Sutton Courtenay MRF/WTS

Fire Prevention Plan

08/05/2024

Appleford Sidings, Sutton Courtenay, Abingdon, Oxon OX14 4PW.

FCC Environment (UK) Limited.

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1. Introduction

This Fire Prevention Plan (FPP) has been written following consultation with the following guidance documents:

- 'Fire Prevention Plans: environmental permits' the Environment Agency and template FPP, 11 Jan 2021 (To be read in conjunction with 'Fire prevention plan consultation: summary of consultation responses and decisions, and Appendix 1: review of guidance and test results').
- 'Reducing Fire Risk at Waste Management Sites', Waste industry Safety & Health Forum, February 2020
- 'Fire Prevention and Mitigation plan guidance – Waste Management' Guidance note 16, V2.

The FPP forms part of the sites management system and sets out the fire prevention measures and procedures in place on 'the site'. This is a standalone document; however it may be useful to read this in conjunction with the Fire Risk Assessment and Emergency Management Plan.

This FPP and the fire prevention measures specified within it have been designed to meet these three main objectives:

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

All site staff shall be made aware of the location of this FPP and be able to access it at all times, including during an incident. Site staff and contractors working on site shall be made aware of the contents of the FPP so that they know what they must do:

- To prevent a fire occurring
- During a fire if one breaks out

There are regular exercises to test how well the Fire Prevention Plan works and ensure site staff know what to do. The exercises will cover different scenarios to ensure all elements of the plan work and are up to date. This will be done at a minimum 6 monthly interval. The exercise when conducted on site, will incorporate all emergency procedures e.g. Fire drills and emergency management plan.

2. Site activities

Sutton Courtenay Materials Recovery Facility & Waste Transfer Station (MRF/WTS) receives a mixture of commercial and industrial (C&I), residual municipal and POPS/WUDS wastes which is managed via 3 distinct tipping areas.

1. C&I waste – is tipped in the main MRF tipping hall where any bulky (landfill) wastes are separated from waste suitable for EfW by the 360 excavator or loading shovels, the wastes are then bulked to either EfW or Landfill.
2. Residual municipal waste – is tipped in the rear WTS tipping hall where it is stored ready to be bulked by loading shovel to EfW.

3. POPS/WUDS – is tipped into the "Dance floor area" shredding area where it is shredded by loading a slow speed shredder with the 360 excavator and then bulked to be transported to EfW.
4. Recovered Metal – the site recovers metal from the incoming waste streams (excluding POPS waste), the metal is stored in 40yd containers via the 360 excavator and transported off site to a licenced metal recycler.

Additionally the site is used for parking 12 FCC artic bulk vehicles and subsequently stores 30,000l of diesel and 3,000l of AddBlu at any given time.

'The site' accepts the following combustible wastes:

- Mixed residual waste (containing any combustible wastes)
- Bulky wastes
- Waste Upholstered Domestic Seating containing POPs and Bulky waste (non-POPs)

The site also stores combustible liquids including fuel and oils for site plant and machinery

- Fuel tank 1 (plant) – volume 4500 litres
- Fuel tank 2 (road vehicles) – volume 33,000 litres

Maintenance oils & fluids – approx 250l . The location of all combustible wastes and liquids is shown on Drawing 2

Sensitive receptors within 1 km of the site are identified in Table 1 and on Drawing 1

Table 1. Key receptors within 1 km of site

Key receptor	**Direction**	**Distance from facility boundary (metres)**
Dwellings on Chambrai Close	ENE	980
Cross Tree Farm	W	1050
RWE npower–Didcot Power Station	S	800
B4016 (Main Road)	NE	625
Properties on Main Road	E	900
Rail Line	E	900
Aggregate Processing Plant	E	50
Properties Church Mill Road	NNW	990
Properties Wallingford Way	NW	1150
Sutton Courtenay Village Hall	SSW	1139
Amey Depot, Appleford Road	NNW	850
Offices, Appleford Road	NW	925
Hill Farm	SE	1050

3. Managing common causes of fire

The possible causes of a fire at 'the site' have been identified in the fire risk assessment and measures in place to reduce the risk are detailed below.

