



BUSINESS CONTINUITY

# OUTLINE FIRE PREVENTION PLAN

BS.BC.XX.XX.SXX.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: June 2022



INTEGRATED MANAGEMENT SYSTEM

## OUTLINE FIRE PREVENTION PLAN

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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.

The objective of this report is to provide an Outline Fire Prevention Plan (FPP), 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.

This Outline Fire Prevention Plan will form one of a suite of documents managing Business Continuity at the EfW CHP Facility. It has been drafted in accordance with controls dictated by the company's Integrated Management System, certified in accordance with international standards for Environmental, Occupational Health & Safety, Quality and Energy Management.

This document has been drafted with due consideration of Environment Agency guidance 'Fire Prevention Plans: Environmental Permits' and the associated report template, to provide a framework for the provision of the Environment Agency required information.

Consideration has also been given to industry guidance documents and specifications whilst drafting this document, and these will be instrumental in the detailed design of the EfW CHP Facility, these include but are not limited to the following:

- Environment Agency guidance 'Fire Prevention Plans: Environmental Permits'
- Building Regulations – Approved Document B (Fire Safety)
- National Fire Protection Association 'NFPA 850: Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations'
- Chubb Guidance document - Energy from Waste (EfW) – Fire Systems
- BS 9999: Code of Practice for Fire Safety in the design, management, and use of buildings
- The Company's insurer's requirements

The Environment Agency guidance 'Fire Prevention Plans: Environmental Permits' applies to those activities where combustible wastes are stored at permitted sites. The guidance sets out the minimum standards which must be achieved to address fire risk relating to the bulk storage of materials such as

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paper, card, wood, rubber, rags, and textiles, WEEE, scrap metal and tyres. If non-combustible waste is contaminated with combustible waste, it will generally be regarded as combustible.

The objectives of the Outline Fire Prevention Plan are to:

- Minimise the likelihood of a fire happening
- Aim for a fire to be extinguished within 4 hours
- Minimise the spread of fire within the site and to neighbouring sites.

**2. FIRE PREVENTION PLAN CONTENTS****2.1. Activities at the site**

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

- Two-line waste incineration plant thermally treating incoming non-hazardous residual waste.
- Generation of power with electricity exported to the National Grid, with the potential export of heat/steam 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 recovery/disposal.
- Generation of air pollution control residues (APCr) that will be temporarily stored on-site before being transferred to a suitably licensed hazardous waste facility for recovery/disposal.
- Provision for the generation of emergency power using a fuel oil engine in the event of loss of electricity supply to the installation and failure of island mode operation.

Table 1 lists the Schedule 1 activities, from the Environmental Permitting Regulations, and the Directly Associated Activities (DAA's).

*Table 1: Scheduled and directly associated activities*

<b>Activity Reference</b>	<b>Activity listed in Schedule 1 of the EPR</b>	<b>Description of specified activity</b>	<b>Proposed limits of specified activity</b>
<b>AR1</b>	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



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Activity Reference	Activity listed in Schedule 1 of the EPR	Description of specified activity	Proposed limits of specified activity
			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).
<b>Directly Associated Activities</b>			
AR3	Electricity generation	The generation of electricity using a steam turbine.	Generation of electricity for use on-site or export to the Grid.
AR4	Steam/hot water supply	Export of low-pressure steam	Provision for steam to be utilised by other energy users local to the site.
AR5	Emergency combustion plant	Emergency electrical generation in a diesel generator to provide electrical power to the facility in the event of an interruption in the off-site electricity supply to the facility and failure of island mode operation.	From fuel storage to generation of electricity and subsequent use.

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.

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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 performance levels required by the IED and the BAT Conclusions for Waste Incineration.**

**2.2. Site plan**

The proposed site layout is present on drawing MEM002 Site Layout.

**2.3. Plan of sensitive receptors near the site**

The 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.

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 boarded 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



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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 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 distances 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.

Sensitive receptors identified within a 1km radius of the Facility are presented on drawing '003.1\_09\_001 Sensitive Receptors Plan 1km' and in Table 2 below.



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Table 2: Sensitive Receptors within 1km of the Facility

TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION
HUMANS AND PROPERTY	<b>SITE</b>			
		Site Workers	On site	-
		Site Visitors	On site	-
	<b>COMMERCIAL</b>			
	1	Coparts Wisbech Site	22	SW
	2	Multiple Car Servicing Garages & Workshops off New Bridge Lane	196	W,SW
	3	Multiple Depots off Enterprise Way & Salters Way	15	W,NW
	4	Production Plants & Distribution Centres off Salters Way	116	W
	5	Multiple Industrial Units & Depots between Algores Way & Boleness Road	17	NE,ENE
	6	Depot off Cromwell Road - Knowles Transport Storage Logistics	338	NW
	7	Distribution Centre off Boleness Road - Freshpeel Produce	166	E,ESE,SE
	8	Multiple Industrial Units & Depots off Europa Way	14	N
	9	Multiple Retail Units off Cromwell Road	347	NW,WNW
	10	Multiple Industrial Units & Depots between Regal Road & Algores Way	197	NE,ENE
	11	Multiple Industrial Units & Depots off Boleness Way	275	ENE
	12	Multiple Distribution Centres off Weasenham Lane	317	N
	13	Depot off Weasenham Lane	602	N
	14	Production Plant off Weasenham Lane - Crown Packaging Manufacturing UK	612	NNE
	15	Industrial area off Sandall Road	668	NE
	16	Distribution Centre off Weasenham Lane - Lamb Weston	415	N
	<b>RESIDENTIAL</b>			
	1	Oakdale Place Park	307	SW
	2	Residential Properties off Redmoor Lane	577	SW
	3	New Bridge Lane Travellers Site	441	SE
	4	Residential Properties off Cromwell Road	430	NNW
	5	Residential Properties off New Drove, Harrys Way, Mikanda Close, Leach Close, Thurloe Close, Weasenham Lane, Half Penny Lane.	437	E
	6	North Brink Road	702	NNW
	7	Residential Properties off Kirks Lane	922	SW
8	Residents Cromwell Road	523	WSW	
9	Victory Road	828	N	



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TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION
	10	Railway Road and Bruce Close	922	NE
	11	South Brink	710	WSW
	12	South Brink	461	W
	13	North Brink	636	W
	14	North Brink	611	W
	15	Mile Tree Lane	865	W
	16	North Brink	569	WNW
	17	North Brink	682	W
	18	Oldfield Lane	982	N
	19	10 New Bridge Lane	13	S
	20	9 New Bridge Lane	17	W
	21	Potty Plants	256	SSE
<b>PUBLIC USE</b>				
	1	Trinity School	584	NE
	2	Thomas Clarkson Academy	584	NE
	3	Malt Drive Childrens Park	989	N
	4	Tesco Supermarket and Retail Park off Cromwell Road	366	WNW
	5	Belgravia Retail Park	192	NW
	6	Wisbech Retail Park	263	NW
<b>Critical Infrastructure</b>				
	1	Solar Farm off New Bridge Lane		
	2	Royal Mail Sorting Office off Enterprise Way		
<b>PUBLIC RIGHTS OF WAY (PROW)</b>				
	-	Footpath between Weasenham Lane & Cromwell Road	407	NNW
<b>ROADS</b>				
	-	B197	325	W
	-	A47	260	S
<b>RECREATIONAL</b>				
	1	Bowles Club Railway Road	960	NE
	2	Fenland Equestrian Centre	866	S
<b>AGRICULTURAL</b>				
	1	Agricultural Arable	574	SW,W,NW
	2	Agricultural Arable	771	SW,SSW,S



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TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION	
	3	Agricultural Arable	287	SW,S,SE	
	4	Agricultural Arable	324	E	
	5	Agricultural Arable	0	ESE,SE,SSE,S	
	6	Agricultural Arable	214	SW	
	7	Agricultural Arable	827	NE	
	<b>ATMOSPHERE-AQMA</b>				
	1	Fenland District Council, Wisbech AQMA No.1 (SO <sub>2</sub> )		995	N
WATER	<b>SURFACE WATER</b>				
	-	Unnamed Drainage Channel	1-1000	N,E,S,W	
	-	River Nene	585	W	
	-	Multiple Unnamed Drainage Channels within arable farm land areas surrounding Wisbech	1-1000	N,E,S,W	
	<b>GROUNDWATER</b>				
	-	Unproductive Bedrock Aquifer	On site	-	
	-	Unproductive Secondary/Superficial Aquifer	On site	-	
ENVIRONMENTALLY SENSITIVE	<b>DESIGNATED SITES (European)</b>				
		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	
	2	BAP - Traditional Orchard between Cromwell Road & South Brink	603	WSW	
	3	BAP - Traditional Orchard between Cromwell Road & South Brink	430	W	
	4	BAP - Traditional Orchard off Mile Tree Lane	591	W	
	5	BAP - Traditional Orchard between Mile Tree Lane & Cox's Lane	1000	NW	
	6	BAP - Deciduous Woodland adjacent to B198	493	NW	
	7	BAP - Deciduous Woodland adjacent to site	11	E	
	8	BAP - Deciduous Woodland	945	NNE	
	9	BAP - Deciduous Woodland	853	NE	
10	BAP - Deciduous Woodland adjacent to the A47	421	SE		
11	BAP - Deciduous Woodland adjacent to the A48	592	SE		
HERITAGE LOCATIONS	<b>LISTED BUILDINGS AND PARKS</b>				
	-	None within 1 km			



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Receptors located in the prevailing wind direction are most likely to be adversely affected by pollution originating from a fire at the EfW CHP Facility.

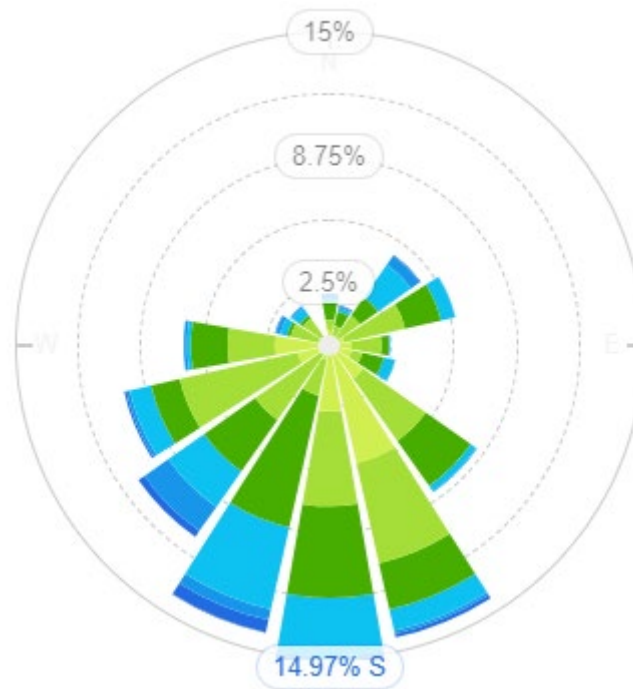


Figure 1: Wind Rose for Wisbech

(<https://wind.willyweather.co.uk/ee/cambridgeshire/wisbech.html>)

## 2.4. Drainage Plan

The indicative site drainage layout is presented in drawing MEM004 Outline Drainage Layout.

## 3. USING THIS FIRE PREVENTION PLAN

### 3.1. Where the plan is kept and how staff know how to use it

This Outline Fire Prevention Plan will be a stand-alone document in a suite of instructions managing Business Continuity within MVV's Integrated Management System (IMS). The IMS is available to all employees of the company via a cloud storage filing system. Physical copies of the Outline FPP will also be available in the administration building, weighbridge office and control room.

All employees are introduced to the IMS, its whereabouts, and how to use the documentation during their employment induction. Specific activities applicable to their role will also be covered in more detail by their Line Manager.



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**OUTLINE FIRE PREVENTION PLAN****3.2. Testing the plan and staff training**

In addition to an employee's initial induction training, all employees, contractors working at the site and visitors visiting the site will be required to complete a formal health and safety induction. The induction will include basic fire prevention measures, the location of the Outline Fire Prevention Plan, site specific rules regarding smoking and site emergency procedures.

All operations and maintenance staff will undertake basic third party fire awareness training with refresher training completed at the prescribed frequency.

Physical emergency signage will be displayed in prominent locations identifying emergency exits, fire extinguishers/firefighting equipment, fire alarm call points and spill kits/containment equipment.

All fire safety equipment will be serviced by a competent person. The service frequency schedule will be in accordance with manufacturer's recommendations, as a minimum.

Fire drills will be carried out every 6 months, in addition to weekly fire alarm tests which are recorded on MVVs daily log software. During the emergency drill, emergency conditions will be simulated to assess the site's performance and efficiency when dealing with an incident. Results and observations will be recorded and reviewed to identify further training needs, or any required changes to evacuation plans or the FPP.

**4. TYPES OF COMBUSTIBLE MATERIALS****4.1. Combustible waste**

The non-hazardous waste types to be processed at the Facility, comprising municipal, commercial and industrial wastes, are presented in Table 3 below. This list includes combustible wastes, suitable for submission into the combustion process, all combustible waste will be stored in the waste bunker.

*Table 3: Combustible waste types*

EWC code	Description
<b>02</b>	<b>Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting &amp; Fishing, Food Preparation &amp; Processing</b>
<b>02 01</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting &amp; fishing</b>
02 01 02	Animal-tissue waste
02 01 03	Plant-tissue waste



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<b>EWC code</b>	<b>Description</b>
02 01 04	Waste plastics (except packaging)
02 01 06	Animal faeces, urine, and manure (including spoiled straw), effluent, collected separately and treated offsite
02 01 07	Wastes from forestry
02 01 09	Agrochemical waste other than those mentioned in 02 01 08
<b>02 02</b>	<b>Wastes from the preparation and processing of meat, fish &amp; other foods of animal origin</b>
02 02 02	Animal-tissue waste
02 02 03	Materials unsuitable for consumption or processing
<b>02 03</b>	<b>Wastes from fruit, vegetables, cereals edible oils, cocoa, coffee, tea, and tobacco preparation &amp; processing; conserve production; yeast &amp; yeast extract production, molasses preparation &amp; fermentation</b>
02 03 04	Materials unsuitable for consumption or processing
<b>02 05</b>	<b>Wastes from the dairy products industry</b>
02 05 01	Materials unsuitable for consumption or processing
<b>02 06</b>	<b>Wastes from the baking and confectionery industry</b>
02 06 01	Materials unsuitable for consumption or processing
02 06 02	Wastes from preserving agents
<b>02 07</b>	<b>Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea &amp; cocoa)</b>
02 07 01	Wastes from washing, cleaning, and mechanical reduction of raw materials
02 07 02	Wastes from spirits distillation
02 07 04	Materials unsuitable for consumption or processing
<b>03</b>	<b>Wastes from Wood Processing and the Production of Panels and Furniture, Pulp, Paper and Cardboard</b>
<b>03 01</b>	<b>Wastes from Wood Processing and the Production of Panels and Furniture</b>
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
<b>03 03</b>	<b>Wastes from Pulp, Paper and Cardboard production and processing</b>
03 03 01	waste bark and wood
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
<b>04</b>	<b>Wastes from the Leather, Fur and Textile Industries</b>
<b>04 01</b>	<b>Wastes from the Leather and Fur Industry</b>
04 01 08	Waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	Wastes from dressing and finishing
<b>04 02</b>	<b>Wastes from the Textile Industry</b>
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10	organic matter from natural products (for example grease, wax)
04 02 21	Wastes from unprocessed textile fibres
04 02 22	Wastes from processed textile fibres
<b>09</b>	<b>Wastes from the Photographic Industry</b>
<b>09 01</b>	<b>Wastes from the Photographic Industry</b>



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EWC code	Description
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
<b>15</b>	<b>Waste Packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified.</b>
<b>15 01</b>	<b>Packaging (including separately collected municipal packaging waste)</b>
15 01 01	Paper and cardboard packaging
15 01 02	Plastic packaging
15 01 03	Wooden packaging
15 01 04	Metallic packaging
15 01 05	Composite packaging
15 01 06	Mixed packaging
15 01 07	Glass packaging
15 01 09	Textile packaging
<b>15 02</b>	<b>Absorbents, wiping cloths, filter materials and protective clothing</b>
15 02 03	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
<b>17</b>	<b>Construction and Demolition Wastes (Including excavated soil from contaminated sites)</b>
<b>17 02</b>	<b>Wood Glass and Plastic</b>
17 02 01	Wood
17 02 03	Plastic
<b>17 09</b>	<b>Other Construction and Demolition Wastes</b>
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
<b>19</b>	<b>Wastes from Waste Management Facilities, off-site Waste Water Treatment Plants &amp; Preparation of Water intended for Human Consumption /Industrial Use</b>
<b>19 02</b>	<b>Wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	Premixed wastes composed only of non-hazardous wastes
19 02 10	Combustible wastes other than those mentioned in 19 02 08 and 19 02 09
<b>19 04</b>	<b>Vitrified waste and wastes from vitrification</b>
19 04 01	Vitrified waste
<b>19 05</b>	<b>Wastes from aerobic treatment of solid wastes</b>
19 05 01	Non-composted fraction of municipal and similar wastes
19 05 02	Non-composted fraction of animal and vegetable waste
19 05 03	Off-specification compost
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 01	screenings
<b>19 10</b>	<b>wastes from shredding of metal-containing wastes</b>
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
<b>19 12</b>	<b>Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>





## PROCESS: BUSINESS SUPPORT - BUSINESS CONTINUITY

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EWC code	Description
19 12 01	Paper and cardboard
19 12 02	Ferrous metal
19 12 03	Non-ferrous metal
19 12 04	Plastic and rubber
19 12 07	Wood other than that mentioned in 19 12 06
19 12 08	Textiles
19 12 09	Minerals (for example sand, stones)
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
<b>20</b>	<b>Municipal Wastes (Household and Similar Commercial, Industrial and Institutional Wastes) including separately collected fractions</b>
<b>20 01</b>	<b>Separately Collected Fractions (except 15 01)</b>
20 01 01	Paper and cardboard
20 01 08	Biodegradable food waste
20 01 10	Clothes
20 01 11	Textiles
20 01 25	edible oil and fat
20 01 38	Wood other than that mentioned in 20 01 37
20 01 39	Plastics
20 01 99	Other fractions not otherwise specified
<b>20 02</b>	<b>Garden and Park Wastes (including cemetery wastes)</b>
20 02 01	Biodegradable waste
20 02 03	Other non-biodegradable waste
<b>20 03</b>	<b>Other Municipal Wastes</b>
20 03 01	Mixed municipal waste
20 03 02	Waste from markets
20 03 03	Street sweeping residues
20 03 04	Street cleaning residues
20 03 06	Waste from sewage cleaning
20 03 07	Bulky waste
20 03 99	Municipal wastes not otherwise specified

#### 4.2. Persistent organic pollutants

As a non-hazardous waste processing facility, no POP containing waste will be accepted.

#### 4.3. Other combustible materials

Combustible materials expected to be present at the facility for the purpose of servicing the EfW CHP Facility during maintenance activities and as an alternative fuel source for auxiliary firing and mobile plant are:



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- Small quantities of oils and greases (stored in the maintenance store and workshop in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001)
- Gas cylinders (stored in purpose-built, secured, dedicated storage facilities)
- Low sulphur fuel oil (stored in a dedicated storage tank fulfilling the requirements of the Control of Pollution (Oil Storage) (England) Regulations 2001).
- Emergency power diesel generator

The location of these combustible materials within the site will be confirmed during the detailed design stage. No combustible materials will be stored in close proximity to combustible waste.

**5. MANAGE COMMON CAUSES OF FIRE****5.1. Arson**

The site is accessed by security gates which are open during waste delivery hours, security is controlled by the weighbridge operatives permitting access through the weighbridge barriers. Outside of waste delivery hours the security gates are closed and monitored by the Control Room.

Live 24-hour recording CCTV cameras with c.90 days storage capacity will be located around the site, these will provide surveillance of the entire site, final locations and storage capacity will be determined during the detailed design stage. CCTV is monitored by the control room which is manned 24-hours a day.

Site inspections will check the boundary fence line to ensure security controls are maintained.

**5.2. Plant and equipment**

All site equipment will be maintained in accordance with the manufacturer's guidelines and a maintenance and inspection program implemented. All breakdowns or faults will be recorded for action.

All site vehicles, mobile and static plant will be fitted with suitable fire extinguishers installed in operator's cabs.

Plant machinery and combustible waste will not come into contact in a manner likely to cause combustion, as all combustible waste is tipped directly into, and stored in, the waste bunker. Contact is transient as spilled waste is either pushed into the bunker, or cranes are used to insert the waste into the furnace chutes.



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**5.3. Electrical faults including damaged or exposed electrical cables**

## 5.3.1. Electrical certification

All electrical installations will be fully certified during construction and commissioning of the EfW CHP Facility by an appropriately qualified individual/body, e.g., NCEIC certified.

## 5.3.2. Electrical equipment maintenance arrangements

Electrical equipment and light fittings will be routinely checked and maintained in accordance with the current edition of BS 7671 by an appropriately qualified individual as part of the EfW CHP Facility planned preventative maintenance programme and portable equipment in accordance with instruction OS.MN.10 Portable Appliance Testing.

Lighting and electrical fittings will be of a type which aids in the prevention of electrical fires (e.g., residual-current devices, fire resistant casings, ATEX certified where required etc.).

**5.4. Discarded smoking materials**

## 5.4.1. Smoking on site policies

The site will operate a strict no smoking policy in all areas other than within the designated smoking area, this will also apply to e-cigarettes. The location of the smoking shelter will be determined during detailed design, however, in all cases it will be located away from operational areas and combustible materials.

**5.5. Hot works safe working practices**

Any hot works on site will be undertaken in accordance with a hot works permit and instruction OP.SR.07 Hot Work.

**5.6. Industrial heaters**

Industrial heaters are not to be used on site, in areas where waste is stored.

**5.7. Hot exhausts and engine parts**

Operational staff will be required to remain vigilant when using plant and equipment for signs of fire caused by dust settling on hot exhaust and engine parts.

Plant and equipment will be checked at the start and end of each shift and where required cleaned down before use.



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**5.8. Fire watch procedures**

In accordance with MVV UK IMS instruction OP.SR.07 Hot Work and OP.SR.07.S01 Hot Work Safe Code of Practice a fire watch person shall be in attendance for the duration of all Hot Works, including any breaks, and for a period of 30-60 minutes after completion of the Hot Works. All fire watch requirements will be clearly stated on the Hot Work Certificate. The Fire Watch person is not to be engaged in any other activities during the fire watch period and must be trained in the use of firefighting equipment designated for the Hot Work task.

**5.9. Ignition sources**

A Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) assessment will be completed during the detailed design of the EfW CHP Facility, with areas of risk identified on DSEAR zonal drawings.

Open burning is not permitted anywhere on the site.

**5.10. Batteries**

Batteries will not be accepted at the EfW CHP Facility. Should a battery be identified within incoming waste it will be removed, stored within the quarantine area, and disposed of to a suitably licenced facility.

**5.11. Leaks and spillages of oils and fuels**

Spillages will be cleaned up without delay upon detection, in accordance with the site's Emergency Management Plan.

A regular site inspection and maintenance program will be in place to identify leaks and spillages at the earliest opportunity.

Oils and fuels will be stored in appropriate secondary containment, away from operational areas, the exact location of which will be determined during detailed design stage.

**5.12. Build-up of loose combustible waste, dust, and fluff**

Regular housekeeping and inspection of the site will be implemented to reduce the build-up of dust and fluff. Where inspections identify the build-up of loose combustible waste, dust or fluff immediate cleaning will be arranged to remove the materials.



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All mobile plant is checked prior to use and inspected as part of the daily site inspection routine.

**5.13. Reactions between wastes**

Non-permitted wastes are rejected in accordance with the EfW CHP Facility's Waste Acceptance procedures.

Waste Acceptance Operatives are trained in waste acceptance procedures.

Site inspections are carried out to identify any incompatible wastes.

In the event of a potential reaction the quarantine area can be utilised to segregate the incompatible waste.

**5.14. Waste acceptance and deposited hot loads**

Visible/declared hot loads are not accepted.

Any hot load identified, whether by eye or infrared camera, within the waste reception/main waste bunker will be picked up by the waste crane and fed directly to the boiler. The waste bunker and boiler feed chutes will be equipped with fire protection measures.

The quarantine area can be utilised in an emergency and will be equipped with appropriate fire detection and protection measures.

**5.15. Hot and dry weather**

All combustible waste will be stored internally in the waste bunker, it is therefore unlikely to be influenced by external climatic effects.

**6. PREVENT SELF-COMBUSTION****6.1. General self-combustion measures**

Self-combustion of waste can occur under certain conditions. Preventative measures can be adopted to reduce the likelihood of these conditions developing, for instance managing storage times, volumes, and the temperature of the waste.



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**6.2. Manage storage time**

## 6.2.1. Method used to record and manage the storage of all waste on site

The capacity of the waste bunker will not be exceeded. It is anticipated that the waste storage capacity of the bunker will be 46,000m<sup>3</sup> (equivalent to approximately 11.5 days fuel supply). During normal operation, waste storage residence time will be minimised by applying the FIFO principle and daily 'turning' of the bunker.

In the event that the EfW CHP Facility is not able to receive waste due to an unplanned incident, forcing a prolonged full shutdown of the EfW CHP Facility, waste deliveries will be stopped and/or diverted to a suitably licenced waste management facility in accordance with the site's Business Continuity Plan.

## 6.2.2. Stock rotation policy

All waste will be managed in accordance with the Bunker Management procedure for the EfW CHP Facility, held within the IMS.

The EfW CHP Facility will be equipped with two waste cranes which cover the entire length and width of the waste bunker. Under normal circumstances one crane will be operational with the second on standby.

Delivery vehicles will be directed to tip in any one of the available bays by the Tipping Hall personnel. During the operational day waste is tipped into the reception bunker. The waste crane will be programmed to clear the reception bunker and deposit the waste into the main storage bunker. During the day waste will be stacked in the main storage bunker whilst periodically feeding the boiler.

During the night shift the aim will be to clear the reception bunker completely (as far as is practicable), whilst maintaining feed to the boiler. The period during the night shift when waste is not being received provides the ideal opportunity for stacking and mixing of waste in the main storage bunker. Every attempt is to be made to 'Turn the Pit Over'. This entails digging a deep trench at one end of the main storage bunker, stacking old waste on top of the waste pile, and then backfilling with fresh waste from the reception bunker. Ensuring a full turnover of the main storage bunker and the feeding of the oldest waste first.

The standby crane can be utilised to enhance the effort during the night or other periods to turn the pit over.



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**6.3. Monitor and control temperature**

## 6.3.1. Reduce the exposed metal content and proportion of 'fines'

The combustible wastes accepted at the site are residual wastes which are likely to have undergone pre-treatment to accord with the waste hierarchy. Therefore, the potential presence of metal content is limited.

## 6.3.2. Monitoring temperature

As part of the detailed design and construction of the EfW CHP Facility, the fire system design will be designed and installed by an approved fire engineering company in accordance with NFPA 850 or equivalent standard and requirements of the fire risk insurers.

Methods to be implemented will very likely include: stored waste held within the bunker will be continuously monitored by infrared detectors enabling the detection of hotspots in the waste mass prior to combustion. The infrared detectors are/similar to DIAS infrared cameras. The cameras constantly scan the waste bunker to detect potential ignition sources. When a hotspot is detected, the Control Room will be alerted. Hotspots  $>55^{\circ}\text{C}$  will raise a yellow warning,  $>80^{\circ}\text{C}$  will raise a red alarm. The Control Room is permanently occupied to respond to warnings and alarms.

## 6.3.3. Controlling temperature

All new waste received will be deposited directly into the reception bunker. During the day shift this waste is automatically moved by the waste crane grab into the main storage bunker. During the night shift the Operation Team will 'Turn the Pit Over' as described in Section 6.2.2 above. This activity ensures homogeneity of the waste mass and reduces the likelihood of hotspots and subsequent combustion.

## 6.3.4. Dealing with hot weather and heating from sunlight

All waste is stored inside in the waste bunker, therefore hot weather and heating from sunlight is unlikely to affect the waste.

**6.4. Waste bale storage**

No baled waste will be stored on site.



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**7. MANAGE WASTE PILES****7.1. Storing waste materials in their largest form**

Waste received at the EfW CHP Facility will not routinely undergo any prior treatment in advance of entering the waste bunker, such as shredding, and is therefore stored in its largest form. Prior to submission to the incineration process bulky waste may be shredded to improve particle size for entry onto the grate.

**7.2. Maximum pile sizes for the waste on your site**

It is understood that the Environment Agency's maximum waste pile sizes do not apply to waste stored within a waste bunker, where separation into discrete piles is not practicable.

**7.3. Where maximum pile sizes do not apply****7.3.1. Waste stored in containers**

No combustible wastes are stored in containers at the site and therefore controls for the storage of waste in this manner do not apply.

**8. PREVENT FIRE SPREADING****8.1. Separation distances**

All combustible waste received at the EfW CHP Facility will be stored in the internal waste bunker, not in discrete piles, and therefore separation distances do not apply.

**8.2. Fire walls construction standards**

Fire walls will be designed and installed at the EfW CHP Facility in accordance with NFPA 850 and the fire risk insurers requirements, this will include certain fire compartments such as the waste bunker and boiler hall being separated by fire barriers with a minimum of 2-hour fire resistance rating. The final location and specification of the fire walls is subject to the detailed design of the EfW CHP Facility to be further developed together with the EPC Contractor.

As part of the detailed design process, a fire risk assessment will be undertaken for each fire compartment to identify appropriate fire detection and protection measures to be installed.





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All walls within the waste bunker will be suitably constructed in concrete to form a continuous 2-hour fire rated barrier. The base of the bunker will be constructed of reinforced concrete, and the whole bunker will be a water retaining structure. The structure of the waste bunker itself will therefore have adequate fire resistance.

All openings in the bunker fire barriers will be provided with fire doors, fire dampers, penetration seals, or other approved means having a fire protection rating consistent with the designated fire resistance rating of the barrier. Windows in fire barriers will be provided with appropriate fire protection to maintain the integrity of the fire barrier, e.g., by means of an automatic water curtain, window sprinkler system, etc. All cable trays or piping systems passing through fire barriers will be fitted with fire stops.

**8.3. Storing waste in bays**

Incoming waste delivered to the EfW CHP Facility is deposited directly into the waste reception bunker and not stored in bays. Therefore, the requirements for wastes stored in bays do not apply to the EfW CHP Facility.

**9. QUARANTINE AREA****9.1. Quarantine area location and size**

A suitable area for the quarantining of waste will be designated within the waste reception hall during the detailed design stage. This will likely be an area alongside the tipping bays approximately 4.5m wide which will fulfil the requirement of the FPP guidance, i.e., it will:

- Hold at least 50% of the largest waste delivery load; and
- Where practicable, have a separation distance of at least 6 metres, or alternative measure (such as concrete walls), around the quarantined waste.

The quarantine bay is covered by the same detection and suppression systems serving the waste reception hall.

The final design of the quarantine area will be subject to detailed design and agreed with fire risk insurers.

**9.2. How to use the quarantine area if there is a fire**

Should a fire be detected in a waste delivery vehicle it will be directed to the quarantine area to deposit its load, should it be safe to do so.



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**9.3. Procedure to remove material stored temporarily if there is a fire**

No material is stored in the quarantine area. Any materials directed to the quarantine area are to be removed from the site at the soonest opportunity.

**10. DETECTING FIRES****10.1. Detection systems in use**

As part of the detailed design and construction of the EFW CHP Facility, the fire detection system will be designed and installed by an approved fire engineering company in accordance with NFPA 850 or equivalent standard and the requirements of the fire risk insurers.

Methods to be implemented will likely include: a combination of detection systems activated by heat, smoke and infrared flame detection. All alerts will be notified on the detection panel and a dedicated fire alarm HMI screen in the Control Room, which is permanently manned. This will allow the rapid identification of the fire location and the action to be taken.

The waste reception tipping hall is manned during the day and equipped with manual fire detection call points to raise the alarm should a fire be detected.

As described in Section 6.3.2 above, the waste storage bunker is equipped with infrared detectors continuously monitoring the surface of the waste mass.

**10.2. Certification for the systems**

All systems will be designed in accordance with BS 5839-1 Fire Detection and fire alarm systems for buildings – Code of practice for design, installation, commissioning, and maintenance of systems in non-domestic premises to Category P1 coverage and NFPA 72 National Fire Alarm and Signalling Code.

All fire protection and detection products, systems and services will be provided by suppliers and contractors registered on the Loss Prevention Certification Board (LPCB) list of approved fire and security products and services. The design, manufacture and installation will be carried out by companies having achieved LPCB quality systems certification.



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**11. SUPPRESSING FIRES****11.1. Suppression systems in use**

As part of the detailed design and construction of the EfW CHP Facility, the fire suppression system will be designed and installed by an approved fire engineering company in accordance with NFPA 850 or equivalent standard and requirements of the fire risk insurers. As such, the details below may be subject to change.

A fire ring main will be provided with a large firewater storage tank, the ring main will serve the EfW CHP Facility Site with an electric firewater pump (and a diesel back up) to ensure that firewater can be delivered when needed.

Methods to be implemented will include: the waste bunker will be divided into deluge zones; a hotspot warning by infra-red camera will identify the zone within which it has been detected. The Operations Team will assess the threat posed by the hotspot. Where possible the hotspot will be picked from the waste bunker by the crane and transferred to the feed chute for immediate injection into the combustion process avoiding the need to deploy a suppression system.

Should the first signs of combustion and smoke be visible then the identified zone will be drenched with either gel/foam suppression system cannons and/or a water deluge system.

The waste reception tipping hall is equipped with an automatic spray system. The sprinkler heads are fitted with Quartzoid bulbs that are set to break at a certain temperature and release the firefighting water.

The waste reception tipping hall is also equipped with firefighting hose reels.

The gel/foam suppression system cannons in the waste storage bunker will be supplied with Firesorb Gel or similar. The number of cannons will be sufficient to cover the entire waste storage bunker. The cannons can be operated in manual mode via hand wheels on the oscillating motors, remotely from the Control Room panel or in an automatic function where the cannons will oscillate continuously to cover the entire bunker. The cannons can operate in both gel/foam and water only modes. The purpose of the gel/foam is to form a thick sticky barrier on the waste so that the fire is unable to receive oxygen, causing combustion to slow and extinguish. However, the gel/foam does not render the waste unsuitable for the incineration process, the calorific value will be lowered because of the addition of the gel.



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The waste storage bunker deluge system will be split into zones, one zone will be dedicated to the Control Room window to ensure a 2-hour fire rating. Each zone has a butterfly valve that is operated from the control panel in the Control Room to release water into the identified zone.

**11.2. Certification for the systems**

All fire protection systems will be installed in accordance with the National Fire Protection Association NFPA 850 Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations guidance. Any sprinkler system will comply with NFPA 13 Standard for the Installation of Sprinkler Systems, and any water spray / deluge system will comply with NFPA 15 Standard for Water Spray Fixed Systems for Fire Protection or other equivalent standards.

All fire protection and detection products, systems and services will be provided by suppliers and contractors registered on the Loss Prevention Certification Board (LPCB) list of approved fire and security products and services. The design, manufacture and installation will be carried out by companies having achieved LPCB quality systems certification.

**12. FIREFIGHTING TECHNIQUES****12.1. Active firefighting**

Final firefighting techniques will be determined during the detailed design stage, these will include the early detection of fires and automatic sprinkler and/or manual deluge suppression to extinguish a fire in its earliest stages, supported by fire cannons.

The site will also be equipped with fixed firewater hose reels and manual alarm activation call points which can be used by site operatives, should it be safe to do so. All operatives will be trained in the identification of fire hazards, how to raise the alarm and how to use firefighting equipment including hose reels and fire extinguishers.

