposal off-site.

6 Risk Assessment

This section sets out the control measures/operational procedures that will be put in place at the Facility in order to reduce the potential for dust releases and associated nuisance for local residents or impacts on sensitive ecological receptors. In addition, a risk assessment has been undertaken to consider the effectiveness of these measures and procedures. Table 8, adapted from the relevant EA guidance[3], sets out the measures and procedures to be put in place, as well as the residual risk of dust nuisance, during normal operational practices.

The risk assessment indicates that the residual risk of dust releases should not be significant when the management procedures are correctly implemented.

[3] Environment Agency (2011) Horizontal Guidance Note H1, Annex A: Amenity and Accident Risk from Installations and Waste Activities

Table 8: Dust Risk Assessment and Management Plan

Hazard	Receptor	Pathway	Management Techniques	Probability of Exposure	Consequence	What is the Overall Risk?
What has the potential to cause harm?	*What is at risk? What do I wish to protect?*	*How can the hazard get to the receptor?*	*What measures will you take to reduce the risk?*	*How likely is this contact?*	*What is the harm that can be caused?*	*What is the risk that still remains?*
Dust from waste being delivered to reception hall	Staff on-site (direct harm), nearest residential located approx. 420 m east of the Facility and nearby local businesses located approx. 415 m west of the Facility, and approx. 470 m north-east of the Facility. Local Wildlife Site less than 50 m north of the ERF.	Air (Wind-blown)	Physical Control Procedures: • Ensure that all vehicles delivering waste to the facility are fully enclosed. • Ensure that roller doors on the Waste Reception Hall are only opened for the arrival of a delivery vehicle and that they are closed once the vehicle is fully within the building. Procedural/Managerial Control Measures: • Continuous monitoring of the process using the automatic process control. • A complaints procedure will be put in place to ensure that potential issues are identified and rectified as soon as possible. • A preventative maintenance programme will include the regular inspection of all plant and control measures.	Low – Dust could potentially reach the receptors if a strong wind blows in those directions	Mild – Nuisance, dust on private property, cars, etc.	Low – With management techniques utilised
Dust from waste being held in the storage bunker		Air (Wind-blown)	Physical Control Procedures: • All waste held at the Facility will be within buildings maintained under negative pressure. Procedural/Managerial Control Measures: • Continuous monitoring of the process using the automatic process control. • A complaints procedure will be put in place to ensure that potential issues are identified and rectified as soon as possible. • A preventative maintenance programme will include the regular inspection of all plant and control measures.	Low – Dust could potentially reach the receptors if a strong wind blows in those directions	Mild – Nuisance, dust on private property, cars, etc.	Low – With management techniques utilised
Dust emission from ash handling		Air (Wind-blown)	Physical Control Procedures:	Low – Dust could potentially reach the receptors if a strong	Mild – Nuisance, dust on private property, cars, etc.	Low – With management techniques utilised

Hazard	Receptor	Pathway	Management Techniques	Probability of Exposure	Consequence	What is the Overall Risk?
			• Bottom ash from grate handled in quenched collection system and deposited into dedicated storage room. • Air Pollution Control materials (from bag filters) transported and stored within sealed system. • All transport off-site to reprocessing/disposal within enclosed or sheeted vehicles. Procedural/Managerial Control Measures: • Continuous monitoring of the process and storage capacity using the automatic process control. • A complaints procedure will be put in place to ensure that potential issues are identified and rectified as soon as possible. • A preventative maintenance programme will include the regular inspection of all plant and control measures.	wind blows in those directions		
Particulate and dust from stack emission	Nearest residential located approx. 420 m east of the Facility and nearby local businesses located approx. 415 m west of the Facility, and approx. 470 m north-east of the Facility. Water and Sewage Works located 150 m north of Facility. Sensitive ecological receptors at distance from Facility due to deposition, including Local Wildlife Site less than 50 m north of the ERF, and Local Nature Reserve 690 m south of the Facility.	Air (Wind-blown)	Physical Control Procedures: • Installation of effective bag filters and other air pollution techniques to minimise any dust or particulates in the exhaust Procedural/Managerial Control Measures: • Continuous monitoring of the process using the automatic process control. All emissions to air in accordance with emission limit values. • A complaints procedure will be put in place to ensure that potential issues are identified and rectified as soon as possible. • A preventative maintenance programme will include the regular inspection of all plant and control measures.	Low – Particulates and dust could travel and be deposited on receptors if a strong wind blows in those directions	Moderate – Nuisance, dust on private property, cars, etc. Sensitive receptors could be affected	Medium/low – With management techniques utilised

7 Management, communication, and reporting

7.1 Repairs, Maintenance, and Monitoring

The Facility will be inspected on a regular basis by the operator by means of a visual check and will be serviced and maintained by competent staff and third-party providers at regular intervals in accordance with the operational manual and manufacturer's instructions. Results of the visual checks will be recorded in the on-site logbook. Records of all servicing and maintenance visits will be held on-site.

7.2 Neighbourhood Engagement

The Facility operator is committed to developing a good relationship with the public and is committed to deal with any complaints, including those regarding dust, in an open and timely manner. Visitors, customers, and neighbours expressing dissatisfaction with the facilities or operations carried out at the Facility will be invited to enter a record in the Complaints File. The complaint will be dealt with by the Facility operator for analysis and actions required, engaging specialist third parties wherever needed. The complainant will be informed of the results of the investigation and any corrective actions proposed.

7.3 Staff Competency and Training

The Facility operator will be fully trained by the technology provider, or a chosen training provider, in the correct operation of all elements of the SERF. The Facility operator will be equipped with an operations manual which will support them during the day to day running of the Facility. It will also contain all necessary details regarding inspection and maintenance intervals and contact details of contractors.

In addition, all staff will be trained in emergency and incident response relating to the operation of the facility. Training records will be held at the Facility as part of the operations manual.

Appendix 1 – Dust Event Form

Dust Event Form	
Name of Recorder	
Description of Event (a)	
Date / Time	
Activities taking place during time of event	
Dust mitigation techniques employed at time of event	
Summary of weather conditions leading up to and during the event (inc. wind speed, prevailing wind direction and rainfall patterns)	
Details of corrective actions	
Additional Notes	
(a) e.g., complaint registered (name and address) or visible dust crossing site boundary during visual assessment	