3.1 Arson

To prevent or reduce risk of arson, the site is fitted with palisade fencing around the perimeter of site and the front gate is locked when there is no one present, CCTV cameras in various locations and an intruder alarm are installed with the CCTV and alarm linked to a remote monitoring centre out of hours. The site operates a shift on a Saturday, therefore there is a site presence throughout the majority of the week.

3.2 Plant and equipment

All plant and equipment are subject to a maintenance and inspection programme where the mobile plant is inspected daily, monthly by site management and annual audits conducted by FCC Plant Inspectors and is serviced in line with the manufactures recommendations.

Mobile Plant type	Fire Suppression	Fire Ext
JCB MH20 with grab	Yes	2kg powder
Case Loading Shovel	Yes	2kg powder
CAT 930k Loading Shovel	Yes	2kg powder
JCB Telehandler	No	2kg powder
Mitsubishi Clamp truck	No	2kg powder
Komptech Shredder	Yes	6kg powder

Site plant are fitted with fire extinguishers / fire suppression systems and dust filters and mobile plant is parked away from combustible materials during non-operational hours.

Maintenance records are held on site within the Site Filing System/AssetGo system.

3.3 Electrical faults including damaged or exposed electrical cables

Fixed electrics are installed by a qualified electrician certified by NICEIC and are inspected 3 yearly, portable appliances are tested annually with all records stored in the site filing system.

3.4 Smoking on site policies

'The site' operates a no smoking policy and has a designated smoking area and suitable metal receptacle for discarded materials situated at the pedestrian area outside of the eastern elevation of the MRF building and away from combustible materials. There is signage for the designated smoking area and this is included in induction to all staff and visitors to the site.

3.5 Hot works safe working practices

Any hot works such as welding or cutting undertaken by staff or contractors are done so with a suitable risk assessment and safe working procedure in place. Hot works undertaken by contractors are done so under a Permit to Work and a fire watch is set for a minimum of 30 minutes after work has been completed with a final check after 120 minutes.

3.6 Industrial heaters

Section not applicable.

3.7 Hot exhausts & Engine Parts

A fire watch, consisting of a visual check, is carried out daily to detect signs of a fire caused by dust settling on hot exhaust and engine parts. An additional final fire watch is carried out at the end of the operational day with mobile plant parked 6m away from combustible materials.

3.8 Ignition sources

Sources of ignition, such as naked flames, space heaters, furnaces and incinerators are kept at least 6m away from combustible and flammable materials. There are no such sources on site.

3.9 Batteries

To prevent the risk of fire caused by incorrect disposal of batteries waste is visually inspected upon receipt by the plant operators to ensure compliance with the site permit, the site is not permitted to accept batteries and if batteries are contained within loads they are removed and stored in the battery boxes until a suitable collection is arranged.

3.10 Batteries in End-of-Life Vehicles

Section not applicable; facility not licenced to accept end of life vehicles.

3.11 Leaks and spillages of oils and fuels

Site vehicles and plant are subject to regular inspection and maintenance as identified in section 3.2.

Oils and fuels are stored within bunded tanks or on drip trays inside the building at the COSHH storage area to prevent spillage, and spill containment equipment is located adjacent to these areas, spill kits including granules, booms and clay mats are located next to the COSHH storage areas and marked on the site plan and the procedures for managing spillages is detailed in the site emergency plan located in file 13 of the site filing system and in the emergency box at the emergency assembly point.

3.12 Build-up of loose combustible waste, dust and fluff

The site is inspected daily, weekly and monthly for build-up of loose combustible waste, dust and fluff using the installation checks. Cleaning is undertaken as required and identified via the site inspections with actions recorded in the inspections and stored in the site filing system.

3.13 Reactions between incompatible wastes/materials

All wastes are inspected on arrival at the weighbridge, where possible, or inspected by an operative as they are being tipped. Any identified non-conforming wastes and/or incompatible wastes will be separated and quarantined immediately in an area with sealed drainage where necessary.

