EMR Group Ltd

Fire Prevention Plan

EMR Derby – Version 2

1.2.1.4 Fire Prevention Plan

Fire Prevention Plan Contents

Fire Prevention Plan – (EMR Derby)

Introduction

In line with Environment Agency (EA) Fire Prevention Plan (FPP) Guidance, this document has been generated to focus on aspects of fire prevention and appropriate fire response and aims to facilitate the prevention of fires and for a fast and effective response in any waste fire emergency.

Fire Prevention Plan - Objectives

This document forms part of the site's Environmental Management System (EMS) held on site and intended to satisfy EA requirements as a 'standalone' and specific FPP with regards to waste activities undertaken by EMR at their Derby Facility. This FPP aims to meet the following objectives:

- 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

Where EMR fails to meet strict FPP criteria in meeting the objectives laid out above, suitable 'alternative measures' will be demonstrated with the aim of meeting these objectives (see section 1.5 below).

Section 1 – The Site

1.1 Location of Site/Community/Sensitivity

The site is situated on Mansfield Road, Derby DE21 4AW at grid reference SK35961 37848. Access to the site is on Mansfield Road, off Sir Frank Whittle Road (A61). The site is on the Parker Industrial Estate, located between a railway line to the west and the A61 to the east. The River Derwent is around 650 metres west of the site at its nearest point. The industrial estate is a combination of mainly commercial, industrial and recreational, with the nearest receptors being within 50 metres southwest of the site boundary. The nearest residential receptors are 450 metres to the southeast and southwest of the site boundary. The site is in flood zone 3, which means there is a high probability of flooding.

1.2 Site Activities

Activities conducted at EMR Derby are listed at Table 1 below and comprise waste (scrap) acceptance, bulking, and storage of waste ferrous and non-ferrous metals with treatment by sorting, segregation, shearing, compacting, crushing and cutting waste metal for recovery. End of Life Vehicles (ELVs) including batteries are also accepted, stored and treated at the facility. The vehicles are depolluted in accordance with ELV regulations.

The site receives scrap metals from a variety of industries, including other EMR depots, small enterprises and the general public. Once processed, recyclable materials are transferred to another EMR site for further treatment, processing and separation or to other non-EMR sites for further processing / recovery or disposal (incineration or landfill).

The wastes handled comprise combustible, flammable, and non-flammable materials. This FPP is written to demonstrate the methods by which combustible and flammable wastes are managed at the site including details of hazardous materials in situ on site. Combustible materials handled at the site are listed with their respective permitted storage duration at Table 2. All other scrap waste materials e.g. OA, non-ferrous metals are classified as non-combustible (shown as 'NC' on the Derby FPP) and fall outside the designation of combustible waste materials governed by this FPP.

1.3 Layout/Infrastructure

See Site Plan in Appendix for details of layout of site. The site layout showing the location of all fixed plant and buildings, the location of parking for mobile plant, any hazardous material stored on site, storage areas including dimensions of bays and size of stockpiles is shown on the Derby Fire Prevention Plan.

The non-ferrous metal building is located towards the south of the yard on the western perimeter. Small quantities of non-ferrous metal, including batteries are contained within this building. This also contains small scales for weighing in the material. Next door to the non-ferrous building is a workshop building. On the same west perimeter is the fully impermeable concreted ELV depollution area. The gas bottle quarantine storage cage is located across from the site offices (see site diagram).

The top left-hand corner of the site is where the ferrous metals areas are located. The baler machine is located in that area.

The perimeter of the site is made up of metal sheets, concrete slabs and bricks. There are two interceptors on site and three discharge points.

The permitted area of the site is of impermeable concrete surface, with small areas to the east of the site of hardstanding. (See site diagram)

See Site Plan in Appendix 1 for details.

1.4 Types of Combustible/Flammable Materials

The combustible and flammable materials are listed in table 1 below

1.4.1 Combustible/Flammable Waste

Combustible materials normally be present at the EMR Derby site will comprise of the following:

1. Lead Acid Batteries
2. Frag feed
3. Shearing
4. WEEE
5. ELVs
6. Tyres
7. General Waste (office & welfare facilities)

8. Paper and Cardboard
9. Wooden Pallets

1.4.2 Other Combustible/Flammable Materials

Non-waste flammable materials and substances normally present at EMR Derby:

1. Diesel/fuel oil
2. Propane gas bottles
3. Engine oil
4. Hydraulic oil
5. Coolant
6. Oxygen cylinders
7. Petrol

1.5 Alternative Measures Employed

Alternative measures will be employed to supplement water availability (Section 3.6.1).

