



OPERATIONAL SUPPORT

# OUTLINE ODOUR MANAGEMENT PLAN

OS.HSE.XX.XX.S01.MH

## **SITE DETAILS:**

### **Medworth CHP Limited**

Medworth Energy from Waste Combined Heat and Power Facility

Algores Way,

Wisbech,

Cambridgeshire,

PE13 2TQ

Version: DRAFT to accompany DCO application

Issue date: August 2023



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**1. INTRODUCTION**

Medworth CHP Ltd (Applicant), a wholly owned subsidiary of MVV Environment Ltd (MVV), are developing the Medworth Energy from Waste Combined Heat and Power (EfW CHP) Facility within the Algores Way industrial estate, Wisbech, Cambs.

The objective of this report is to provide an Outline Odour Management Plan (OMP), detailing the intended provisions to be incorporated into final detailed design and operation of the EfW CHP Facility. The report will be reviewed and finalised following the detailed design stage of the development, prior to operation and secured under the Environmental Permit. The Outline OMP is designed to:

- Employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution;
- Prevent unacceptable odour pollution at all times;
- Reduce the risk of odour releasing incidents or accidents by anticipating them and planning accordingly.

This Outline OMP will form one of a suite of documents managing operational activities at the EfW CHP Facility. It has been drafted in accordance with controls dictated by the company's existing Integrated Management System (IMS), which is certified in accordance with international standards for Environmental, Occupational Health & Safety, Quality and Energy Management.

This document has been drafted with due consideration given to Environment Agency guidance 'H4 Odour Management' and the associated report template supplied by the National Odour Team, to provide a framework for the provision of the Environment Agency's required information.

**1.1. Site Description**

The EfW CHP Facility will consist of a Schedule 1 installation activity, as defined in the Environmental Permitting Regulations (EPR) and several directly associated activities. These include:

- Two-line waste incineration plant thermally treating non-hazardous residual waste.
- Generation of power with electricity exported to the National Grid and/or private wire customers, with the potential export of steam and/or heat to nearby consumers.
- Production of incinerator bottom ash (IBA) that will be temporarily stored on-site before being transferred to a suitably licensed waste treatment facility for recycling/disposal.
- Generation of air pollution control residues (APCr) that will be temporarily stored on-site before being transferred to a suitably licensed waste treatment facility for recycling/disposal.



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- Provision for the generation of emergency power using a fuel oil engine in the event of interruption to the off-site electricity supply to the installation and failure of island mode operation.

Table 1.1 lists the Schedule 1 activities, from the EPR, and the Directly Associated Activities (DAA's).

Table 1.1: Scheduled and directly associated activities

Activity Reference	Activity listed in Schedule 1 of the EPR	Description of specified activity	Proposed limits of specified activity
AR1	Section 5.1 Part A(1)(b)	The incineration of non-hazardous waste in a waste incineration plant or waste co-incineration plant with a capacity exceeding 3 tonnes per hour (Line 1).	The incineration of non-hazardous waste including the operation of boilers and auxiliary burners; facilities for the treatment of exhaust gases; on-site facilities for treatment of water; storage and disposal of residues, surface water and waste water; systems for controlling and monitoring incineration operations; and receipt, storage and handling of wastes and raw materials (including fuels).
AR2	Section 5.1 Part A(1)(b)	The incineration of non-hazardous waste in a waste incineration plant or waste co-incineration plant with a capacity exceeding 3 tonnes per hour (Line 2).	The incineration of non-hazardous waste including the operation of boilers and auxiliary burners; facilities for the treatment of exhaust gases; on-site facilities for treatment of water; storage and disposal of residues, surface water and waste water; systems for controlling and monitoring incineration operations; and receipt, storage and handling of wastes and raw materials (including fuels).
Directly Associated Activities			
AR3	Electricity generation	The generation of electricity using a steam turbine.	Generation of electricity for use on-site and/or export to the Grid.
AR4	Steam supply	Export of low-pressure steam	Provision for steam to be utilised by other energy users local to the site.



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AR5	Emergency combustion plant	Emergency electrical generation in a diesel generator to provide electrical power in the event of an interruption in the off-site electricity supply to the EfW CHP Facility and failure of island mode operation.	From fuel storage to generation of electricity and subsequent use.
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The EfW CHP Facility comprises a two-line waste incineration process; waste reception tipping hall, waste reception bunker and waste storage bunker; main thermal treatment process; boiler; turbine hall; on-site facilities for the treatment and/or storage of raw materials; residues; and water; flue gas treatment; stacks; air cooled condenser (ACC); and devices and systems for controlling the operation of the waste incineration plant and recording and monitoring conditions.

The EfW CHP Facility also includes weighbridges; supply systems for water, gas oil and air; emergency fuel oil generator; site fencing and security barriers; external hardstanding areas; transformers, grid connection and switching compound; internal access roads for circulation and parking; drainage systems with oil interceptors and attenuation tanks; offices; workshop; stores and welfare facilities.