3.14 Waste acceptance and deposited hot loads

Hot loads identified prior to tipping will be placed within a quarantine area immediately. Any hot loads that have been deposited will either be removed to a quarantine area where safe to do so,

or any combustible wastes adjacent to the deposited hot load will be removed to prevent spread.

3.15 Hot and dry weather

Actions that will be undertaken to reduce the fire risk caused by external heating due to hot and dry weather will be as follows:

- shading waste from direct sunlight
- enabling heat generated within the waste to be released
- more frequent temperature monitoring
- minimising storage times
- moving or covering any reflective surfaces to prevent sunlight reflecting onto waste
- consult Climate Change Risk Assessment and review if required

4. Prevent Self-combustion

To minimise the risk of self-combustion storage times, pile volumes and heights, and temperatures of wastes are managed.

4.1 Storage time

All combustible wastes are stored for less than 30 days, see the table in Appendix 1 for storage times of each material.

All waste entering the site does so via the site weighbridge, all waste streams have a unique enquiry number (DW Number) which forms part of the wider FCC Compliance waste acceptance checks, the waste is then sent to the appropriate tipping hall where a further inspection is made to check the waste is compliant whilst it is being discharged. A further inspection is made by operatives as the load is 'pushed up' into the relevant stockpile. This process happens concurrently with the checks for non-conforming waste that may be present in the load. 'Hot loads' are primarily identified by visual and olfactory means. If identified the waste is moved to the Quarantine Area/or appropriate area where it will be dealt with as appropriate. When waste inputs are discharged in the reception hall, the loading shovel pushes this up into the main stockpile.

- With transfer station wastes these are then bulked up for either EfW or landfill using the loading shovels with the oldest waste being loaded first to ensure stock rotation (Site Supervisor monitors the stock rotation and informs plant operators what waste is to be loaded for the day ahead).
- With the POPS/WUDS these are pushed into the stockpile by the loading shovel where the 360 excavator loads the shredder with the oldest waste first with the loading shovel continually pushing the older waste towards the 360 to ensure the waste flows with the oldest waste being shredded first.

Extra measures to prevent self-combustion include:

- Temperature monitoring
- Fire walls
- Reduced pile sizes (less than maximum recommended)

- Turning
- Additional detection and suppression.

4.2 Temperature control

Heat is controlled to prevent self-combustion by:

- Any heat generated during shredding will be allowed to be released so that the waste is cool before forming it into piles; this is achieved by operating the shredder output in such a way that the shredded material is not fed straight into the main stock, daily temperature monitoring and dust suppression units utilising cold water.
- Waste piles will be turned daily if daily temperature monitoring identifies the need to ensure the waste remains cold and any localised warming is dissipated quickly.
- External heating of combustible waste during hot weather is minimised and shading from direct sunlight by storing the waste inside the building.
- Sub-surface temperatures are monitored with a probe / other device as described in more detail below.

The temperature of each stockpile is monitored at the end of each day using the infra-red thermometer and recorded on IMS-FRM-231 if any warm/hot areas are identified, areas >75c, the stockpile is cooled by reducing the stockpile and levelling it out; further monitoring with the infra-red thermometer is undertaken to ensure the temperature has dropped and is ok. All staff are trained in this procedure as part of their site induction which is carried out by the site management team.

4.3 Waste bale storage

Not applicable as Materials Recovery Facility currently "mothballed".

5. Waste piles

Pile sizes of combustible wastes are managed to help prevent self-combustion and to limit the scale of a fire if one breaks out. The table in Appendix 1 identifies the combustible waste types accepted at 'the site', piles sizes and how those wastes are stored. All piles are kept to a maximum of 4 metres in height, 11 metres in length and 10m in width at the end of each working day.

Pile sizes are minimised, and wastes are stored in their largest form where possible with fire breaks where applicable.

5.1 Waste stored in containers

Where wastes are stored in skips or containers (>1100L), the detail including dimensions and type of the containers are included within the Table in Appendix 1 .