Section 2 – Preventing Fire

2.1 Pile Sizes/Volumes

Please see table 1 below

2.1.1 Preventing Fire - Table 1

Waste stream	Location	How it is stored	Max. length / m	Max. width / m	Max. height / m	Volume / m^3	Max. time it will be stored
Ferrous Metal (light iron or frag feed)	The top of the site on the north west.	In a bay	18	12	3	648	2 months
Hazardous waste (solid) – Lead Acid Batteries	Located between the non-ferrous building and store shed	Stored in bays or battery boxes on impermeable surface	N/A	N/A	N/A	N/A	2 months

1.2.1.4 Fire Prevention Plan

Waste stream	Location	How it is stored	Max. length / m	Max. width / m	Max. height / m	Volume / m^3	Max. time it will be stored
Hazardous waste (liquid)	Various areas of site with adequate containment	Double skinned Bunded tanks	N/A	N/A	N/A	N/A	3 months
Tyres	ELV area of site	Stacked 8 high in piles of 4 equal 32 tyres on each pallet	N/A	N/A	N/A	N/A	3 months
ELVs	ELV area of site	Stacked two high	30	8	4	900	3 months
WEEE waste	TBC	Stored within a concrete bay					
General waste (wood, paper, cardboard)	Located in various areas	Skips	Various sizes	Various sizes	Various sizes	Various sizes	3 months

2.2 Waste Management Methodology

2.2.1 First In/First Out (FIFO)

All waste transactions (movements and transfers) and weights measured will be recorded via the weighbridges onto the waste data software system. Data will be inputted by trained personnel only, such as trained Weighbridge Operatives and Depot Managers. The system also acts as a real time data base to facilitate the tracking of waste, which in turn allows FIFO to be applied effectively.

2.2.2 Acceptance

All wastes accepted into the EMR Derby depot will be checked that they are permitted on to the site as described in the site's environmental permit and the site's Environmental Management Plan (EMP), where relevant, using waste descriptions and relevant European Waste Catalogue (EWC) code six digit codes as listed in the permits and EMP. If a Waste Transfer Note (WTN) is available, this will be checked against the requisite detail of incoming material and completed on the WTN. For Hazardous Wastes

incoming loads may be accompanied by Hazardous Waste Consignment Notes (HWCNs) -see Hazardous Waste section below.

2.2.3 Inspection and Rejection of Waste Material

All incoming waste that is accepted at EMR sites will be visually checked and inspected following admittance onto the site weighbridge; visual inspection may entail either direct inspection or the use of CCTV (e.g. overhead cameras).

When waste materials have been tipped/unloaded, they will be additionally checked/inspected for non-permitted 'rogue' items or waste materials (including flammable substances and ignition sources) That could contravene (breach) the permit or exemption conditions, including combustible or flammable items and materials or ignition sources (e.g. gas bottles, Li-ion batteries, aerosols). These loads will be either quarantined (for onward permitted and compliant disposal) or rejected from site. Once any problem with the quality of the load is noted, information will be passed back to the weighbridge or to a responsible person by the relevant communication system used in the yard (normally radio) and as soon as the load is checked and passed for acceptance, the load will then be transferred to the appropriate area or stockpiled for processing.

Where relevant the grade and the EWC code will be amended on the system/waste transfer note (WTN) if it is different to the description grade (and/or EWC code) it was weighed in as. Once this process has been completed and everything is found to be correct on the WTN/ticket, the weighbridge operative will then sign the ticket. Any material found to be contrary to the environmental permit conditions (e.g. flammable aerosols or rogue gas cylinders) is either rejected from site and loaded back onto the vehicle, with the weighbridge or site supervisor/manager being informed of the rejection, or the waste material/item is isolated in a designated quarantine area and removed from site and transferred to a suitable permitted and approved waste treatment or disposal facility as appropriate and as soon as practicably possible.

2.2.4 Treatment

The treatment on site comprises sorting, baling, shearing and segregation of both ferrous and non-ferrous metals. End of Life (ELVs) is accepted, stored and treated at the facility.

2.2.4 Recording Waste Movement

All waste movements and transactions are recorded electronically on the company's electronic Trade 2 weighbridge software system. Waste returns (for inward and outward waste) are submitted to the EA for all permitted sites.