**As the final detailed design of the EfW CHP Facility has not been completed, the process description and associated parameter values provided in this document are based on an initial specification and will be confirmed during the detailed design process together with the EPC contractor. As such, parameter values quoted in this document should be viewed as indicative/estimated. However, the Environment Agency will be informed of the final detailed design specification prior to commissioning, the Applicant would be willing to accept this requirement as a pre-operational condition of the EP. The EfW CHP Facility will, as a minimum, achieve the minimum performance levels required by IED and the implementing BAT Conclusions for Waste Incineration.**

The EfW CHP Facility Site forms part of a wider industrial estate centred on Algores Way.

Land to the north and east comprises industrial units and land to the south comprises vacant land. The EfW CHP Facility Site is bounded directly to the north by land occupied by BJ Books and Floorspan Contracts. To the east of the site's existing entrance, occupiers of the industrial units include James Mackle (UK) Ltd, Hair World UK Ltd and Lineage Logistics, which includes a cold store.

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The southern end of the EfW CHP Facility site is bounded by New Bridge Lane. This connects with Cromwell Road to the west which provides direct access to the A47 via a four-arm roundabout.

To the west, the EfW CHP Facility site is bordered by scrubland and a mature strip of vegetation, comprising self-set trees and undergrowth. This land includes the disused March to Wisbech Railway, known locally as the 'Bramley Line'. West of the railway, the industrial estate extends for a further 300m until it reaches Cromwell Road, after which there is a retail park comprising a cinema, Tesco Extra superstore and restaurants. The retail park is bordered to the west by the River Nene, which is a Local Wildlife Site (LWS).

Approximately 200m and 500m, respectively, to the north-east of the EfW CHP Facility Site, and within Algores Way industrial estate, Cambian Wisbech School occupies a unit along Anglia Way, and TBAP Unity Academy occupies a unit on Algores Way. Other notable schools within the wider area, but outside of Algores Way industrial estate, include the Thomas Clarkson Academy, approximately 750m to the north-east off Weasenham Lane.

The closest residential properties to the EfW CHP Facility site consist of isolated properties along New Bridge Lane. Numbers 9 and 10 New Bridge Lane are located approximately 20m to the west and south, respectively, of the EfW CHP Facility Site's boundary. Number 10 New Bridge Lane includes land currently used as a smallholding. One residential property known as 'Potty Plants', with associated farmland, is located approximately 300m to the south-east of the EfW CHP Facility site along New Bridge Lane. Number 2 New Bridge Lane is located approximately 300m west along New Bridge Lane. Further afield, Oakdale Place Travellers Site and Caravan Site are located south-east of the intersection of New Bridge Lane and the A47, at 400m and 500m distance respectively. The principal residential areas and town centre of Wisbech lie beyond the industrial estate more than 1km to the north and the east.

The Nene Washes Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site is situated approximately 6.3km to the south-west of the site, whilst the Ouse Washes SAC/SPA/Ramsar site is located approximately 12.3km to the south-east.

**1.2. Maintenance and review of the Outline OMP**

MVV manage and operate their facilities with environmental responsibility for individual operations assigned through the site management structure and defined through the Integrated Management System (IMS), which is certified to international standards ISO 9001, ISO 14001, ISO 45001 and ISO 50001. This



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Outline OMP is one of many operational procedures controlled within the IMS, available electronically on the Company cloud storage system to all employees [BAT 01].

The Facility Manager, supported by the Operations/QHSE Manager, is the designated management representative for compliance with the IMS. Responsibilities of staff within the Facility are represented in Table 1.2 below:

Table 1.2 Roles and Responsibilities

Position	Responsibility
Facility Manager	Ensure the safe, compliant and efficient operation of the EfW CHP Facility in accordance with the IMS.
QHSE Manager	Holds responsibility for Quality, Health, Safety and Environmental aspects of the management system for the EfW CHP Facility, ensuring that: <ul style="list-style-type: none"> <li>• Safe working practices are in place and adhered to.</li> <li>• Required information is submitted to the EA and other regulatory authorities in a timely and accurate manner.</li> <li>• All accidents, incidents, illness, injuries and near misses are recorded on the MVV incident recording software.</li> </ul>
Operations Manager	Responsible to the Facility Manager for ensuring the safe, compliant, and efficient operation of the plant, and deputises for the Facility Manager.
Shift Team Leader (STL)	Operates the EfW CHP Facility in a safe, compliant and efficient manner, including: <ul style="list-style-type: none"> <li>• Monitoring plant performance</li> <li>• Carrying out daily checks, and</li> <li>• Reporting any defects to the Maintenance Manager</li> </ul>
Assistant Shift Team Leader (ASTL)	Supports the safe, compliant, and efficient operation of the EfW CHP Facility, under the supervision of the Shift Team Leader.
Maintenance Manager	Holds site responsibility for the EfW CHP Facility Maintenance processes, including: <ul style="list-style-type: none"> <li>• Planning and implementation of planned annual maintenance programme</li> <li>• Prioritising and actioning unplanned and ad hoc maintenance, and</li> <li>• Ensuring contractors meet safety, environmental and quality standards</li> </ul>
Waste Acceptance Operative	Safe, compliant, and efficient operation of the weighbridge and waste reception tipping hall, including:



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Position	Responsibility
	<ul style="list-style-type: none"> <li>• Ensuring delivery vehicles are legitimate, registered and authorised</li> <li>• Computerised recording and Duty of Care checks</li> <li>• Daily inspection of the tipping hall and site roads/paths for odour/litter/dust</li> <li>• Maintaining cleanliness of the tipping hall</li> <li>• Litter picking around external site areas, and</li> <li>• Liaison between weighbridge, tipping hall and control room</li> </ul>

All staff are appropriately qualified for their role, ensuring that all aspects of the operation are handled in a safe, compliant, and efficient manner.

The Facility Manager is responsible for ensuring that all staff receive instruction and training, both formal and informal, in all relevant aspects of operational procedures and Permit requirements. A hard copy of the Environmental Permit (EP) is kept on site for reference when required by any staff or contractors carrying out work covered by the EP; an electronic version is available in the IMS or to download from MVV’s website. All supporting management plans required by the EP are also held in the IMS, including this Outline OMP once finalised.

Training requirements are identified through the use of a Competence and Training Matrix which details type and frequency of training, and personal training needs assessments are completed during the annual performance review appraisal system. Training is either delivered by third party suppliers or internally, whichever is most efficient and effective.

Odour management is incorporated into general site operational training and covers odour awareness in relation to normal, abnormal and maintenance situations; it also includes management of odour complaints.

This Outline OMP is incorporated within MVV’s IMS [BAT 01], internal and external audits are carried out at defined frequencies to ensure continued compliance. The Outline OMP will be reviewed following a change to site operations, incident or following receipt of a justified complaint.

### 1.3. Relevant sector guidance on which this Outline OMP is based

The following industry reference documents have been considered during the drafting of this OMP:





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- Best Available Techniques (BAT) Reference Document for Waste Incineration 2019
- Environment Agency Incineration of waste (EPR5.01): additional guidance 2009
- Environment Agency H4 Odour Management - How to comply with your environment permit 2011
- Environment Agency Develop a management system: environmental permits 2016
- Environment Agency Control and monitor emissions for your environmental permit 2016

The relevant BAT conclusions for consideration are:

BAT 01: In order to improve the overall environmental performance, BAT is to elaborate and implement an environmental management system (EMS) that incorporates all of the following figures:

xxvii an odour management plan where an odour nuisance at sensitive receptors is expected and/or has been substantiated.

BAT 21: In order to prevent or reduce diffuse emissions from the incineration plant, including odour emissions, BAT is to:

- Store solid and bulk pasty wastes that are odorous and/or prone to releasing volatile substances in enclosed buildings under controlled subatmospheric pressure and use the extracted air as combustion air for incineration or send it to another suitable abatement system in the case of a risk of explosion;
- Store liquid wastes in tanks under appropriate controlled pressure and duct the tank vents to the combustion air feed or to another suitable abatement system;
- Control the risk of odour during complete shutdown periods when no incineration capacity is available, e.g. by:
  - Sending the vented or extracted air to an alternative abatement system, e.g. a wet scrubber, a fixed adsorption bed;
  - Minimising the amount of waste in storage, e.g. by interrupting, reducing or transferring waste deliveries, as a part of waste stream management;
  - Storing waste in properly sealed bales.



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### 2. RECEPTORS

#### 2.1. Receptor List

Table 2.1. Receptor list

TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION	SENSITIVITY TO ODOUR Low (e.g. footpath/road) Medium (e.g. industrial / commercial workplace) High (e.g. housing / pub / hotel etc.)
HUMANS AND PROPERTY	<b>SITE</b>				
		Site Workers	On site	-	Medium
		Site Visitors	On site	-	Medium
	<b>COMMERCIAL</b>				
	1	Coparts Wisbech Site	22	SW	Medium
	2	Multiple Car Servicing Garages & Workshops off New Bridge Lane	196	W,SW	Medium
	3	Multiple Depots off Enterprise Way & Salters Way	15	W,NW	Medium
	4	Production Plants & Distribution Centres off Salters Way	116	W	Medium
	5	Multiple Industrial Units & Depots between Algores Way & Boleness Road	17	NE,ENE	Medium
	6	Depot off Cromwell Road - Knowles Transport Storage Logistics	338	NW	Medium
	7	Distribution Centre off Boleness Road - Freshpeel Produce	166	E,ESE,SE	Medium
	8	Multiple Industrial Units & Depots off Europa Way	14	N	Medium
	9	Multiple Retail Units off Cromwell Road	347	NW,WNW	Medium
10	Multiple Industrial Units & Depots between Regal Road & Algores Way	197	NE,ENE	Medium	
11	Multiple Industrial Units & Depots off Boleness Way	275	ENE	Medium	