Containers are readily accessible such that they can be accessed from at least one side in the event of fire. The containers can be moved in the event of fire to prevent the fire from spreading to other containers using the mobile plant available on site such as the JCB MH20 with grab and Loading Shovels, the staff are trained in the use of equipment for movement of skips.

6. Preventing fire spread

Separation distances, fire walls and bays have been used to prevent the risk of a fire spreading. The table in Appendix 1 and Drawing 2 identifies the separation distances between waste piles and/or presence of a fire wall.

6.1 Separation distances

Where separation distances have been specified to prevent fire spread rather than walls, all combustible waste piles (not including actively managed compost) are separated by at least 6 metres from

- Other combustible waste piles
- The site perimeter, any buildings, and other combustible / flammable materials (for example gas cylinders, aerosols, flammable chemicals, fuel tanks)

Where combustible wastes are stored within the tipping areas the following measures are in place:

- Frequent stock rotation - procedure specified within section 4.1
- Temperature monitoring - procedure specified within section 4.2
- A freeboard space of 1m will be maintained by the end of the working day at the top and sides of the walls, this will be checked through daily inspections.
- Brands (burning wood) or lighted materials will be prevented from moving outside the bay walls and igniting other wastes.
- A quarantine area will be used where necessary as specified below
- Mobile plant is available to allow wastes to be removed from bays quickly and effectively to isolate it during an incident.

6.2 Fire walls and bays

Section not applicable.

7. Quarantine area

The quarantine area(s) will be used in the event of a fire to either hold burning wastes or to hold unburnt wastes to isolate and prevent them catching fire. The wastes will be transported with use of the site mobile plant. The quarantine area(s) is / are large enough to hold up to at least 50% of the volume of the largest combustible waste pile and maintain a separation distance of 6 metres.

The quarantine area is identified in Drawing 2.

A quarantine area will be available at all times, where it has been used to store non-conforming wastes these will be removed as soon as practicable and immediately in the event of a fire. This will either be done with the mobile plant available on site or by use of a suitable contractor to remove the wastes.

Where smouldering waste has been identified and if it is safe to do so the quarantine area should be used under instruction from the Site Manager or Supervisor.

In the event of fire, waste will be moved to the quarantine area(s) as soon as possible or, at most, within 1 hour of a fire starting.

8. Detecting and supressing fires

8.1 Detecting fires

The site is designed and operated to allow for active firefighting and has various controls in place in the event of a fire. There are water supplies onsite to fight the fire including a fire suppression system with water tank. The fire suppression system is an automatic system that operates via infra-red flame detection IR's which detect the presence of fire and activates deluge and sprinkler nozzles. In the event of a fire the site has the following mobile plant and equipment that can insert fire breaks, remove material and aid the FRS.

Mobile Plant type	Fire Suppression	Fire Ext
JCB MH20 with grab	Yes	2kg powder
Case Loading Shovel	Yes	2kg powder
CAT 930k Loading Shovel	Yes	2kg powder
JCB Telehandler	No	2kg powder

The site is manned 6 days per week and during out of hours the alarm and CCTV systems are monitored, if there is a fire the system will activate and the monitoring service will call the fire service and then contact FCC Management. Staff are all trained on the emergency plan and can therefore be available to alert the fire brigade and also to operate control measures such as moving materials / shutting building doors to minimise the risk of fire spread if safe to do so. Large loading shovels are operated onsite which can be used to spread burning/smouldering material for dousing, moving burning waste to quarantine or move surrounding unburnt waste from burning material to reduce the risk of fire spread. This would be done under supervision of the fire and rescue service. Contingency measures are in place for dealing with issues during and after a fire. The incoming wastes will be diverted to either the landfill site at Sutton Courtenay or to alternative FCC sites or other authorised disposal sites that are used by FCC. At a suitable time, all relevant persons will be made aware of the fire including FCC management and safety staff, the Environment Agency, Oxfordshire County Council and neighbouring businesses. Contact details are available for all relevant parties in the emergency plan. This will allow all affected parties to be informed of the incident such as local residents and businesses. The site is surrounded by a kerb and drained by an enclosed drainage system to foul sewer. In the event of fire the fire water will either be drained to the foul sewer or it can be isolated by closure of the pen stock valve. If the drainage system is closed the combined capacity of the site drainage system and the concrete pad containment is circa 3,800 m3 which is sufficient to accommodate the fire water estimated to be required to control a fire within the largest waste pile (see Section 6 above). Once safe to do so contaminated materials will legally be removed from site and disposed of by authorised parties who are registered with FCC. Once the site is decontaminated, the site will be inspected and all necessary rectifications made to make the site safe prior to any operations commencing. This will be done in line with FCC safety and environment representatives.