2.3 Materials/Waste Storage Management

2.3.1 Duration

2.3.2 Duration and Stock Rotation

Storage and rotation of scrap will be facilitated by the (real time) electronic waste management system, including stock level sheets, linked to the weighbridge system which is available for all UK EMR depots including EMR Derby.

This electronic system allows for the effective stock management of waste materials on site and for logistically efficient inter-depot transfers thus facilitating fast turnaround of materials (<72h) and keeping stock levels at reasonably low levels (i.e. within EA FPP guidelines). This strategy (and the supporting electronic software system) is also driven by EMR's business model of fast, efficient and compliant throughput and keeping stock levels low at depots.

No waste will be stored longer than 3 months, or in piles greater than those specified in FPP guidance. The waste, listed, will normally be stored for less than one month on site before being processed and transported offsite.

2.3.3 Waste Bale Storage

No combustible baled waste of any type will be stored on site.

2.3.4 Storage where maximum pile limits don't apply (ELV)

Not all waste on site has a maximum pile limit. See 2.1.1 Table 1 Preventing Fire

2.3.5 Waste Stored in Containers (Types/Accessibility/Ability to move)

Batteries are stored upright in appropriate weatherproof plastic battery bins on site (stackable with forklift groves at base). See site plan ref….

2.4 Managing Common Causes of Fire

2.4.1 Managing Common Causes of Fire - Table 2

Managing Common Causes of Fire	
Risk	**Control Measure (if required)**
Arson	24-hour manned CCTV (External Contractor)
Plant/Equipment	Fire extinguishers, hoses, monitors and requisite equipment (e.g. mobile plant) in vicinity of all operational and non-operational areas. All mobile plant contain fire extinguishers. All mobile plant will be kept 6m away from wastes.
Electrical Fault/Maintenance	Fire / heat sensors in buildings containing electrical equipment. Electrical equipment is tested and maintained on regular basis by competent persons (RCD testing, PAT Testing, fixed wire testing etc.)
Smoking Policy	Smoking only permitted in single designated smoking area as shown on FPP Plan.

Hot Works	Permit- to –work (PTW) raised for hot works. Fire extinguisher /water made available near-by. Only maintenance 'burning' (oxy-propane cutting and welding) takes place on site and the location will depend upon what needs repairing. No 'production burning' takes place on site (e.g. oxy-propane cutting of steel girders). There will be at least one fire watch in place per day (as recorded on permit-to-work).
Industrial Heaters	None on site (not permitted on any EMR sites)
Hot Exhausts	Concealed and never in contact or near flammable / combustible materials
Batteries	Kept in bin containers areas under cover in building away from ignition sources and other flammable / combustible materials
Leaks & Spillages	Spill sorb applied to spills and cleared immediately
Build-up of Loose Combustible Materials	No combustible materials are stored loose in any appreciable volumes (<6m3) therefore minimal firefighting capacity is required. Most materials on site comprise of non-combustible or low combustible non-ferrous metals (e.g. copper, brass, aluminium, lead, stainless steel).
Reactions between Wastes	No reactive wastes stored on site but with regard to small chemical containers and gas cylinders oxidisers are stored separately from hydrocarbon gases, solvents etc. (i.e. chemical smalls in lockable, steel yellow cabinet, with warning signs displayed).
WEEE Wastes	WEEE wastes are combustible and common producers of ignition sources (e.g. lithium ion batteries). WEEE wastes are also common causes of fires at metal recycling sites. Timeframes for storing combustible waste is adopted at site. See 2.1.1 Table 1
Hot Loads	N/A as EMR do not accept hot loads.
Heat & Spark Protection	Electrical earthing will be installed where applicable; no other ignition sources are normally present on site apart from ad-hoc maintenance welding and oxy- propane cutting (Permit-to-Work is employed where appropriate).
Gas Bottles & Other Flammables	Stored upright in cages and chained (away from ignition sources, other flammable / combustible materials and oxidisers. i.e. min. 6m separation distances)
Smoke/Heat/Flame Detectors	Installed in high-risk areas of site (e.g. occupied buildings) See site diagram
Fire Drills	Four major environmental incident drills (e.g. major spillage, fire) will take place each year (once per quarter) with at least two of them being fire drills.

2.5 Detection Systems

During operational hours the site is monitored by the site manager and supervisor. The site possesses 24 hour remotely manned CCTV (external contractor) and thermal imaging cameras. This means the site is also monitored outside operational hours. If there is a fire then the Fire & Rescue are contacted to attend in the first instance. An authorised person (AP) will also be contacted to attend.