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TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION	SENSITIVITY TO ODOUR Low (e.g. footpath/road) Medium (e.g. industrial / commercial workplace) High (e.g. housing / pub / hotel etc.)
	12	Multiple Distribution Centres off Weasenham Lane	317	N	Medium
	13	Depot off Weasenham Lane	602	N	Medium
	14	Production Plant off Weasenham Lane - Crown Packaging Manufacturing UK	612	NNE	Medium
	15	Industrial area off Sandall Road	668	NE	Medium
	16	Distribution Centre off Weasenham Lane - Lamb Weston	415	N	Medium
<b>RESIDENTIAL</b>					
	1	Oakdale Place Park	307	SW	High
	2	Residential Properties off Redmoor Lane	577	SW	High
	3	Newbridge Lane Travellers Site	441	SE	High
	4	Residential Properties off Cromwell Road	430	NNW	High
	5	Residential Properties off New Drove, Harrys Way, Mikanda Close, Leach Close, Thurloe Close, Weasenham Lane, Half Penny Lane.	437	E	High
	6	North Brink Road	702	NNW	High
	7	Residential Properties off Kirks Lane	922	SW	High
	8	Residents Cromwell Road	523	WSW	High
	9	Victory Road	828	N	High
	10	Railway Road and Bruce Close	922	NE	High
	11	South Brink	710	WSW	High



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TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION	SENSITIVITY TO ODOUR Low (e.g. footpath/road) Medium (e.g. industrial / commercial workplace) High (e.g. housing / pub / hotel etc.)	
	12	South Brink	461	W	High	
	13	North Brink	636	W	High	
	14	North Brink	611	W	High	
	15	Mile Tree Lane	865	W	High	
	16	North Brink	569	WNW	High	
	17	North Brink	682	W	High	
	18	Oldfield Lane	982	N	High	
	19	10 New Bridge Lane	13	S	High	
	20	9 New Bridge Lane	17	W	High	
	21	Potty Plants	256	SSE	High	
	<b>PUBLIC USE</b>					
	1	Trinity School	584	NE	High	
	2	Thomas Clarkson Academy	584	NE	High	
	3	Malt Drive Childrens Park	989	N	High	
	4	Tesco Supermarket and Retail Park off Cromwell Road	366	WNW	Medium	
	5	Belgravia Retail Park	192	NW	Medium	
	6	Wisbech Retail Park	263	NW	Medium	
	<b>Critical Infrastructure</b>					



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TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION	SENSITIVITY TO ODOUR Low (e.g. footpath/road) Medium (e.g. industrial / commercial workplace) High (e.g. housing / pub / hotel etc.)
	1	Solar Farm off New Bridge Lane	957	SSE	Low
	2	Royal Mail Sorting Office off Enterprise Way	224	N	Medium
<b>PUBLIC RIGHTS OF WAY (PROW)</b>					
	-	Footpath between Weasenham Lane & Cromwell Road	407	NNW	Low
<b>ROADS</b>					
	-	B197	325	W	Low
	-	A47	260	S	Low
<b>RECREATIONAL</b>					
	1	Bowles Club Railway Road	960	NE	Medium
	2	Fenland Equestrian Centre	866	S	Low
<b>AGRICULTURAL</b>					
	1	Agricultural Arable	574	SW,W,NW	Low
	2	Agricultural Arable	771	SW,SSW,S	Low
	3	Agricultural Arable	287	SW,S,SE	Low
	4	Agricultural Arable	324	E	Low
	5	Agricultural Arable	0	ESE,SE,SSE,S	Low
	6	Agricultural Arable	214	SW	Low
	7	Agricultural Arable	827	NE	Low



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TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION	SENSITIVITY TO ODOUR Low (e.g. footpath/road) Medium (e.g. industrial / commercial workplace) High (e.g. housing / pub / hotel etc.)	
<b>ATMOSPHERE-AQMA</b>						
	1	Fenland District Council, Wisbech AQMA No.1 (SO <sub>2</sub> )	995	N	Low	
<b>SURFACE WATER</b>						
WATER	-	Unnamed Drainage Channel	1-1000	N,E,S,W	Low	
	-	River Nene	585	W	Low	
	-	Multiple Unnamed Drainage Channels within arable farm land areas surrounding Wisbech	1-1000	N,E,S,W	Low	
	<b>GROUNDWATER</b>					
	-	Unproductive Bedrock Aquifer	On site	-	Low	
	-	Unproductive Secondary/Superficial Aquifer	On site	-	Low	
<b>DESIGNATED SITES (European)</b>						
ENVIRONMENTALLY SENSITIVE		None within 1 km				
	<b>NON DESIGNATED SITES (but of impact to permitting)</b>					
	1	BAP - Traditional Orchard between Cromwell Road & South Brink	576	WSW	Low	
	2	BAP - Traditional Orchard between Cromwell Road & South Brink	603	WSW	Low	
	3	BAP - Traditional Orchard between Cromwell Road & South Brink	430	W	Low	
	4	BAP - Traditional Orchard off Mile Tree Lane	591	W	Low	
	5	BAP - Traditional Orchard between Mile Tree Lane & Cox's Lane	1000	NW	Low	
	6	BAP - Deciduous Woodland adjacent to B198	493	NW	Low	



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TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION	SENSITIVITY TO ODOUR Low (e.g. footpath/road) Medium (e.g. industrial / commercial workplace) High (e.g. housing / pub / hotel etc.)
	7	BAP - Deciduous Woodland adjacent to site	11	E	Low
	8	BAP - Deciduous Woodland	945	NNE	Low
	9	BAP - Deciduous Woodland	853	NE	Low
	10	BAP - Deciduous Woodland adjacent to the A47	421	SE	Low
	11	BAP - Deciduous Woodland adjacent to the A48	592	SE	Low
HERITAGE LOCATIONS	<b>LISTED BUILDINGS AND PARKS</b>				
	-	None within 1 km			

Identified sensitive receptors are presented on drawing '003.1\_09\_001 Sensitive Receptors Plan 1km'.



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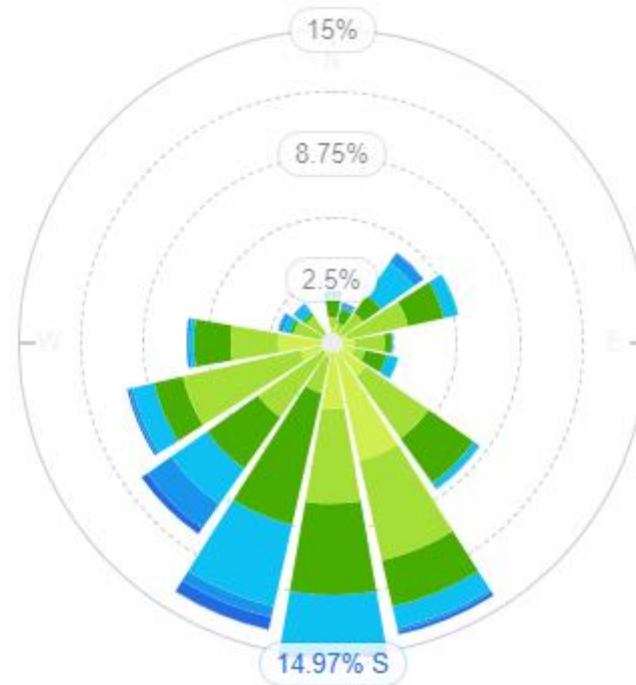
**ODOUR MANAGEMENT PLAN****2.2. Wind rose and source of weather data**

Figure 2.2. - Wind rose (<https://wind.willyweather.co.uk/ee/cambridgeshire/wisbech.html>)

**3. SOURCES OF ODOUR AND SITE PROCESSES****3.1. Odorous materials entering and leaving site**

Deliveries of waste feedstock and consumables, and the removal of residues, are undertaken by road in enclosed heavy goods vehicles (HGVs). The majority of HGVs delivering waste to the EfW CHP Facility will comprise walking floor articulated lorries and RCVs. Waste deliveries are made between the hours of 07:00 – 20:00. On an average weekday 85 HGVs and 27 RCVs will deliver waste to the EfW CHP Facility. On a weekend day this reduces to 24 HGVs and 8 RCVs. RCVs are sealed vehicles by virtue of their construction. Where HGVs are not fully sealed in their construction, they will be fully sheeted. All consumables and residues are also delivered to, and removed from, site in sealed HGVs.

Delivery drivers are subject to a site induction when visiting the EfW CHP Facility for the first time. During this induction they are encouraged to report any concerns regarding the potentially odorous nature of their load to the weighbridge operator so that an assessment can be made during initial acceptance checks. Whilst the induction process encourages delivery drivers to pro-actively report concerns relating to extremely malodorous waste, or the integrity of the sheeting/enclosed nature of the delivery vehicle, primary responsibility for identifying such issues will be waste acceptance operatives as part of initial acceptance checks at the weighbridge.





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Delivery vehicles will arrive on site and wait in the 4 lane queuing area in front of the incoming weighbridge. Where drivers have not completed a site induction they will be directed to the layby to the left of the queuing area and the induction process will be initiated. The queuing area has a capacity of 6 HGVs or 10 RCVs and the layby has a capacity of 1 HGV or 2 RCVs. All vehicles will wait only on the EfW CHP Facility site and within the layby or queuing area. Vehicles will be called forward to the weighbridge one at a time and weighed in before travelling clockwise around the EfW CHP Facility one way road to the tipping hall entrance. Once inside the tipping hall the vehicle will be directed to one of 7 tipping bays where they will tip before leaving the tipping hall via the exit. The vehicle will continue clockwise along the one way road to the outgoing weighbridge where they will be weighed out before leaving the EfW CHP Facility site. Maximum vehicle waiting times are expected to be 30 minutes. Turnaround times for tipping are expected to be 7 minutes on average, for a RCV (up to 15 minutes maximum) and 25 minutes for a HGV. Maximum time on site is expected to be up to 45 minutes for a RCV and up to 55 minutes for a HGV.

Where wastes are identified either at the weighbridge, or in the tipping hall, as not conforming with the waste Duty of Care documentation accompanying the load, or to be in conflict with MNV's waste specification, the load will be rejected and returned to the waste producer.

Where wastes are identified at the weighbridge as extremely malodorous, these will be prioritised for tipping and combustion to minimise the potential for offsite odour. These wastes will not be rejected, as that could increase the potential for offsite odour due to further transportation. However, the waste customer will be informed and future loads monitored more closely.

If a waste delivery arrives in an unsheeted vehicle, or one where the integrity of the sheeting is not complete, delivery vehicle drivers will be reminded of the site rules by the weighbridge operator and the requirement to sheet their vehicles when entering and exiting the site. Photographic evidence or CCTV still images will be captured, the waste customer will be informed, and future loads monitored more closely. Further failure to sheet vehicles could result in termination of waste contracts.



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**3.2. Odorous materials**

*Table 3.2 Odorous materials*

Odorous and potentially odorous material (any solid, liquid or gas)	Odour potential High Risk / Medium Risk / Low Risk	Maximum quantity on site at any given day	Maximum time held on site (hours or days)	Location of odorous materials on site	Additional comments
Municipal waste	High	46,000m <sup>3</sup>	c. 2 days (during normal operations)	Waste bunker	Potential for high organic content
C&I waste	Medium			Waste bunker	MVV input specification rigorously applied
Lime	Low	2 x 330m <sup>3</sup>	Continuous supply	Lime silo	Not classified as inherently odorous, delivered in sealed tankers and discharged directly into the sealed storage silo. Not considered further in this management plan.
Urea	Low	100m <sup>3</sup>	Continuous supply	Urea tank	Not inherently odorous when kept dry, potential for some odour when in solution. In either case, delivered in sealed tankers and discharged directly into the sealed storage



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					silo. Injected directly into the combustion process. Not considered further in this management plan.
Activated Carbon	Low	2 x 40m <sup>3</sup>	Continuous supply	Carbon silo	Not classed as inherently odorous. Not considered further in this management plan.
Incinerator Bottom Ash	Low	2,800m <sup>3</sup>	Daily turnover	IBA bunker	Not classed as inherently odorous. Not considered further in this management plan.
APCr	Low	720m <sup>3</sup>	Daily turnover	APCr silos	Not classed as inherently odorous. Not considered further in this management plan.



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**3.3. Overview of odorous processes and emissions**

All waste received at the EfW CHP Facility will enter along the site access road and pass over the 'in' weighbridge where the load will be assessed for compliance with Duty of Care requirements, the EP and MVV's waste input specification. All vehicles delivering waste will be sealed or sheeted until entering the waste reception tipping hall.

The waste reception tipping hall is an enclosed building with a single point of access, vehicles will enter the waste reception area via fast-acting roller shutter doors, subject to completion of detailed design.

Waste is discharged from delivery vehicles directly into the waste reception bunker. The waste reception bunker is substantially sealed such that the only air ingress during normal operation is via the tipping hall reception chutes.

During normal operations a negative pressure is maintained within the waste bunker/tipping hall by the primary air fan which draws air through the tipping hall and waste bunker into the combustion chamber where it is used as under fire air in the combustion chamber, thereby destroying any potentially odorous compounds in the combustion process.

Residence time of the waste once delivered is closely managed to minimise the potential for decomposition during storage. Daily 'turning' of the waste bunker is managed by the Operations Team to ensure that the oldest waste is fed into the incineration process first and that aerobic conditions are maintained.

Shutdown of each combustion line will be staggered where possible to enable one line to be kept in operation. During a planned maintenance shutdown of one line, air from the waste bunker will continue to be drawn through the primary air fan into the second combustion line and used as combustion air. It is only during periods of complete plant shutdown, when no combustion is undertaken, that waste residence time increases, and no combustion air is required. During this period the negative pressure through the waste bunker and tipping hall is maintained by operating the shutdown fan; this passes air through a dust and activated carbon filter system to remove odorous compounds, prior to being emitted to atmosphere. Prior to the planned shutdown waste inputs will be reduced to lower the level of waste stored within the bunker to a minimum and waste will continue to be received at a minimal reduced capacity for the duration of the outage.



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During an un-planned shutdown of a single boiler line, air from the waste bunker will continue to be drawn through the primary air fan into the second combustion line and used as combustion air. It is only during periods of complete plant un-planned shutdown, when no combustion is undertaken, that waste residence time increases, and no combustion air is required. During this period the negative pressure through the waste bunker and tipping hall is maintained by operating the shutdown fan; this passes air through a dust and activated carbon filter system to remove odorous compounds, prior to being emitted to atmosphere. Where the duration of a complete un-planned shutdown is estimated to exceed 2 days, waste inputs will be reduced to limit the level of waste stored within the bunker to a minimum and waste will continue to be received at a minimal reduced capacity for the duration of the outage.

It is not anticipated that waste will be diverted to alternative sites however, contingency plans will be put in place. There are two scenarios in which waste would be diverted; where the main waste bunker is full to capacity, and where both waste cranes are defective and the waste reception bunker is full to capacity. Removal of waste from the EfW CHP Facility is not anticipated.



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**4. CONTROL MEASURES AND PROCESS MONITORING**

Table 4.1 Monitoring procedures for appropriate measures/ BAT

Odorous and potentially odorous process / material	Control measures (Appropriate Measure / BAT)	Monitoring frequency	Monitoring procedure and optimum process parameters	Trigger level	Action taken if outside optimum process parameters
<p>Waste Acceptance</p> <p>(Odour is only expected to be noticeable near vehicles (&lt;1m))</p>	<p>All delivery vehicles are either sealed containers or sheeted. Queuing of vehicles is minimised by the site design and operations are configured to ensure quick turnaround times. This is achieved through the provision of multiple tipping bays which can be used simultaneously. All deliveries are pre-programmed into the weighbridge software followed by efficient traffic management, clear signage, markings and supervision of the tipping process.</p>	<p>Constant – ongoing through shift</p> <p>Continual communication between weighbridge and tipping hall</p>	<p>Turnaround times logged through weighbridge software. Visual inspection of vehicles on entering and leaving the site.</p>	<p>Unsheeted vehicle</p>	<p>Delivery vehicle drivers will be reminded of the site rules and requirement to sheet their vehicles when entering and exiting the site.</p> <p>Photographic evidence or CCTV still images will be captured, the waste customer will be informed and future loads monitored more closely. Further failure to sheet vehicles could result in termination of waste contracts.</p>
<p>Waste Composition</p>	<p>MVV input specification and waste stream management</p>	<p>Daily random and targeted sampling of</p>	<p>All loads visually inspected before, or whilst, depositing their loads. Random or</p>	<p>Non-conforming waste type in accordance with</p>	<p>The waste customer will be informed of any non-conforming loads received and monitored against contractual</p>



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Odorous and potentially odorous process / material	Control measures (Appropriate Measure / BAT)	Monitoring frequency	Monitoring procedure and optimum process parameters	Trigger level	Action taken if outside optimum process parameters
	[BAT 21]	loads depending on day-to-day operational conditions.	targeted loads will be diverted to the quarantine bay for a more thorough waste inspection utilising the loading shovel to search through the load prior to depositing it in the waste reception bunker.	the permitted EWC codes and MVV input specification	specifications. Should frequent and repeated breaches be detected the contract may be terminated.
Waste Receipt	Waste loads are discharged directly into the waste reception bunker by the delivery vehicle to reduce the handling of the waste.	All loads are supervised by the Waste Acceptance Operatives whilst in the tipping hall.	All loads deposited safely in accordance with Tipping Hall operational procedures and driver induction training.	Non-complaint tipping hall activities.	The waste customer will be informed of any non-compliant actions taken by delivery drivers and monitored against contractual requirements. Should frequent or repeated breaches be detected the delivery driver may be barred from the site.
Waste Storage	All waste is stored within the waste bunker which is substantially sealed and maintained under negative pressure through the extraction of primary air into the combustion process through the bunker, drawing fresh air in through the tipping hall.	Daily by the Operations Team as they turn the pit and feed the combustion process..  Daily site inspections include the	Activities are managed in accordance with the company Bunker Management procedures.	Function of the primary air fan and waste grab cranes.	Should both primary air fans fail the shutdown fan will be activated.  Should the waste grab crane fail the secondary crane can be brought into operation to maintain waste turning.  Should malodour be identified during site inspection an incident report will be raised, investigation instigated, and corrective actions identified.



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Odorous and potentially odorous process / material	Control measures (Appropriate Measure / BAT)	Monitoring frequency	Monitoring procedure and optimum process parameters	Trigger level	Action taken if outside optimum process parameters
	The waste in the bunker is 'turned' on a daily basis to apply the 'FIFO' principle and maintain aerobic conditions within the waste mass.	identification of any malodour.			
Outage Maintenance	For planned outages, on site waste storage will be minimised through waste stream management. Negative pressure is maintained in the waste bunker through the extraction of primary combustion air to the second incineration line. During full shutdown negative pressure is maintained by the operation of the shutdown fan which is equipped with a dust and activated carbon	Operation of the shutdown fan and monitoring for potential odorous emissions is undertaken daily during the outage period.	It is the duty of the operational staff to conduct twice daily sniff test assessments on site. An off site sniff test at identified sensitive receptor locations is carried out daily throughout full shutdown outage periods. All records of odour monitoring are retained.	Function of the shutdown fan and filter system.  Identification of malodour during site inspection.	Critical spares for the shutdown fan and filter system held on site to enable prompt maintenance.  Should malodour be identified during site inspection an incident report will be raised, investigation instigated, and corrective actions identified.





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Odorous and potentially odorous process / material	Control measures (Appropriate Measure / BAT)	Monitoring frequency	Monitoring procedure and optimum process parameters	Trigger level	Action taken if outside optimum process parameters
	filter system to remove odorous compounds. [BAT 21]				
Ad hoc un-planned maintenance	Negative pressure is maintained in the waste bunker through the extraction of primary air to the second incineration line. During full shutdown negative pressure is maintained by the operation of the shutdown fan which is equipped with a dust and activated carbon filter system to remove odorous compounds. [BAT 21]	Operation of the shutdown fan and monitoring for potential odorous emissions is undertaken daily during the outage period.	Activities are managed in accordance with the company Bunker Management procedures.  It is the duty of the operational staff to conduct twice daily sniff test assessments on site. An off site sniff test at identified sensitive receptor locations is carried out daily throughout full shutdown outage periods. All records of odour monitoring are retained	Function of the shutdown fan and filter system. Identification of malodour during site inspection.	Critical spares for the shutdown fan and filter system held on site to enable prompt maintenance. Should malodour be identified during site inspection an incident report will be raised, investigation instigated, and corrective actions identified.



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**5. ODOUR REPORTING****5.1. Complaints reporting**

All complaints will be received and managed in accordance with the IMS procedure BS.CL.01 Management of Communications and Complaints and recorded on the Incident Management Recording Software through which an investigation will be instigated, and any corrective actions allocated to responsible persons.

The investigation will aim to answer the following questions:

- Is the process under control?
- Have odour containment measures failed?
- Have treatment measures failed?
- Have dispersion methods failed?
- If the odour is associated with hazards, is there any possibility of health risk to the local community?

Where a complaint is substantiated the Environment Agency will be notified without delay.

The purpose of the IMS procedure is to ensure that any complaint is investigated promptly, and that appropriate remedial action is taken. Communication will be maintained with the complainant, and other interested parties, regarding the actions taken and records of this compiled.

**5.2. Community engagement**

The EfW CHP Facility will engage with a community liaison committee on matters regarding operational control. In advance of any planned outage the community liaison committee will be informed of the planned dates for the outage, as this is the time when the risk of odour is highest from the EfW CHP Facility.

**5.3. Pro-active odour monitoring**

It is the duty of the site Operations team to conduct a twice daily set of environmental site rounds and record the findings on the daily operational logbook software. Any site odour which is detected through a sniff test during the site rounds is recorded and investigated by the duty site staff. Their investigation will ensure that all applicable odour control measures are implemented and operating correctly.

Following investigation should the site odour controls be found to not be operating correctly the duty site staff will implement corrective action, and where this is not possible inform the site management team



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immediately in accordance with the IMS procedure OS.HSE.06.01 Reporting of Operational Incidents and Accidents.

**5.4. Reactive odour monitoring**

Following the receipt of an odour report from a sensitive receptor the duty Shift Team Leader will ensure that an on site sniff test is carried out and recorded in the operational logbook software. An investigation of all odour control measures will be undertaken to ensure they are operating correctly. Any remedial action will be taken where necessary.

**6. ABNORMAL EVENTS**

Table 6.1 Abnormal events

Abnormal event	Recovery steps
Fire	The site will activate actions in accordance with the site Fire Prevention Plan.
Flood	The site will activate actions in accordance with the site Flood Emergency Management Plan. Should the site be surrounded by flood water no new waste will be able to access the site on the national road network. Waste already on site will continue to be combusted for a short period to reduce the volume in storage. Suppression systems and filters within the waste bunker will continue to operate. Critical spares are held on site should breakdown occur during the flood event.
Staffing	MVV operate multiple sites across the UK and Germany. Should a specific site suffer staffing issues, personnel from other MVV sites can be called upon to assist with operations. MVV also employ several 3 <sup>rd</sup> party contractors who can assist if necessary. Several of the operational processes are automated and require limited human interaction and can be monitored remotely
Equipment breakdown	A high level of equipment redundancy is included in the design of the facility such that abnormal events due to equipment breakdowns are not anticipated. Where redundancy is not provided, critical spares will be held onsite, and equipment will be repaired and returned to service as soon as possible.



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**7. REVISION HISTORY**

<b>Revision Date</b>	<b>Issue</b>	<b>Approved by:</b>	<b>Signature</b>	<b>Summary of changes</b>	<b>Affected pages</b>
21.02.2022	D1	~	~	First draft for internal review	All
24.03.22	D2	~	~	Final Draft – issued to EP consultant for comment	All
26.03.22	D3	~	~	Version to accompany DCO submission	All
10.08.23	D4	~	~	Full review and revision in response to EA Sched. 5 Notice	All