Fire drills are undertaken at least every 6 months.

Evidence of UKAS Accreditation certificate (e.g. LPCB – Loss Prevention Certification Board LPS1204, LPS1014 or BSI12845) is attached to the rear of the FPP.

8.2 Supressing fires

Details of supressing fires is detailed above in 8.1.

Evidence of UKAS Accreditation certificate (e.g. LPCB – Loss Prevention Certification Board LPS1204, LPS1014 or BSI12845) is attached to the rear of the FPP.

9. Firefighting techniques

The site is designed and operated to allow for active firefighting. Appropriate resources are available to fight a fire including:

Mobile Plant type	Fire Suppression	Fire Ext
JCB MH20 with grab	Yes	2kg powder
Case Loading Shovel	Yes	2kg powder
CAT 930k Loading Shovel	Yes	2kg powder
JCB Telehandler	No	2kg powder

- Trained operators
- Active fire suppression system
- Fire Service input points to the suppression system on the outside of the building
- Finances

Firefighting techniques will include some or all of the following:

- Applying water to cool unburned material and other hazards
- Separating unburned material from the fire using mobile plant
- Create fire breaks to reduce the material being burned
- Separating burning material from the fire to quench it

These actions will be taken under supervision from the fire and rescue service.

The Fire Prevention plan will be made available to the Fire Rescue Service.

Safe access for fire and rescue services will be achieved by maintaining routes for fire engines and access points around the site perimeter through good pile layout as indicated in Drawing 2.

10. Water supplies

There are sufficient water supplies available on site to manage a worst-case scenario incident of the largest waste pile catching fire. The estimated volume needed is 528,264litres.

Maximum pile volume in cubic metres	**Water Supply needed in litres per minute**	**Overall water supply needed over 3 hours in litres**	**Total water available on site in litres**
Enter volume, e.g., 300	Pile volume x 6.67	Water supply per minute x 180	
440	440 x 6.67 = 2934.8	2934.8 x 180 = 528,264	535,000

The amount of fire water required and run-off generated will be reduced by separating burning material from unburned material with heavy plant where safe to do so. Sprays and fogs rather than jets will be used. Further to this the additional measures below will assist in minimising run-off and impact of fire:

- Not all stockpiles will become fully involved in a fire due to early detection, fire walls and area separation as indicated on the FPP Plan
- 6m fire breaks will be maintained at the end of each day to reduce the likelihood of fire spread.

11. Managing fire water

The concrete slab at Sutton Courtenay drains to the wider site surface water management system and is capable of being isolated by closure of the pen stock valve. Any contaminated run-off and burnt material will be disposed of appropriately.

The following secondary and tertiary containment facilities for fire water run-off are in place:

- Shut-off valves
- Pollution control equipment such as firewater booms and drain mats

Include calculations to show that the site can contain the required amount of water calculated.

Groundwater vulnerability

The site is not located within the source protection zones, it is however located in medium-low groundwater vulnerability zone as shown by the maps in appendix 3 and the following measures are in place to further protect the groundwater:-

- Use of clay matts and booms to prevent firewater reaching permeable surfaces on site.
- Trained staff to deploy temporary containment measures.