The level of detection system is in place is appropriate for the type of facility, in particular the non-combustibility or low combustibility of the materials stored on site. The fire detection systems implemented have been designed to ensure that the three main aims of the EA's FPP guidance are met; namely minimise the likelihood of a fire happening, aim for a fire to be extinguished within four hours,

and minimise the spread of fire within the site and to neighbouring sites. The thermal imaging cameras on site are positioned to cover all the operational areas of the site and all waste piles (i.e. where combustible wastes and flammable substances are stored). (Are there thermal imaging cameras for all operational areas?

2.6 Demonstrating Quality of Stock

Strict waste acceptance, inspection and rejection procedures ensure quality of stock (with removal of prohibited items or rejection / quarantining of contaminated loads. Additionally, EMR export facilities possess quality management systems, which is a significant driver to ensuring metal grades meet minimum quality standards (e.g. requirement for at least < 2 % contamination in many scrap metal product grades) and therefore reducing concentrations of any combustible matter within metal materials / products.

Section 3 – Preventing Spread/Limiting Impact of Fire

This section is to demonstrate that the company can limit the impact/spread of any fire (should it happen), and that it aims to extinguish any fire within 4 hours.

3.1 Separation distances

Separation distances between piles of waste/products will be a minimum of six metres limiting the spread of any fire, which will also allow for the emergency services to access any fire and for the site to move material/waste in and out of the designated quarantine area as and when required. Combustible waste metals will be separated from other combustible metals, flammable materials (e.g. gas cylinders) and parked stationary and mobile plants by a minimum of 6 metres, or a fire-resistant wall. The largest waste pile will be in the ferrous area. However, the size of the ferrous area means that there is adequate space to create numerous small waste piles if required. This is to ensure there is adequate water supply over 3 hours.

3.2 Use of Fire Walls

Fire walls will be used as an alternative to separation distances when feasible (for example the walls of the building). These are also used for the site boundary walls.

3.3 Storage of Waste in Bays

Fire walls can also be used as part of storage bay infrastructure, and where separate piles can be stored without the need for any separation distance. Consideration will be given to the availability of 'freeboard' space between the top of the pile and that of the bay walls. This is to prevent fire spread through flying sparks and hot embers by leaving a serviceable gap at the top of the pile below the height of the bay walls.

There will be a minimum separation distance of 6 meters between stockpiles of combustible waste material, between combustible materials and flammable substances and between combustible or flammable materials and parked mobile plant unless a firewall separates the two or more types of scrap

/ waste material. The separation distances will be maintained but there may be times when material is being moved around the site whereby the separation distance may decrease temporarily for short periods of time.

3.4 Use of Suppression Systems

Suppression systems can be used in any 'active firefighting' (refer to section 3.5) measure to assist the Fire Rescue Service and their appliances.

3.4.1 Building Suppression

For the type of waste activities employed on site and in the main building, a suitable fire suppression system in in place at the EMR Derby site, which ensures the integrity of the building in any incident and prevent spread to neighbouring property. The suppression comprises a combination of fire extinguishers and fire buckets at strategic locations (see site plan).

3.4.2 Other Suppression Systems in Use

Water available for fire suppression will come mainly from water tanks scattered around the site. There is a 1000 litre fire pump and hose. There is also a 2000 litre mist and fire hose on the baler.

3.4.3 Third Party Certification (UKAS Accreditation)

Not applicable (no automated system)

3.5 Active Firefighting

All operatives receive basic fire-fighting training. Fire-fighting equipment such as fire extinguishers, monitors and hoses are located in strategic areas of the site (see site plan).

Appropriate equipment (hoses / monitors) are strategically located to assist in any fire-fighting required anywhere on site. A quarantine area is also available if materials are required to be moved to this location (see relevant EPPs and site Emergency Plan).

The 360 grab cranes (material handlers) under strict supervision of a trained Fire Marshall, are able to pull apart burning material in main yard, into smaller burning piles which are spread out and doused with water using either hoses or further water bombs. Smaller piles will require less water and they can be tracked out (spread out further) to facilitate extinguishing any residual burning. This has been successfully achieved many times within the industry over a number of years (as long as correct procedures are followed). This method has also been officially sanctioned by the West Midlands Fire Rescue Service as a recognised method of combatting scrap metal fires.

3.5.1 Quarantine Area

The quarantined material on site will be located on impermeable concrete pavement. This will to the top end of the site. EMR Derby will always ensure adequate space available to house quarantine material.

All sealed canisters or other rogue ignition / flammable sources (identified either during the weighbridge inspection, during tipping, or during the opening of a bale), will be removed and quarantined in one of three (2mx3m) lockable rogue gas cylinder cages (if a rogue gas cylinder identified) to await collection

by an approved contractor. The sealed canisters are traced back to the customer, and the customer is contacted and fined the appropriate amount (normally £200 for the first offence, leading up to a maximum of £1000 and /or ban from site).

In the rare event of any larger unauthorised wastes inadvertently being accepted on site, an area of the site would be quarantined/cordoned off until the material can be assessed and appropriately disposed of and EMR staff would be notified of the quarantined material.

3.6 Water Supplies

3.6.1 Availability

Water tanks will be placed strategically around the site and in close proximity to the combustible waste bays and piles.

There is a fire hydrant within 100 metres of the combustible waste piles and approximately 20 metres from the site entrance.

3.6.2 Managing Firewater (Containment)

Fire water would be contained either within the buildings or the external concrete bunded impermeable surface areas of the site. Any fire water will also be contained within the two interceptors which are situated in the ferrous area, and just beyond the non-ferrous areas and workshops to the south of the site, nearer to the entrance and exits. Fire water will be prevented from discharging into foul sewer, using drain mats and directing it into the interceptors. Water discharging from the site drainage system is released to foul sewer under normal circumstances. In the event of a fire, firewater is retained and removed by specialist contractors to an appropriately permitted facility. EMR as a company, employs only approved and permitted contractors to treat and dispose of waste from its sites and for waste effluent, as well as on the surface of the site, which 'falls' to the drains. The discharge of water from the interceptor is controlled by the penstock valve which is closed during a fire to prevent discharge of fire water.

Following a major fire, an approved vacuum tanker contractor would be employed to empty the interceptor and dispose of the fire water at an approved and permitted site.

3.7 Notifying Stakeholders

The notification of stakeholders (both internal and external) is detailed in the accompanying Emergency Plan.

3.8 Contingency Planning

In the event of a serious fire and the site needed to close for whatever reason, there are other alternative EMR depots available nearby within the area that metals can be diverted to at short notice:

- EMR Alfreton
- EMR Nottingham
- EMR Sheffield

3.8.1 Clearance & Decontamination

Immediately following a fire incident on site, fire water used in fighting the fire will subsequently generate significant quantities of potentially polluting, contaminated water. This will initially flow towards the nearest drains, through underground pipework and ultimately into the full retention interceptor, discharge to sewer will be prevented until this contaminated firewater is cleared and disposed of.

Once the fire has been extinguished, arrangements will be immediately made to dispose of any fire water to an authorised and permitted waste facility as soon as practicable. EMR as a company, employs only approved and permitted contractors to treat and dispose of waste and waste effluent from its sites. Approved Contractors will be used to provide road tankers to suck / remove fire water for offsite treatment and disposal at a permitted treatment and disposal facility.

3.8.2 Becoming Operational

The disposal of burnt material / waste will largely depend on the waste / scrap itself and the levels of combustion that has occurred; for example partially combusted light iron or steel can waste (in feed) once fully extinguished and cooled will be transferred to an EMR shredder site for further processing in a fragmentiser (as it will largely consist of the remaining residual metals). Other waste materials produced following a fire (e.g. combusted organic / wood waste) would need to be characterised and classified under WM3 guidance document and assessed (WAC tested) to ascertain its suitability for landfill (or treatment) and then transferred to (the approved and permitted) waste facility for treatment or disposal. An approved and permitted landfill site will be used to dispose of any waste materials generated by the fire compliantly.

Operations will not continue until the site has been fully uncontaminated and assessed as fit for purpose, both operationally and in achieving full FPP guidance. Other EMR sites will be available to divert incoming scrap / waste materials in the event of a fire (or other emergency) and details of these sites are provided in the contingency plan outlined above.

Following any environmental incident including fires, details of the event will be recorded and reported on an Event log and on EMR's electronic SHE management system. This Event log or electronic reporting system will facilitate any investigation and details recorded (including sequence of events, size and extent of fire, damage sustained - internally and externally), the investigation report and actions taken are all recorded on the Evotix Event log.

Appendix 1 -Derby FPP Site Plan