**13. WATER SUPPLIES****13.1. Available water supply**

It is acknowledged that the provisions for the supply of firewater at the EfW CHP Facility are not in strict accordance with the EA's FPP guidance. The waste bunker will be a contained concrete structure, with thick fire-resistant concrete walls. The provisions for firefighting in this area will be in accordance with



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NFPA 850 and as required by the fire risk insurers. In addition, foam/gel may be used as an additive in the firewater system which will reduce the quantity of water required for firefighting, this is subject to detailed design of the EfW CHP Facility.

The fire water tank will be designed to provide 2 hours supply for all fixed fire suppression system demands that could reasonably be expected to operate simultaneously during a single event. In accordance with the Standard Guidance (Chubb) this is normally taken to be:

- A waste bunker deluge system zone
- Two waste bunker water cannons
- One feed hopper deluge system
- Control room window wetting deluge system
- The hose stream demand of not less than 1890 l/min

This would give a tank capacity in the order of 1,500m<sup>3</sup>, the final size will be determined during the detailed design stage.

**14. MANAGING FIRE WATER****14.1. Containing the run-off from fire water**

The actual storage volume for firewater storage will not be known until the detailed design stage, indicative surface water storage volumes are presenting on drawing MEM004 Outline Drainage Layout, when specifying the size of the containment tanks it will be based on early fire detection and automatic fire suppressions systems in the waste reception and storage areas resulting in rapid containment. In accordance with the Standard Guidance (Chubb) the firewater retention provision is sized to accommodate at least:

- The spill of the largest single container of any flammable or combustible liquids in the area
- The maximum expected number of fire hose lines at a flow rate of 1,890 l/min minimum operating for a minimum of 10 minutes
- The maximum design discharge of fixed fire suppressions systems operating for a minimum of 10 minutes.

The waste bunker will be designed and constructed as a water retaining structure in accordance with BS EN 1992-3. This will protect against the leak of contaminated firewater from the bunker and minimise the risk of contamination of groundwater in the event of a fire within the bunker. The waste reception hall and turbine hall will drain to the waste bunker through the appropriate design of kerbing, floor falls and drains.



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It should be noted that the potential volume of firewater required to extinguish a fire in the waste storage bunker will be considerably less than the total volume of the bunker, as the waste present in the bunker will reduce the available volume.

The site external drainage system will be sealed by an automatic closing valve activated by the fire alarm on the final connection to the surface water sewer, subject to detailed design.

**15. DURING AND AFTER AN INCIDENT****15.1. Dealing with issues during a fire**

In addition to this Outline Fire Prevention Plan, emergency procedures will be available in the Business Continuity section of the MVV UK Integrated Management system which will be followed in the event of a fire. These will include, but not be limited to:

- Emergency Management Plan, containing:
  - Responsibilities
  - Communications
  - Actions
  - Incident Control Sheets
  - Fire system overview
  - Locations of fire extinguishers
  - Rendezvous points
  - Fire hydrants
  - Hazardous materials and gases
- Emergency Response Protocol, containing:
  - Chain of notification
- Business Continuity Plan, containing:
  - Business Continuity Team
  - Alternative disposal sites
  - Consumables
  - Staffing arrangements
  - Information recovery
  - Communications
  - Site Assessment Team



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- Stock Level Management
- Critical Functions analysis and recovery processes
- Response checklist

All staff and contractors will be trained in the emergency response procedures specific to their role as well as the site wide emergency procedures. Training records for all staff and contractors will be retained as part of the Integrated Management System.

The effectiveness of the procedures will be reviewed following an emergency, or emergency drill, on site. Where necessary, updates will be made to ensure efficient response and staff trained in the updates.

Copies of the Business Continuity documentation are available to all staff on the MVV UK IMS. Hard copies of the document will also be available at strategic locations on the site, i.e., Control Room, Administration building and Weighbridge.

**15.2. Notifying residents and businesses**

Dependent on the nature and scale of the incident, it may be necessary to notify local residents and businesses. All external communications will be managed in accordance with the Business Continuity Plan.

**15.3. Clearing and decontamination after a fire**

Following a fire, which has required intervention by the Emergency Services and has been fully extinguished, the Site Assessment Team identified in the Business Continuity Plan will assess the EfW CHP Facility noting all damage, equipment losses and contamination.

Once the assessment has been completed and the EfW CHP Facility deemed structurally safe arrangements will be made to correctly dispose of any fire residues and contaminated waters.

All areas will be thoroughly cleaned prior to repairs and replacement commencing.

**15.4. Making the site operational after a fire**

**PROCESS: BUSINESS SUPPORT - BUSINESS CONTINUITY****INTEGRATED MANAGEMENT SYSTEM****OUTLINE FIRE PREVENTION PLAN**

Where a significant fire has resulted in a full shutdown of the Facility, and remedial actions have had to be taken, the EfW CHP Facility will not restart operations until notified that it is acceptable to do so by the Fire and Rescue Service, Environment Agency, and the insurance company.

**16. 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>
16.12.21	D1			First internal review, comments incorporated.	All
20.12.21	D2			Second internal review for technical accuracy.	All
07.02.22	D3			Amendments to document following technical review	All
23.03.22	D4			Final draft - Issued to EP consultant for comment	All