12. During and after an incident

In the event of a fire incoming wastes will be stopped and where required diverted to alternative sites. The alternative sites are:

- FCC Sutton Courtenay Landfill
- Grundon Waste Management Ltd, Ewelme, Wallingford, Oxon OX10 6PJ

Residents and businesses that may be affected by a fire will be contacted if considered necessary, contact details are found within the Emergency Management Plan (stored in emergency box at site entrance).

Once safe to do so contaminated materials and fire water will be removed from site and disposed of by authorised parties with consideration to POPs that may be within the fire water and waste materials.

The site will then be inspected, and all necessary rectifications made to make the site safe prior to any operations commencing, this will be done in agreement with the site's Health and Safety Advisor, Environment Advisor and Engineering Department where necessary.

Appendix 1: Waste types and storage

Waste type	How is it stored? E.g. piles, containers, bays, skips, racks, bales	Form		Max. storage time (days)	Location	Max. volume of waste pile (m3)	Maximum size of waste pile		
		Unprocessed ; shredded; baled	>150mm; 30-150mm; <30mm				Length (m)	Width (m)	Height (m)
C&I residual waste	*bay*	*unprocessed*	*>150mm*	*7*	*MRF tipping area (LHS)*	*440*	*11*	*10*	*4*
Municipal residual waste	*bay*	*unprocessed*	*>150mm*	*7*	*WTS Tipping area*	*440*	*11*	*10*	*4*
POPS/WUDS	*bay*	*unprocessed*	*>150mm*	*7*	*"Dance floor" tipping area*	*440*	*11*	*10*	*4*
Bulky (non-POPs)	*bay*	*unprocessed*	*>150mm*	*7*	*MRF tipping area (RHS)*	*120*	*6*	*5*	*4*
Shredded WUDS/POPS waste	*bay*	*processed*	*>150mm*	*7*	*"Dance floor" processed area*	440	11	10	4
Recovered Metal	*40yd skip*	*unprocessed*	*>150mm*	*30*	*MRF tipping hall*	40yd			

Maximum Pile Sizes at the end of each working day (m3) **Check against table above**

	Form		
Waste type	**Loose and more than 150mm**	**30 to 150mm or baled**	**Less than 30mm**
Tyres and rubber	450	300	300
Wood	750	450	300
Compost and green waste (excluding during the active composting process)	750	450	450
RDF and SRF	450	450	450
Plastics	750	450	300

Paper and cardboard	750	750	450
Textiles	750	750	400
WEEE containing plastics, including fridges, computers and televisions	450	450	450
Metals other than WEEE	750	450	450
Fragmentiser fluff	450	450	450

Drawing 1. Location of sensitive receptors

Include:-

- Schools, hospitals, nursing and care homes, residential areas and workplaces
- Protected habitats, water courses, ground water, boreholes, wells and springs supplying water for human consumption
- Roads, railways, bus stations, pylons (on or immediately adjacent to the site only), utilities, airports
- Compass rose showing north and prevailing wind direction.

Drawing 2. Site plan/s (can be multiple maps and drawings)

This must show the following:

- Layout of buildings
- Location of hazardous materials stored on site (including gas cylinders, chemicals, piles of combustible materials, oil & fuel tanks)
- Layout of waste piles / bins / bays (with pile dimensions and fire walls)
- Location of POPS waste
- Location of dedicated emergency / quarantine area
- Main access routes for fire engines & any alternative access
- Access points around the site perimeter to assist fire fighting
- Hydrants & water supplies
- Any watercourses, boreholes or well located within or near the site (identify any just beyond the immediate site boundary any that are further out but within 1 km will be shown in drawing 1)
- Areas of natural and unmade ground
- The location of fixed plant and where mobile plant is parked up
- Drainage systems, pollution control features and fire water containment systems
- The quarantine area(s)
- Compass rose showing north & prevailing wind direction

Document Training Record

Number:	IMS-FRM-046 – Fire Prevention Plan SC MRF/WTS
Version:	**2**
Site:	**SC MRF/WTS**

This table is deemed to be an official training record and must be kept on file.

Please ensure that all relevant employees are made aware of the contents of the document indicated above.

Print employee name	Employee signature	Date	Trained by: