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| **Fire Prevention Plan**  **Reference: EMS-FPP-01** |
| ***Environmental Permit FP3599LH*** |
| **Casbrook Park**  **Romsey**  **SO51 0PG** |

**Document Control Sheet**

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| --- | --- | --- | --- |
| **Version Reference** | **Date** | **Reason for Change** | **Issued by** |
| V2 | March 2019 | Schedule 5 Notice | ARC |
| V3 | March 2021 | Update for Permit Variation |  |
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1. INTRODUCTION

This document provides the Fire Prevention Plan for the Waste Installation at Casbrook Park, Bunny Lane, Romsey, SO51 0PG. BKP is part of the GRG Waste UK Ltd group of companies.

* 1. Purpose

The primary purpose of this Fire Prevention Plan (FPP) is to guide staff and contractors in the prevention of fire. This FPP also confirms the actions to be taken in the event of fire in order to minimise any impact on the environment and to control the fire where appropriate.

This FPP will be issued to the Fire Brigade in the event of a fire to aid with firefighting.

* 1. Scope

This FPP has been prepared in accordance with Environment Agency guidance.[[1]](#footnote-1) It covers combustible wastes that are collected as part of the operator’s business.

However the guidance does not apply to the storage of wastes that are hazardous (excluding WEEE, but including hazardous waste batteries accepted as a separate waste stream). Nor does it apply to liquids. The storage of hazardous combustible wastes is considered within this.

The scope of the FPP therefore covers the following wastes that are currently accepted at the site:

* Non hazardous waste such as cardboard, metal and plastic (storage, separation and treatment), small qtys of waste tires, absorbents
* WEEE (all categories)
* Batteries (all chemistries)

The site operates a hazardous waste transfer facility as well as transfer and treatment of waste oils, hazardous and non-hazardous sludges, road sweeper and gully waste, waste plastic washing and granulation & mixed battery sorting. These have been described in broad terms for completeness.

* 1. Objectives

The objectives of the Fire Prevention Plan are:

* To minimise the likelihood of a fire occurring.
* To aim for a fire to be extinguished within 4 hours.
* To minimise the spread of fire within the site and to neighbouring sites.
  1. Site Location

The site is located at Casbrook Park, Bunny Lane, Romsey, SO51 0PG.

The site is accessed by Bunny Lane.

The site is remote. The nearest residential property is over 200m from the site.

A map of key receptors within 1km is shown in *Annex B*.

The nearest fire station is at Romsey, which is 2.8 miles from the site.

The site is divided into three operational areas as follows:

* Top Yard – Hazardous Waste Transfer Station, Battery Storage and sorting, WEEE storage and hand dismantling, storage washing and shredding and recycling of empty containers, packaged hazardous waste storage and repacking
* Main Yard – Waste Oil treatment, waste water treatment, filtration, Packaged Oil and water storage, packaged garage waste storage
* Lower Yard – Hazardous waste sludge treatment and storage, Non Hazardous road sweeper / gully waste treatment, non hazardous soil/aggregate storage, waste oil and water storage in bunded bulk storage tanks

The Lower Yard and Main Yard are used for waste treatment and storage of waste oils, antifreeze, non-hazardous sludges and solids, some hydrocarbon impacted solids (predominantly from interceptor treatment). These are non-combustible wastes. Combustible wastes such as oily sludges from tank bottoms or oil contaminated rags / absorbents are also stored in the lower and main yard area in containers. Oily rags are stored within ventilated metal shipping containers in the lower yard in either drums or IBC containers

The hazardous waste transfer station is located within a building which has a clear area surround of at least 6m. Half of the transfer station is within an existing building, the rest of the storage bays are within self-contained concrete bays with pre-cast concrete fire rated walls in a steel portal framed structure. Each of these bays has self-contained drainage. The whole of the transfer station area has self-contained drainage.

* 1. Roles and Responsibilities

The General Manager has responsibility for ensuring these procedures are adhered to. The General Manager is specifically responsible for:

* Ensuring the adequate training of staff and contractors working on site regarding the content of these procedures. Ensuring all contractors are fully inducted and aware of the permit to work system and the site rules.
* Ensuring the continued testing and maintenance of the Fire Alarm systems.
* Ensuring the adequate provision of resources such as personal protective equipment (PPE).
* Ensuring the provision and maintenance of hand-held fire extinguishers and other firefighting equipment at the site is adequate.
* Ensuring that the Fire Prevention Plan remains accessible at the site at all times. For this, the plan will be kept on the noticeboard in the site office where it will be readily available.
* Completing daily walk-round checks (or one of the other operational managers in their absence) to monitor waste streams temperature with a thermal imaging camera likely to be a risk of self-heating). These streams are identified in the walk-round check sheet
* Ensuring all CCTV and remote access equipment is maintained and in good use for monitoring the site whilst it is not manned

Table 1 below covers the staff who will be working daily at the facility. All operational staff will be trained and understand the fire prevention plan. In addition to this they will be trained to tackle fires where safe to do so, understand the permit to work and hot works systems to ensure processes are followed and reduce fire risk.

**Table 1 – Staff onsite**

|  |  |  |  |
| --- | --- | --- | --- |
| Staff Position | Responsibility | Number | Competency |
| General Manager | Overall responsibility for compliance and management of the facility in line with Environmental permit, Health & Safety & Internal operating standards | 1 | TCM, NEBOSH, DGSA |
| Transfer station manager | Responsibility for transfer station operations & all staff / compliance in top yard area, 2 chemists and 2 operatives | 1 | TCM, NEBOSH, DGSA, ChemEng |
| LTP Chemist | Responsible for checking material into the site for treatment to ensure compliance with the permit, running treatment processes, completing paperwork and using the onsite weighbridge | 1 | Chemistry Bsc |
| Site Chemists | Deputised duties from TCM, Responsible for pre-acceptance, booking loads out to third parties, managing storage, and treatment, sampling waste | 2 | Chemistry Bsc |
| LTP Operatives | Safe running and operation of plant and equipment. Driving FLT/Telehandler, loading / unloading vehicles | 2 | FLT/Telehandler/Confined space |
| Transfer Station Operatives | Safe running and operation of plant and equipment. Driving FLT, loading / unloading vehicles, wrapping pallets, repalletizing wastes | 2 | FLT |
| Transport Manager | Managing transport fleet, vehicle compliance | 1 | Transport Manager CPC |
| Office Staff | Office functions, accounts, payroll, invoicing, sales | 5 | Various |

* 1. Process Overview & Plant and Equipment

Non-hazardous wastes are received from a variety of industrial sources. These are either received in packages or on tankers as wet wastes such as gully/road sweepers. The site does not accept skips or other bulk loads of non-hazardous or combustible wastes such as wood / paper or card, compost etc. Although BKP run a fleet of dry waste vehicles waste is always tipped directly at third party processing facilities. Some soils or aggregated may be received at the facility for treatment through the road sweeper recycling plant. Non-hazardous packaged wastes are received at the facility. These are either transferred to a skip onsite and onward to a local landfill or EFW or sent to a third party re-processor.

Small quantities of waste tyres or other combustible non-hazardous wastes may be received through the transfer station.

Waste electrical equipment of all WEEE categories is received at the facility. All WEEE excluding refrigeration & LDA is received as POPs waste and treated as such. WEEE has it’s own designated storage area as identified on the site plan with segregated drainage. Only hand dismantling of WEEE equipment is completed onsite and no shredding / mechanical treatment other than with hand-tools is completed. All WEEE received is sent to licenced AATFs for further treatment other than large WEEE items that may be hand-dismantled into component parts to recover separate fractions and then those fractions sent to AATFs or other recycling routes as appropriate.

Batteries are received at the facility as sorted single streams from producers or as mixed batteries from a variety of collection points/producers. The site would like to become an ABTO/ABE to allow raising of evidence of portable batteries and recording automotive and industrial. The ABE would allow batteries to be sent directly to European recyclers via TFS or Annex 7 in compliance with the recycling efficiencies required. There are currently limited recycling options in the UK for Secondary Nickel and Primary Lithium chemistry batteries.

Batteries will be sorted and checked by hand as detailed in TS-ABTO-01-Sorting Mixed Batteries, TS-ABTO-11-Battery Handling and Safety. Sorted fractions will be packed in accordance with best practise and current European Recycler and ADR/IMDG guidance. Detailed packing instructions are given by individual chemistries.

Lithium Primary (Metal) and Lithium Secondary (Ion) batteries will be stored in a designated metal ventilated self bunded container segregated from all other waste within the transfer station bunded area. The container has high level and low level vents to prevent moisture build up and the batteries sweating. The batteries inside will be individually isolated and either packed in kiln dried sand for primary lithium or in vermiculite for secondary batteries. Steel drums with a non-conductive liner will be used for storage as these are the most effective in reducing the impact of a battery fires from runaway cells. Batteries may be sent to recyclers in plastic drums in accordance with ADR/IMDG.

The container will have a fire rated 1200mm x 600mm concrete block placed along side the side adjacent to the transfer station and the boundary fence. The container will only be accessed using a pyroban forklift or pump truck although the area will not be zoned as there should not be a flammable or explosive atmosphere. The volume of Lithium primary and Secondary Batteries will be kept to a maximum working stock of 8 pallets at any given time.

The container will be monitored with a thermal imaging camera daily as part of site walk-round checks to check for any thermal runaway batteries.

Sorted Alkali, Zinc Air, Lead Acid, Ni-Cd, Ni-MH present the lowest risk of self-ignition unless they are damaged or trailing leads / bad packing is present to allow short-circuit. Only sorted batteries that are packed correctly will be put into storage.

All batteries received are checked and repacked upon receipt prior to being put into storage. Any mixed batteries that cannot be fully sorted that day are stored in the lithium container as worst case. All drums will be opened to check for trailing leads and drums will be checked by thermal imaging for any hot-spots of they cannot be processed immediately.

Wet chemistry Industrial batteries are stored in designated boxes by chemistry and Acids are segregated from Alkali in the battery storage shed to prevent incompatibilities. Sorted Alkali present very low fire risk and can be stored in bags.

Waste hazardous and non-packaging (HDPE predominantly) will be washed and recycled. Containers suitable for reuse may be reused, those unsuitable will be washed and shredded simultaneously to make a clean granulate suitable to be used as a replacement for virgin raw materials. The process involves the wet shredding of material, reducing the risk of increased heat / friction and also of chemical incompatibilities occurring. All waste is thoroughly checked at the point of pre-acceptance by a HNC qualified chemist or higher and materials are excluded based on their properties if unsuitable. Unsuitable materials like ex flammable containers, oxidisers, those that spontaneously ignite in air or emit flammable gases in contact with water are routes to alternative treatment providers and routed using the companies pre-acceptance procedure. Highly toxic or malodorous materials are also excluded from this process. The acceptance criteria is available and used the hazard statements in addition to chemical incompatibilities for the technical assessor to assess from datasheets supplied by the waste producer.

All material received at the site is thoroughly checked by one of the site chemists. The transfer station manager is also a chemist. Any material batched for the process is done by chemists and they ensure all containers are nominally empty to prevent the risk of unwanted reactions.

The machinery used to complete this is a high speed wet granulator. It is a granulator that is supplied by manufacturer and is continually fed with water whilst material is added via a conveyor. The knives of the granulator spin and shred material through a screen whilst it is simultaneously washed. Once material has passed through a screen it drops onto another auger where it is washed again with clean water, the material then passes into a friction washer which removes labels and any stubborn contaminants before it passes into a high speed drier. The drier removes paper labels and dries the plastic. Once it is dry the material is passes into 1T sacks ready to be recycled.

Only single stream source materials are put through this process.

For container washing a simple lance is used to wash the containers on a drip tray to ensure containment. Liquids are captured and then sent offsite for disposal.

All the water used is reused where possible and then tankered offsite to a suitably licenced facility and testing is completed in onsite laboratory prior. Records of all materials washed and contaminants within the waste water are recorded.

All contaminants in the water are controlled at the front end of the process via pre-acceptance and then acceptance checks by the site chemists.

Plastics to be washed will be stored as denoted on the site plan on the higher level. The granulator will be fed from the higher level with material via an enclosed conveyor.

A map showing the storage locations and drainage of the materials in the upper part of the yard is attached in BKP-FPP-V4-02.

In the lower part of the site waste oil and water and interceptor wastes are treated. They are treated via an oAVC unit / AVC units to remove oil and filter solids using in line polymer dosing systems. The AVC units are large mobile filter boxes filled with screens where material can be treated with suitable polymer to create a flocculation and separation of solids and liquids. The solids remain in the container and can be transferred offsite for disposal or tipped in one of the bays to be transferred to a tipper vehicle / bulker.

The site also accepts hazardous liquids and sludges for treatment via centrifugation in the lower yard. These streams once processed produce a dry centrifuge cake that is sent for further treatment and a centrate that can be tankered offsite for disposal. Material is slurried in a feed tank before it is treated with polymer and spun in a centrifuge bowl. The liquids are separated form the solids which are transferred out via a conveyor to a skip / container for transfer offsite for disposal. The liquids can then be send offsite for further treatment or if suitable tankered to a WWT works. These hazardous activities are outlined for completeness but do not need to be included within the FPP. This machinery is maintained and periodically serviced by approved contractors in addition to daily onsite maintenance checks.

The lower part of the site also accepts road sweeper, gully waste, some soils, aggregates and other permitted non-hazardous wet, sludges and dry streams for treatment via the aggregate recovery process. None of this material is combustible or contaminated so is omitted from the fire prevention plan. The machine itself is subject to PPMs and is part of an onsite maintenance programme. The process is screening and tromelling whilst washing to produce separate aggregate fractions of a mixed sand, a small stone and an oversized organic fraction. The fines and small particle sizes are transferred to a clarifier and the resulting sludge is treated by filterpress onsite or dewatering via gravity in the AVC units.

Hazardous waste liquids and solids are stored in packages in the lower yard. These locations are shown on diagram BKP-FPP-V4-01. Combustible wastes liable to ignition such as oily rags and stored in dedicated vented shipping containers as denoted on the plan. Particular caution regarding rags and other contaminated absorbents is paid by site walk round checks and monitoring for signs of temperature increase and auto-ignition. This is in addition to waste acceptance checks covered later.

Oily sludges from tank bottoms and other oily operations are stored in packages in the lower yard. They are stored in dedicated bays covered bays away from any potential sources of ignition.

The materials stored in bulk in the bays are either lightly hydrocarbon impacted and hazardous by virtue of TPH but non flammable (interceptor solids, centrifuge cake from processing interceptors) or are non hazardous. They are inorganic in nature and are not combustible with the levels of hydrocarbon present.

Fixed pumps and pipework installations are present in the middle and lower yard for moving water / oily water / slurrys around the facility for treatment. All pumps are subject to routine maintenance and servicing. Only aqueous, non-flammable liquids/sludges are received at the facility for treatment.

All equipment is installed by qualified industrial electricians. No electrical maintenance is carried out onsite for any equipment.

**Non Waste Items**

The lower yard also has a white diesel tank for fuelling vehicles. It is self-bunded and properly equipped with the necessary earthing and level sensors for fuelling vehicles. It is located >10m operations as the weighbridge that was behind it has since been replaced. It is >6m from main site offices. The capacity of this container is 10,000L. This tank can only be accessed with a key-fob and all pipework for this is specialist and designed to eliminate spills with fill-level shut offs (like a petrol station forecourt). This tank cannot be accessed by non-bkp employees and fuel taken is logged against an individuals keyfob.

There is a diesel-powered jet wash in the lower yard for cleaning. This has a small diesel tank to enable the supply of hot water. There is a diesel tank (700L) on a bunded container adjacent to the jetwash. This is services by qualified electricians / service engineers and the bund on which it is placed is >110% of the capacity of the tank. The jetwash is inside a locked cabinet and cannot be accessed by non-bkp employees.

The site operates with 4 forklift trucks, 1 excavator, 1 telehandler. These are subject to daily inspections by trained operatives and scheduled servicing by third party contractors in addition to LOLER testing.

The site operates a fleet of vehicles that are parked overnight at the site. There are 6 articulated tractor units, 1 x curtainsider 26T vehicle, 3 x Class 2 Hookloader vehicles and 1 x skip vehicle. All vehicles are services and maintained in accordance with the operators licence and daily drivers inspections are completed.

* 1. Sensitive Receptors

Sensitive receptors closed to BKP bunny lane are outlined in table 2 overleaf. The closest neighbours to the site are the HWRC next door and the former landfill that is adjacent to the facility. The site is not located within a Groundwater Source Protection Zone 1 or 2. There are no Habitats within the locality and no assessment is required under the Habitats Regulations.

**Table 2 – Location of Sensitive Receptors**

|  |  |  |
| --- | --- | --- |
| **Receptor** | **Direction from installation boundary** | **Minimum distance from installation boundary (m)** |
| ***Domestic Dwellings*** |  |  |
| Residential Property | NE | 210 |
| Residential Property | N | 200 |
| Residential Properties | NE | 670 |
| Residential Properties | NW | 890 |
| ***Industrial Premises*** |  |  |
| Yokesford Industrial Estate | N | 800 |
| HWRC | SW | 65 |
| Waste Recycling Facility | W | 530 |
| ***Public Rights of Way*** |  |  |
| Footpath | SE | 550 |
| ***Highway or Minor Road*** |  |  |
| Bunny Lane | E | <5 |
| A3057 Stockbridge road | SW | 1200 |
| ***Surface Water*** |  |  |
| Stream (Casbrook) | SW | 180 |
| Timsbury Lake | SW | 800 |
| ***Open Space, Parks*** |  |  |
| Park – Casbrook Common – No public access | S and SW | <5 |
| ***SSSIs*** |  |  |
| River Test | SW | 1500 |

A map showing the location of these receptors relative to BKP is included in Annex A.

To minimise the impact on the local area and associated receptors from a fire on site, this document details mitigation measures which will decrease the likelihood of a fire occurring on site and limit the size and duration of a fire if it does occur (as per Section 1.1 above). These measures will ensure the potential impact on any of the surrounding land is as minimal as practicably possible.

1. Causes of Fire

The following have been identified as potential common causes of fire and their relevance to this site is given in Table 3

Table 3 Causes of Fire and Applicability to the Site

|  |  |  |
| --- | --- | --- |
| **Source** | **Applicability to the Site & Risk** | **Specific Mitigation** |
| Arson or vandalism | Yes – Intruders entering site and starting fires of fuel/waste materials/offices | See section 3.7 Security – Preventing |
| Plant and Equipment | Yes – Plant overheating, spillages from fuel and sparks, motors getting hot to ignite oil / contaminants | See section 3.8 – Planned preventative maintenance. Daily checks completed on all plant and equipment prior to use as well as scheduled servicing by specialist contractors. Housekeeping completed as part of daily checks to ensure site is clean and in good order |
| Self-Combustion | Yes – Self-reactive substances of those liable to self-heat or materials that may self heat under their own weight or because of bacterial action | See 3.2.3 – Self-reactive substances stored within designated area in metal containers, small quantity stored and stock quickly rotated. Any materials liable to self-heat are identified at pre-acceptance and acceptance checks are made upon receipt. Twice daily storage checks made with thermal imaging camera to monitor temperatures. Stock is rotated quickly and not stored in direct sunlight |
| Electrical faults | Yes – Electrical faults causing fires. Faulty cabling or incorrect wiring causing fires | See 3.8 – Planned preventative maintenance. All wiring has fixed wiring inspections. Electrical work only completed by competent contractors. All cabling places in cable tray to protect from damage. Electrics checked as part of daily walkround checks by site management |
| Discarded smoking materials | No | Smoking only permitted in site smoking shelter which is >10m from any operational areas. All contractors/visitors are inducted. Clear signage around the site |
| Naked Lights | No | None onsite |
| Gas Cylinders | Yes – Cylinders / Aerosols or other pressurised containers with flammable gas may cause fire or create explosive atmospheres | See 3.2.3 – Flammable gases only stored in metallic vented containers (aerosols) or upright in cages with valves protected segregated from oxidising materials >6m in accordance with ‘’Guidance for the storage and treatment of aerosol canisters and similar packaged wastes’’ |
| Hot Works Onsite | Yes – Hot works may create sparks from cutting / welding / grinding which may spread to combustible materials if not properly managed | See 3.10.2 – Hot Works. Only hot works completed in accordance with permit to work and hot works permit. Designated areas onsite identified as low risk by site management to be used if hot works are to be completed. Only competent contractors to complete hot works under supervision |
| Open burning onsite or on adjacent sites | No – No burning onsite of any material | All staff trained that this is not a permitted activity |
| Damaged or exposed electrical cables | Yes – Damaged cables can cause electrocution and fires | See 3.8 – Planned preventative maintenance. Cable trays and cable checked as part of manager daily walk round checks |
| Reactions between incompatible materials | Yes – Potential incompatibilities in treatment causing exothermic reactions leading to fire | Covered in individual process documents. All material is checked and compatibility assessed to ensure no incompatible reactions in line with appropriate measures guidance. All operations are of extremely low risk due to process controls and nature of materials presented I.e. Oil and water, Road sweeper wastes, Articles (batteries), empty packaging, dewatering non flammable non volatile sludges by centrifuge, transfer and repacking. No blending of wastes takes place |
| Hot Loads | No | All loads received are subject to pre-acceptance analysis prior to receipt. Hot loads would not be agreed by technical assessors to be suitable to the site. All loads received onsite are inspected and sampled by site chemists |
| Leaks and Spillages | Yes - Combustible/Flammable material may be moved around site leading to ignition and fire | Yes – See 3.10.5 Leaks and spillages |
| Fuel | Yes – Fuel onsite could initiate fire spreading to storage areas | Fuel is stored onsite in a self-bunded tank. The tank is >6m from the offices and >10m from any operational areas. It is protected from damage by barriers and has a key fob system and specialist dispensers to prevent static, sparks and overfilling of the fuel tanks of vehicles. Any spillages of fuel would be cleaned up immediately and there is a fuel spill kit adjacent. |

1. FIRE PREVENTION PLAN
   1. Site Plan(s)

The site plan is shown on two drawings. BKP-TY-FPP-02 and BKP-TY-FPP-01, to show the Top Yard and Main/Lower Yard layouts

* 1. Material Receipt, Treatment and Storage
     1. Pre-acceptance

As this is a hazardous waste facility, there is a detailed pre-acceptance procedures followed to ensure material received at the site is compliant with the site permit and appropriate measures guidance and where appropriate samples obtained in advance to confirm suitability of acceptance through the onsite laboratory or a third party treatment site or accredited laboratory. Material will only be approved into site with a confirmed onward treatment route. The technical assessor will be responsible for confirming the onward disposal routes and assessing the material against the site permit and in line with appropriate measures guidance. Quotes will only ever be converted once all the necessary information is received. Once the necessary pre-acceptance has been issued a booking form will be issued to the customer for them to complete and return and arrange a collection / delivery date subject to site capacity.

* + 1. . Waste Acceptance

Waste is only received at the facility if the necessary pre-acceptance information has been gathered and it has been booked in and approved by the transfer station manager, the general manager or the liquid treatment plant chemist. The lists will be passed electronically with the necessary technical information on the materials to be received prior to bookings being agreed. The nature and composition of the waste material will allow the team onsite to allocate storage capacity based on the limits agreed. Completed booking forms must be received from the customer / producer prior to material being collected or received onsite.

Upon receipt into the site the material is checked against the pre-acceptance information by the site chemists. Material received is added electronically to a spreadsheet which forms a live stock list for the site showing the below

* Nature of waste – Solid/Liquid/Sludge
* Number and Type of containers – 205L,60L etc and Qty
* EWC Code
* Chemical composition
* Date of receipt
* Producer
* HP codes
* Intended disposal route and costings for that route
* Consignment Note code
* Internal Unique Reference Number (ROM)
* Storage location

Waste is checked as outlined on the technical sheet of the job pack which details the testing that is to be completed on each waste type to verify the pre-acceptance information. Some of this may only be basic visual checks for e.g. in the case of articles.

The onsite laboratory located in the lower yard is equipped with the following equipment;

Karl-Fisher for water content determination

Closed cup seta flash for flash point testing to determine flammability

Olympus Vanta XRF Analyser for elemental analysis (Sodium and above in the periodic table heavier)

Hach Lange spectrophotometer (metals and ions in aqueous solution, Ammonia, Cu, Ni, Zn, Pb, Cr, Chlorides, COD, Sulphates, Sulphides, Cyanides)

Oxidising test strips (starch-Iodide)

Wet chemistry titration techniques – Strengths of acids / bases etc

pH probes

Wastes such as oily rags, metallic powders or other streams identified at the point of pre-acceptance to require additional temperature checks will be checked with thermal imaging camera upon receipt. These streams will then undergo additional monitoring whilst onsite as they have been identified as higher risk. The checks will be recorded on the chemist acceptance sheets for these materials.

* + 1. Waste storage times, stock management and rotation

The waste will be received, processed and removed from the site typically within two weeks or until sufficient material is received to make viable loads to send to end treatment where the waste is not treated onsite. Wastes for treatment in the lower yard are typically treated the same day or within a couple of days of acceptance onto site. This may be due to campaign work and the most efficient utilisation of the infrastructure. Waste stored in the bays is non-combustible ways like aggregate or road sweeper dewatered fines (silt so clay and fine sand).

Hazardous packaged wastes stored onsite in the transfer station (upper yard) will be stored in segregated concrete bays with self-contained drainage in metal clad open buildings. The walls of the bays will be built from precast concrete and constructed to the BS8110 Pt2 ‘Structural use of concrete Part 2 Code of practice for special circumstances’ and BSEN1992-1-2 ‘Design of concrete structures. General rules - Structural fire design’.

In accordance with BSEN1992, the fire resistance of concrete structures over 120mm will have a fire resistance of 1200oC for 2 hours.

The bay walls are 120mm thick concrete and offer a fire resistance period of at least 120 minutes to allow waste to be isolated to stop fire spreading and minimise radiant heat for bays where combustible material is stored.

All waste received onsite is logged onto an electronic stock control system. Waste is only stored for 2 weeks typically unless there is insufficient material to build a viable load. The higher volume streams such as garage wastes (rags/filters/oil) and paint / resin related wastes are typically moved promptly.

Stock at 3 months will be moved onward to third party disposal to ensure permit compliance and allowance for transport and booking slots at third party treatment to become available.

At the point of pre-acceptance any materials likely to self-heat are identified on the chemist technical sheets which they use to assess loads.

Graphical user interface, application, table

Description automatically generated

The capacity and storage locations of different materials is located on the site plan and stock control sheets. The chemists will inventory material onsite each day to ensure the stock lists are accurate and bays are within capacity (as well as stock within date). This will be checked by the general manager and transfer station manager to ensure compliance.

All waste is segregated and stored in accordance with HSG51, HSG71, Chemical waste: appropriate measures for permitted facilities guidance and Guidance for the storage and treatment of aerosol canisters and similar packaged wastes.

BKP aim to work on a basis of minimal stock levels onsite. Material is typically sent to other sites within the GRG Waste UK Group (Chloros, Greenway) promptly from receipt where the material is exported or processed. Where there are insufficient materials to compile a full artic load BKP use their own fleet of vehicles to complete multi-drop deliveries into suitable treatment facilities in the midlands/north of England to keep stock levels to a minimum. The stock levels quoted are worst case and generally the site will be operating at 50% of the levels quoted.

Daily checks are completed on all material in storage to monitor for elevated temperatures as part of site daily compliance checks completed by the general manager. This includes non hazardous combustible materials that have been transferred to skips. Materials are wherever possible stored under cover and out of direct sunlight so reduce the risk of self heating. Should any hot spots be discovered the material will be moved to quarantine area and fire fighting measures / emergency plan followed.

Site chemists complete daily stock checks to check age of material and prioritise moving older stock items.

Non-Hazardous combustible materials are typically onsite for less than a week as these materials can be moved readily into local EFW or landfill. Non-hazardous sludges are generally non combustible but are also frequently moved into consolidation outlets and stock is retained for a maximum of 2 weeks.

* + 1. Waste and product storage stacks

The following storage limits will apply are included in the document – *Annex 2 – FPP – Stockpile Table* detailing the types of waste and storage locations. The locations of all storage are included in *Annex 1 – ‘’FPP- Annex A – Area A’’, ’FPP- Annex A – Area B’’, ’FPP- Annex A – Area C’’, ’FPP- Annex A – Area D’.* Each individual area and fire water containment area is identified by site for later consideration in fire water retainment calculations.

The site does not store baled wastes.

* + 1. Overheating of stored wastes

Wastes will be kept out of direct sunlight and stored in covered buildings where possible. All wastes will be isolated from sources of ignition and heat and flammable materials.

* 1. Storage Bays/Separation Distances

Area A

The site has been designed to maximise the separation distances between combustible wastes. Flammable Liquids are segregated as far as possible within the footprint of the transfer station from other combustible materials. Their location is designed to eliminate the risk of running fires from the self-bunded bay being breached. Fire water overflow from this bay will flow into the tertiary containment and occupy the area surrounding the offload pad (& then enter the offload area which would be vacant). This represents an area 18m x 16m which includes a 25m3 underground tank within the offload area should there be sufficient fire water to breach the level back into the offload pad. There will be a minimum of 250mm high bunding capacity from walls which represents 83.5m3 of tertiary containment in the area blue. Including the underground tank this is 108.5m3. This is shown in Figure 3.3A below

**Figure 3.3A – Flammable Liquid Fire Water - Secondary**

Graphical user interface, diagram, application

Description automatically generated

If this were to be breached then fire water would flow into the areas indicated in red shown in Figure 3.3B giving a further 83m3 of containment at 250mm height. N.b. The Metal storage containers for Oxidisers and Lithium Ion and Raised >250mm. The Aerosols and gas cylinder cages are on a raised plinth >250mm height.

**Figure 3.3B – Flammable Liquid Fire Water containment - Tertiary**

Graphical user interface, diagram, application

Description automatically generated

The bays design is such that when any segregated bay containment is breached fire water will flow into the main open area of the site and the off-loading area which is itself bunded and has an underground storage tank for containment. The location of the flammable liquid bay is to address pool fires which may spread. In this location there is minimal impact initially when the bay overflows as the area surrounding it is well clear from any combustible materials and can be accessed through the metal palisade fence that runs around the edge of the perimeter of the site.

The storage location is also adjacent to a self-bunded surface water tank that holds 12m3 of surface water that can be used by emergency services to fight a fire.

Fire Water can be easily removed from the sump in-front of the flammable liquid bay and the levels of the site are such that water from all of the Area A will flow to this point (indicated as a red square on *BKP-FPP-V4-02.*

The layout of the storage bays segregates combustible materials from combustible materials with a distance of >6m. All materials in the storage bays denoted are included on ***Annex 2 -FPP Stockpile Location*** sheet The bays are segregated by fire walls in addition to these separation distances.

All fire walls conform to with BSEN1992.

The Lithium Batteries are stored in a ventilated metal self-bunded container. This is segregated >6m from other combustible wastes. This is stored on an impermeable surface within the bunded area

The Oxidisers are stored in a ventilated metal self-bunded container. This is segregated >6m from other combustible wastes. This is stored on an impermeable surface within the bunded area

Gas Cylinders and Aerosols are stored in cages that meet the Guidance for the storage and treatment of aerosol canisters and similar packaged wastes in cages. Aerosols are stored in inner UN approved vented packages. They are stored >6m from other combustible wastes. This is stored on an impermeable surface within the bunded area

**Area B**

Combustible unwashed plastic containers are stored in this area. They are segregated >6m from other combustible waste and stored in an impermeable bunded area.

**Area C**

The onsite Diesel tank (C1) is >6m from any other combustible material in a self-bunded tank on an impermeable surface in the bunded area.

The jetwash diesel tank is >6m from any other combustible materials on a self bunded combustible material in a self-bunded tank on an impermeable surface in the bunded area.

The oAVC is stored within an impermeable bunded area impermeable within the main bunded area. It is >6m from any other combustible wastes

The General Waste skip is stored within the main impermeable bunded area. It is stored >10m from any other combustible wastes in the centre of the main yard.

**Area D**

The packaged Oily rags / absorbents (8/8a) are stored in vented metal containers. They are within the main impermeable bunded area >6m from combustible material.

The Waste Oil stored in Tanks (T1/T2) is in a mild steel tanks. These are within a tank farm bunded area with 176,000L capacity of impermeable surface. This tank farm bund is built onto the existing impermeable surface with piling below which is sealed around the pile caps. This is then a bunded area within the larger lower yard bunded area. They are >6m from any other combustible material.

The packaged interceptor and oil sludges (D12) are stored in containers within the bunded area. They are >6m from other combustible wastes.

* + 1. Stock Rotation

Combustible wastes are not stored in loose form, there are no external storage stockpiles. All waste is loaded straight into separate containers when it is transferred to a skip if non hazardous combustible wastes. Packaged wastes are stored in containers in dedicated bays prior to transfer offsite or treatment. Skips are transferred offsite when full. The waste is not stored for periods exceeding 3 months.

Typically waste is not stored on the site for more than 3 weeks. Wastes suitable for treatment are typically processed within 1 week.

Stock rotation will form part of the Daily Site Checks and age of waste recorded from daily stock checks.

All management and chemists will be trained in this procedure and aware of stock rotation.

* 1. Fire Quarantine Area

The Fire Quarantine Area is a dedicated area with a clear area of at least 6m around the perimeter which will be available at all times, see *FPP-Annex C* – Location 27 . This area will be used to place any waste that is smouldering or alight until the risk to receptors has subsided and the waste is safe to remove from site. The quarantine area has been sized based on storing a full container or the maximum pile size in line with the FPP Guidance of 10m x 7m. The area is marked on one size with fire rated concrete 1200mm x 600mm x 600mm lego block walls to prevent radiant heat towards the unmade ground level. If safe to do so, the container can be moved to the quarantine areas.

For other waste, if safe to do so, it will be moved to the Fire Quarantine Area using mobile plant and machinery – Telehandler, FLT, Excavator.

The Fire Quarantine Areas will be marked on the ground. This area is concreted and is located within the sealed impermeable bunded area.

* 1. Signage

Signage will be positioned throughout the facility showing Fire Exits and the position of extinguishers and other relevant firefighting equipment.

All waste storage areas will be clearly marked to ensure the correct waste types are stored in the container.

The company will reinforce fire prevention messages using signs with key messages for staff.

* 1. Training, Awareness and Visitors

All staff and contractors working on-site will be aware of this FPP and will understand its contents.

Through site inductions and on-going staff awareness and training, BKP will ensure that all relevant staff and contractors will:

* Understand what they must do during a fire.
* Know where the fire prevention plan is kept.
* Participate in regular exercises to test how well this FPP plan works and to confirm staff understand what to do.

In addition:

* Fire alarms will be tested weekly
* An Fire Drill will be carried every 6 months to test the effectiveness of the evacuation plan
* A nominated member of staff will be trained to satisfy the function of a Fire Marshal.

For visitors to the site:

* They will be escorted at all times following signing in.
* They will understand the no smoking policy for the site.
* When signing in, information on the fire exits and muster point will be provided

In accordance with the Environmental Management System (EMS) all training and awareness raising will be recorded on the company health and safety and training (safetycloud) system. All training is recorded via this method and online learning is completed for most training.

Contractors will complete permits to work, these are recorded electronically and stored on the company E drive. Only authorised personnel onsite are able to sign off permits to work or escort visitors around site. The authorised personnel are displayed on the permit to work board in the main office. This is overseen by the general manager who is responsible for all staff and contractors onsite.

Any work completed onsite must be associated with designated RAMS for this task. These will be signed off and agreed by the general manager or in their absence the transfer station manager or relevant director are able to sign off these.

Only work that has been properly assessed for safety and fire implications may be completed onsite and permits must be displayed at all times.

All operational staff are responsible for ensuring this is followed and this routinely retrained via the toolbox talk system.

BKP will ensure staff and contractors follow safe working practices when undertaking all activities which pose a fire, health and safety and environmental risks, such as those set out in this Fire Prevention Plan.

* 1. Security

The following security features will reduce fire risks, particularly from vandalism and operational risks:

* The Hazardous waste transfer station and ancillary buildings will be secured by lockable doors.
* The transfer station has a separate gated entrance. The doors are only opened when receiving a vehicle to unload/load.
* This gate will be locked when the site is not operational.
* There is separate main gate to the whole site, which is locked at the end of each working day.
* CCTV is installed to cover the entire site
* The CCTV is linked to mobile phones to allow remote access to the management team.
* All functions of security will be checked on a daily basis and information recorded on the daily inspection form *DCL-01a*.
  1. Planned Preventative Maintenance

A programme of routine planned maintenance is provided for each item of plant and machinery, in order to prevent breakdown and faults which may pose a fire risk.

The Planned Preventative Maintenance Programme includes:

* Items of plant and equipment to be maintained
* Frequency of maintenance (dependent on manufacturer’s instructions)
* Person responsible for maintenance or arranging maintenance
* Actions to be taken in the discovery of a problem. This will include:

All faults which require corrective action will be reported to the general manager to be implemented.

The Managers will document the problem, and record the actions needed, person allocated and deadline for completion. This will be recorded as part of the documented Planned Preventative Maintenance Programme.

The plant and equipment will be subject to service agreements with the manufacturer and/or supplier. Where appropriate, these agreements will include a 24 hour call out facility.

All plant and machinery is subject to daily checks prior to use by trained staff.

There is a workshop on site and maintenance staff available during the operational hours.

* 1. Contingency

In order to ensure all permitted waste quantities are adhered to and no amenity issues or increased fire risks are caused, BKP has

* A list of plant hire companies to source alternative equipment if required.
* A list of primary sites that will take the waste.
* A list of alternative facilities to take the waste.

With regards to the hazardous waste transfer station, waste is only received if there is an approved outlet and the necessary pre-acceptance checks have been completed in line with appropriate measures guidance.

The wastes managed by BKP are not subject to seasonality.

In the event of a fire at the site, the General Manager will notify the transport manager who will:

Notify all drivers to divert to another waste facility immediately via radio/mobile phone.

The general manager will be responsible for notifying the transfer station manager to seek alternative routes for any streams currently in transit if they cannot be received at the facility.

* 1. Ignition Sources
     1. Hot Exhausts

During operations, site operatives will be vigilant for signs of ignition from operational hot exhausts such as those on vehicles used for transport and waste movement.

When vehicles are not being used, they will be switched off and parked in adjoining building which is away from the combustible materials.  When vehicles are switched off, they will be inspected by the operator to make sure that they are parked in the correct area and not likely to be affected by dust settling on the exhaust. At the end of the working day, the transport manager will carry out a final check to make sure vehicles are parked in the correct place as part of the end of day fire watch. All the vehicles have dedicated parking bays well segregated from one another in the area marked on the plan as vehicle parking.

A forklift is used in the Top Yard and lower yard. A Telehandler and excavator are used in the lower yard. These are subject to daily checks and servicing and maintenance on a schedule by specialist contractors.

* + 1. Hot Works

As part of waste operations, hot works will not be needed. However, if hot works such as welding is required as part of building or equipment repair or maintenance, a suitably qualified person will be used and a fire marshal shall be appointed to oversee the works. Following completion of the works, the fire marshal will check to ensure everything is cooled and there is no fire risk as a result of the works.

Hot works will only be completed in an area deemed safe by risk assessment and completed hot works permit to work signed off by authorised member of management team and displayed in the main office. This will only be approved >10m from combustible or flammable materials. If work is needed to be completed within 10m of flammable or combustible materials this must be individually risk assessed and only hot works completed if there is no suitable alternative measure (I.e. can the combustible materials be moved, can this be completed by alternative techniques with no hot works etc)

* + 1. Electrics

The building electrics will be certified by an electrical contractor and maintained in accordance with the manufacturers’ recommendations.

Only approved electricians can complete any electrical works.

Staff are trained to safely isolate electrical equipment prior to qualified electricians completing works.

* + 1. Hot Loads

The following actions will be taken to prevent fire arising from a hot load:

* All drivers will be required to stop at the weighbridge when entering the site.
* The waste will be inspected on arrival. This includes checking that the waste and the paperwork, is compliant with the permit and is not hot.
* Materials identified at pre-acceptance that may be liable to self-heating are checked using a thermal imaging camera that is available onsite.
* If the load is observed to be smouldering, the vehicle will not be allowed to deposit its load. The vehicle will be moved to the FQA in the main yard.
* The fire extinguishers or water (depending on the contents) will be used
* If necessary the fire service will be contacted.

All staff will be trained to be vigilant for hot loads. All incidents of hot loads will be recorded on the Incident Form.

* + 1. Leaks and Spillages

Fuel storage will be in accordance with Oil Storage Regulations. Vehicle re-fuelling will be undertaken by fully trained staff.

Spillage procedure will be implemented in the event of a leak or spillage from site vehicles or waste delivery/collection vehicles. A spill kit will be kept in the site office. All staff will be trained in the use of the spill kit.

The hazardous waste transfer station is a fully enclosed impermeable bunded area and all spillages will be captured within this area and suitable cleaned following the spillage procedure and the resultant materials safely disposed off site.

* + 1. Build-up of Loose Combustible Waste, Dust and Fluff

Good housekeeping will be maintained at all times to ensure dust and litter are prevented from accumulating on site.

As part of the daily checks, signs for litter and debris around the site will be recorded and action taken to remove such materials. The general cleanliness of the site will be checked throughout the working day. The following specific inspections will be carried out:

* Daily - The Managers/Supervisors will carry out an inspection of all work and storage areas to ensure safe storage, access and egress. Particular attention will be required to identify any potential fire hazards when opening the site in the morning and prior to securing the site at the end of day. Any cleaning requirements will be implemented.
* Daily – Safe storage of flammable materials. Gas bottles are to be stored within the designated secure cage and stock levels of flammable liquids and solids are checked as part of this. Capacity of all capacity of all waste stored onsite is checked.
* Weekly – portable fire-fighting equipment should be visually inspected and replaced as required. Full site cleaning undertaken.
  + 1. Other Materials

Gas cylinders will be kept in a cage, outside in line with the Guidance for the storage and treatment of aerosol canisters and similar packaged wastes. Minimal quantities of gas cylinders will be kept onsite at any given time and this is not core business for BKP. Where possible cylinders will be collected by approved specialist third parties – Synergy, Cylindercare.

* + 1. Lithium Batteries

Lithium batteries are stored in accordance with packing instructions by lithium metal ABTO-10-Packing Lithium Metal Batteries for End Recycler, or Lithium Ion or ABTO-02-Packing Portable Lithium Ion Batteries for End Recycler.

* + 1. Fire Breaks

Fire break distances are shown on scaled site plan. The surface areas and storage dimensions are shown in the *Annex 2 -FPP-Stockpile Table*. All pile sizes, heights widths volumes lengths are in accordance HSG51, HSG71 or the EA’s FPP guidance.

For packaged wastes that are on fire additional fire breaks surrounding would be created if safe to do and under the guidance of emergency services by moving materials in adjacent storage areas.

* 1. Additional Actions

Further actions to mitigate fire risk on site include:

* The access route into the waste site will always be kept clear and will therefore provide access for emergency vehicles.
* Site walkovers taken each day will identify any accumulations of combustible litter or material which may pose a risk in the areas used by vehicles.
* Operational vehicles and the fork lift truck will be fitted with fire extinguishers.
* Sources of ignition including non-energy efficient (heat emitting) light bulbs, lit cigarettes, naked flames and storage heaters will not be allowed on site.
* At the end of each operational shift, the Site Manager will conduct a site walk over to check all equipment is off and parked away from combustible materials.
* There is a separate smoking area for staff. This is located adjacent to the site office.

1. Fire Detection and Management
   1. Detecting and Suppressing Fires & response procedure

All staff are trained to be vigilant in terms of fire detection if a fire is detected they should notify the TCM, Site Manager or Site chemist to raise the alarm. The fire response procedure should then be followed.

Each staff member will undergo training from the General Manager/TCM on the fire response procedure. This will be recorded on safetycloud and refresher training will be completed annually or if any chances are made to the FPP.

Ongoing Toolbox talks will be completed periodically to remind staff of the FPP.

A full simulation of the use of this procedure will be completed once every 6 months to ensure all staff are aware and competent in it’s use.

If a fire is

|  |  |  |
| --- | --- | --- |
| **Fire Response Procedure** | | |
| **Action** | | **Responsible Person** |
| 1. | Raise the alarm (if not already done by another member of staff) | Chemist/Manager/TCM |
| 2. | Initiate evacuation of all visitors and start evacuation of all staff and role call pending assessment of the fire with relevant staff | General Manager/Transfer Station Manager |
| 3. | **Small scale fire –** Cordon off the area and direct employees to a safe area. Move container to the Fire Quarantine Area. Attempt to control the fire using the appropriate equipment kept on site. If fire can be controlled skip to point 5. If it becomes clear that the fire cannot be dealt with safely and effectively by site personnel, evacuate the site and contact the Fire Brigade on 999; or  **Large scale fire** – Do not attempt to control the fire. Evacuate all personnel from the site and contact the Fire Brigade on 999. | General Manager |
| 4. | Notify BKP Directors if they have not been already notified. Notify neighbours. Notify GRG Waste UK Board | General Manager |
| 5. | Ensure access routes are clear for fire brigate. Where possible and safe to do so move combustible material away from fire to create additional fire breaks | Site Management |
| 6. | Engage with fire brigade upon their arrival and direct to fire and nature of material and site. Supply them with FPP | General Manager/Director |
| 7. | Ensure FPP is followed and no fire water is released to the environment | General Manager/Director |
| 8.. | Follow instructions from fire brigade | All staff |
| 9. | Notify the Environment Agency | General Manager |
| 10. | Maintain control measures until fire is extinguished | General Manager/Managers onsite |
| 11. | Begin clean up operation after fire brigade have instructed it is safe to return to the site and site is handed back to operator | General Manager |
| 12. | Samples of fire water sent as urgent to third parties or sample loads arranged. N.B. Nature of materials in fire will need to be identified to confirm if POPs are present I.e. WEEE Bay | Technical Director / General Manager |
| 12. | Record the fire using the Incident Record Sheet and site diary | General Manager |

All staff are trained in these procedures. All staff will be trained by the general manager / TCM in this procedure. Within 6 months the training will be recorded on the safetycloud system.

The contact list of emergency numbers in Annex C will be retained in the Site Office and updated as required by the General Manager.

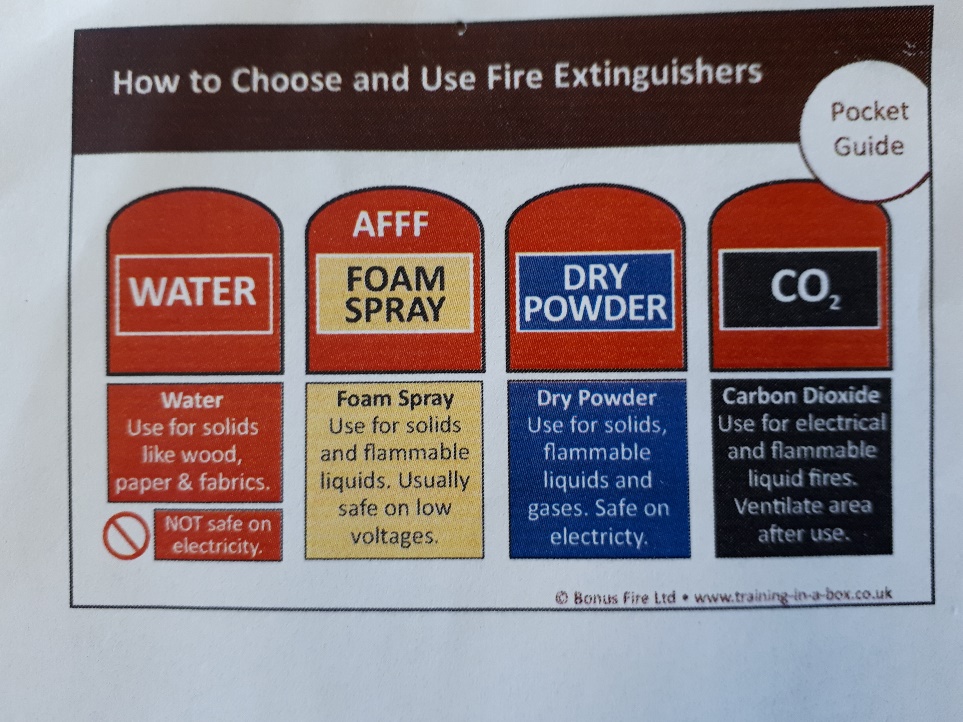
Fire extinguishers will be provided strategic points within the buildings. These are indicated on the site plan. Specific guidance and training for lithium metal battery fires and safety is covered in a separate document. The site will be inspected daily by the general manager and transfer station manager and daily walk-round checks completed.

These checks include monitoring for hot spots and self-heating material with thermal imaging cameras *OP11-DCL-02-Temperature Checks*

Around site as denoted by the site plans there are fire extinguishers. They can be one of the following.

The bottom yard locations only have

* 6L Foam Fire Extinguisher
* 6L Water Extinguisher
* 6L Powder Extinguisher
* CO2 Extinguisher

There are safety instructions provided showing the use of each extinguisher, which is based on:

For waste wood, plastic, metal and the WEEE stored outside in containers (TVs, Fridges, Small Domestic Appliances), the water extinguishers will be used.

Flammable Liquids and solids should have foam extinguishers used in the event of a fire. Adjacent to the flammable bays are foam extinguishers.

For batteries within the battery container type D extinguishers should be used if there is a fire. If it is unclear if it unclear which chemistry of lithium is on fire then a powder extinguisher should be used. Water should not be used on lithium metal battery fires unless there is sufficient water to completely quench the fire.

General battery fires cause by trailing leads or short circuit should be combatted if safe to do so with dry powder and sand. If the material can be covered with sand it will prevent onward spread of fire and the heat should dissipate over time.

There are no sources of ignition or electrical power within the battery storage self-bunded or oxidising container.

**Additional resources / Infrastructure to enable fire fighting**

* 1. Water Supplies

Water supplies will be from the following sources;

There is a Fire hydrant onsite easily accessed in the lower yard. This hydrant can supply 52L/water/min. Because the site is remote there is less pressure. This was calculated based on a 8 hour average reading.

There is a self-bunded tank adjacent to the transfer station holding 12,000L of surface water that can be used to fight a fire if required

There is a 68m3 tank (T5) that will have a minimum of 30,000L in it at any given time that can be used to fight a fire if required. There will be pumps if required that can move this material onto a fire engine or the site has 6 vacuum tankers that can unload this volume in approximately 20minutes.

There is a 68m3 that will have a minimum of 25,000L in at any given time holding water from the treatment of road sweeper wastes that can be used if required. Analysis is available for this but it complies with the BAT-AELs for direct discharge and should be suitable for fire fighting purposes if required.

Based on a 3 hour average there is 76,360L minimum available for fire fighting in addition to any water the fire brigade would supply.

The site has a large catchment area in the lower yard and this water is retained onsite prior to tankering to a local WWT works after the discharge consent has been surrendered.

There is clear visible signage around the site about fire assembly points and what to do in the event of a fire.

* 1. Fire Response Procedure
     1. Out of Hours

The fire response procedure will then be implemented. The Fire alarm system and CCTV cameras are monitored off-site by Moore Security. Senior Site Staff have access to the CCTV camera footage via a mobile phone app. They provide 24 hour monitoring of the cameras. If they would call the transport/operations manager, general manager and technical director should they have any indication of a fire or compromise of the sites security. Based on CCTV footage and area of fire actions will be taken to direct emergency services and attend site.

A site appointed contact would then attend site depending on availability and start to implement the FPP measures if safe to do so. They would be onsite to advise the fire service until the general manager, technical director, transfer station manager were able to attend site.

* 1. Managing Fire Water

* + 1. Containment of Fire Water Run Off

FPP guidance states that the site should have enough water available for fire fighting to take place and manage a worst case scenario. The worst case scenario in the FPP guidance would be the largest combustible catching fire. Appropriate measures states that BAT is providing sufficient containment which prevents cross-contamination or spread of fire through the drainage system.

* + 1. Worst case scenario fires

**Area A;**

The largest pile of combustible waste from Area A would be the flammable solid bay, holding 40m3 maximum of waste material. This would require 48m3 over a 3 hour period of water at a rate of 6.667 Litre/Min/M3.

The site with surface water tanks has available 76,360L of water over a three-hour period.

The outer bunded area of area A has a capacity of 86.4m3 inclusive of the 25m3 tank within the offloading area. This with liquids is to a bund wall height of 200mm. Guidance in CIRIA report C736 indicates that an allowance of at least 100mm freeboard for foam should be in place. The bund wall heights are 300mm (although the area indicated red below would be filled prior to breach of this containment in area A. – This area would give a further 83m2 of containment.

Using this calculation there would be > 100mm freeboard for foams and fire-fighting agents.

**Area B;**

The largest pile of combustible waste in area B would be 50m3 of unwashed plastic containers. These would require 60,003L of water to extinguish in a 3 hour period (60.03m3). The site with surface water tanks has available 76,360L over a 3 hour period.

The outer bund of Area B is 300mm high. The surface area is 352m2. Allowing fire water to 200mm of bund to allow for 100mm of fire fighting agents in accordance with CIRIA guidance gives capacity of 70.4m3 which is in excess of the minimum required.

**Area C;**

The largest pile of combustible waste in Area C would be 30.8m3 for the general waste skip. This would require 36,000l of water to extinguish over a 3 hour period. The site with surface water retention has 76,360L over a 3 hour period. Area C drainage runs down with the fall of the site to the main bund wall at the bottom corner of the site below D12 (Annex A – Area D shows this). The total containment in this area of the site is far in excess of 150,000L as the bund walling is 600mm high and the 3 phase interceptor has a capacity in excess of 70,000L. The soakaway onsite it no longer functional and the material from all drainage systems is tankered offsite to local southern water facility. Allowing for 100mm of freeboard material it is still well within fire water containment calculations.

**Area D;**

The largest pile in Area D is Waste Oil Storage Tank T2. The Tanks are only ever filled to 90% of their volumetric capacity to allow for any discrepancies in Radar level gauge accuracy and prevent overfilling so there would be 62m3 of material within the tanks. Allowing for 6.667l/min water to extinguish the fire would require 72,003 L over 3 hours. The site has available 76,360L in a 3 hour period. The tank bund has capacity to hold when displacement of tanks is removed 176,000L. The anticipated volume to extinguish would be 134,000L to extinguish the fire. This would be contained within the bund. The bund dimensions are 16m x 10m and minus the displacements from the tanks this still allows >100mm clearance for fire fighting foams and agents within the bund without the use of the site bunded containment.

All other piles in D are comparable to the largest pile in area C and the same calculations would apply.

Assuming a scenario in which the largest combustible waste pile was on fire, the following fire water management would be required:

|  |  |
| --- | --- |
| Litre/min/1m3 of waste (l)a | 6.667 |
| Largest combustible pile (m3) | 50 |
| Litre per minute required (l) | 200 |
| Litres over three hours (l) | 60,003 |

a Based on EA guidance that 2000l /minute of water is required for a 300m3 stockpile for three hours

b For cardboard stored in the building, fire water will be contained in the separate bunded area. This directs water into a sealed sump. The valve will be opened to allow fire water to enter. This sump is provided to deal with any spillages and fire water. BKP operate a fleet of tanks which will empty the sump as it fills to ensure capacity remains.

For all scenarios, BKP operate a fleet of tankers which will empty the sump(s) as it fills to ensure capacity remains and water can be filled with our own tankers at southern water hydrants off site if required and directed by the fire service.

The controls set out above demonstrate that fire water would be contained with capacity in all areas of the site.

Water can only be removed from the bunded areas by pumps and cannot manually be discharged. All bunded area are sealed and fire water cannot be discharged to the environment without operator intervention and turning on of fixed pumps.

Retention volumes have been calculated from provisional drawings. These may be subject to change upon builds and finalised volume calculations will be submitted to the Environment agency in writing prior to using the proposed areas. Any bunds or storage areas will meet FPP guidance & CIRIA standards as appropriate.

* 1. Incident Management

In the event of an incident, all waste will be diverted to a third-party operator. The operator will maintain a list of sites.

In the event of a fire related incident the Emergency Services will be contacted. When safe to do so the Environment Agency will be contacted. In addition, depending on the nature/location of the fire, the emergency contact details will be used to notify utilities providers such as gas supplier.

The incident will be managed onsite by a designated person. Responsible people are; General Manager, The Transfer station Manager, Transport and Operations Manager, Technical Director. The general Manager or Technical director are to ensure no fire water is discharged to the environment and the FPP is followed. Any breaches in control measures will be notified to the Environment Agency by the general manager immediately.

Once the fire has been extinguished and the site has been deemed safe to enter, an assessment of the fire damage will be made. BKP will use a tanker to remove fire water. Any fire residues will be loaded into containers and removed from the site for disposal. Both the firewater and fire residues will be transported by registered carriers to permitted facilities.

All plant and equipment will be checked by the manufacturer to ensure that it remains fit for purpose. Any repairs will be made by the manufacturer and the commissioning phase will need to be signed off by the manufacturer before waste processing recommences.

The detection system will also be checked by the installers to ensure that it is fit for purpose. Any repairs will be made in accordance with the manufacturers recommendations.

The cause of the fire will be investigated to understand what occurred and what measures need to be in place to prevent a recurrence. Advice will be sought from the Fire Service and this Fire Prevention Plan updated accordingly.

* 1. Post-Incident Management
     1. Recovery procedure

After the fire has been extinguished the following actions would need to be completed. This would be the responsibility of the general manager;

* + Reporting serious fire to the environment agency the same day
  + Investigation into the cause of the fire
  + Review of the FPP
  + Review of all staff training
  + Replenishment of any fire extinguishers used
  + Confirm in writing to the environment agency within 3 days the outcome of the fire, the actions taken by BKP and emergency services to control the fire and any other information deemed relevant
    1. Clean Up

Fire water should be taken to a suitable licenced facility. BKP tankers can transport this and sites must be made aware of the potential contaminants within the fire water, particularly if there is risk of POPs present. Samples must be send in advance or analysis obtained where reasonably practical.

Debris / waste that can be identified, is suitable labelled / packaged and characterised and not >30 degrees can be moved offsite for disposal. The transfer station manager will be responsible for clearing any stock required.

After all fire water is removed the site will be cleaned by road sweeper. The residues then suitable treated (these may be suitable for treatment onsite depending on scenario or may only be suitable for third party disposal depending on the nature of the fire.

Drainage channels / gullys / bunds buildimgs will be cleaned to remove contaminants

Site will be jetted down

Any buildings that have been damaged would be subject to review by independent structural engineers prior to use.

Once clean up has been completed this will be signed off by technical director or operations director prior to site being deemed decontaminated and surface water being uncontaminated.

* + 1. Investigation Procedures following clean up

If any contamination exists or any areas of concern are identified then independent sampling will be completed to identify if any contamination has been caused. This would be sent to MCERTS laboratories and the sampling plan would be completed by the technical director / an appropriate consultant at their direction.

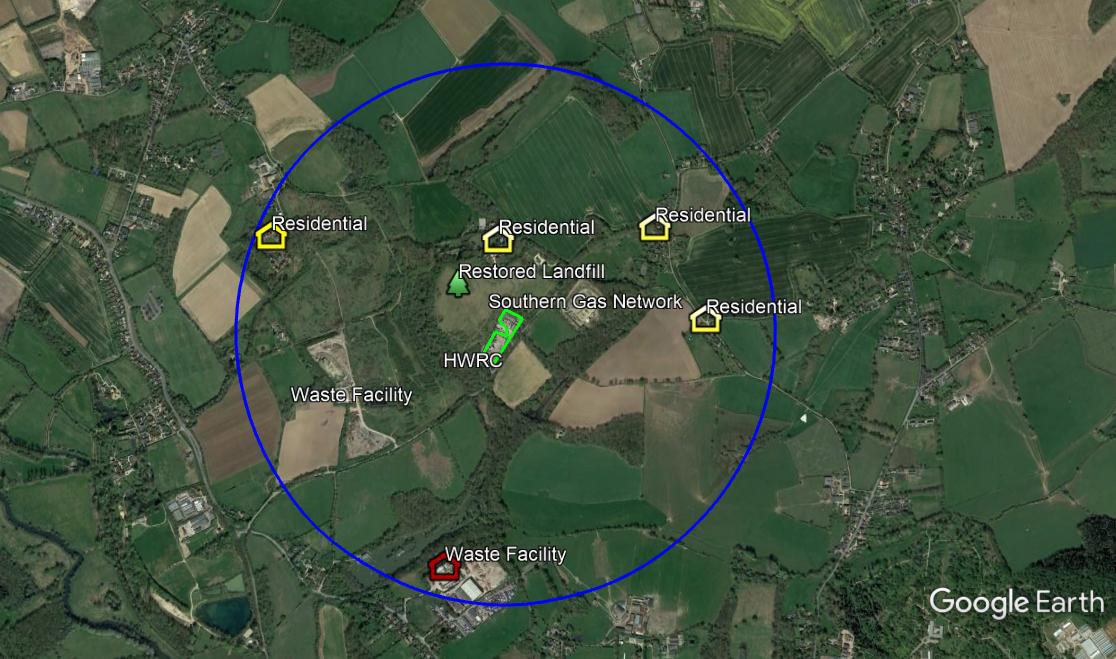
Following receipt of any analysis a proposal for remediating any contamination would be submitted in writing to the Environment Agency for Review with the sampling plan completed.

If approved the remedial works will be completed and following this additional analysis supplied by an MCERTS laboratory supplied to show the efficacy of these remedial works.

Annex A: DRAWINGS OF SITE - BKP-FPP-V4-01 (LOWER AND MAIN YARD), BKP-FPP-V4-02 (TRANSFER STATION), INDIVIDUAL MAPS OF EACH FIRE CONTAINMENT AREA A-D (SEPARATE ATTACHMENTS)

Annex B: Location of Key Receptors within 1 km of the site

**Wind Direction** According to the UK Met Office, the prevailing wind direction in the area is South-Westerly[[2]](#footnote-2).



Annex C: Emergency Contact Numbers

|  |  |  |
| --- | --- | --- |
| **Name & Address** | | **Telephone Number** |
| Environment Agency | General Enquiries:  Incident Hotline Reporting: | 03708 506 506  0800 80 70 60 |
| Electricity Supplier & mains switch location | SSE **– Mains Switch to adjacent of Site Offices, Lower Yard is Kiosk Marked on site plan in far corner,** Transfer Station is inside Original Building | **0800 783 8866** |
| Gas supplier & shut off valve location | No Gas Onsite |  |
| Water supplier & shut off valve location | Lower Yard – Located next to Hydrant |  |
| Local Authority Emergency Services | Test Valley Council, Beech Hurst Weyhill Road, Andover SP10 3AJ | [01264 368000](tel:01264368000) |
| Insurance Company and policy number | [+44(0)1491 578759 ext: 201](tel:+44(0)1491%20578759;201) - B19039320 Insurer: QBE Insurance |  |
| Nearest Hospital | Romsey Community Hospital Winchester Hill, Romsey SO51 7ZA |  |

Annex C: Local Contact Numbers

|  |  |  |
| --- | --- | --- |
| **Name & Address** | | **Telephone Number** |
| Pearl Mechanical, Budds Ln, Romsey SO51 0HA, Jim Wolfe | Fabrication, Mechanics, Vehicle Repairs | 01794 278010 |
| HP Pumps, Andy Bundy | Pump Repair | 01794 367477, 07536098369 |
| Southern Water, Mark Worsfold | [sm\_tankere@southernwater.co.uk](mailto:sm_tankere@southernwater.co.uk); | 0330 303 0368, 07825 905144, 01273 666723 |
| PWM – Electricians | Steve Maros, 109 Carnation Rd, Southampton SO16 3JH | 023 8048 7768, 07717570839 |
|  |  |  |
|  |  |  |
|  |  |  |

Annex D Daily Inspection Sheets

|  |  |  |  |
| --- | --- | --- | --- |
|  | : | Completed By | : |
| Date & time of report | : | Job Title | : |
| Last Report | : | Site Conditions | : |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Transfer Station compliance checklist | Yes | No | N/A | Comments |
| External |  |  |  |  |
| Gates and Fences – Secure from Walkround |  |  |  |  |
| Access Road (cleanliness) |  |  |  |  |
| Concrete condition on surrounding road N.B. identify areas for work on action plan |  |  |  |  |
| Perimeter Drainage System free from debris / visibly clear |  |  |  |  |
| Dust (walk the perimeter) |  |  |  |  |
| Odour (walk the perimeter) |  |  |  |  |
| Noise (walk the perimeter) |  |  |  |  |
| Pests (evidence of infestation) |  |  |  |  |
| Litter |  |  |  |  |
| Check external condition of building – Note issues |  |  |  |  |
| Offload area Bund free from waste and intact (Visually inspect to ensure capacity in sump) |  |  |  |  |
| Cylinder cage locked and no material placed within 10m |  |  |  |  |
| Skips filled to proper level |  |  |  |  |
| No material stored against permitter fence |  |  |  |  |
| Combustible material >10m from buildings (including empty IBCs, pallets, wheelie bins) |  |  |  |  |
| **Internal** |  |  |  |  |
| Integrity of concrete floor |  |  |  |  |
| Integrity of storage bays |  |  |  |  |
| Fire extinguishers in place as per site plan |  |  |  |  |
| Doors in full working order |  |  |  |  |
| Fire exits are clear |  |  |  |  |
| Evidence of vandalism (check windows and doors) |  |  |  |  |
| All labels visible |  |  |  |  |
| Walkways between all rows in bays |  |  |  |  |
| Storage bays within capacity |  |  |  |  |
| No spills or leaks |  |  |  |  |
| Laboratory area is clean |  |  |  |  |
| No trailing leads or plugged in devices etc |  |  |  |  |
| FLT Daily checks completed by operators |  |  |  |  |
| Stock take completed by senior site chemist |  |  |  |  |
| Temperature Checks Completed across site (see temp check sheet) – **OP11-DCL-02-Temperature Checks** |  |  |  |  |
| Temperature Checks WEEE shed |  |  |  |  |
| Temperature Checks Battery Storage Shed |  |  |  |  |
| Temperature Checks Lithium Battery Storage |  |  |  |  |
| Temperature Checks General Waste / Other Skips |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Report Details | : | Completed By | : |
| Date & time of report | : | Job Title | : |
| Last Report | : | Site Conditions | : |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LTP compliance checklist | Yes | No | N/A | Comments |
| Yard: |  |  |  |  |
| Gates and Fences – Secure from Walkround |  |  |  |  |
| Access Road (cleanliness) |  |  |  |  |
| Concrete condition on surrounding road N.B. identify areas for work on action plan |  |  |  |  |
| Bund daily check completed – See bund inspection |  |  |  |  |
| Dust (walk the perimeter) |  |  |  |  |
| Odour (walk the perimeter – Must be completed while operational) - & Nature of odour |  |  |  |  |
| **Noise (walk the perimeter)** |  |  |  |  |
| Pests (evidence of infestation) |  |  |  |  |
| Litter |  |  |  |  |
| Check external condition of concrete – Note issues |  |  |  |  |
| Drainage channels free from solids |  |  |  |  |
| Storage bays for bulk solids within capacity |  |  |  |  |
| Storage bays for packaged material within capacity |  |  |  |  |
| AVCs labelled and within capacity |  |  |  |  |
| Tanks <90% fill. If approaching >75% then action loads out |  |  |  |  |
| Daily Plant checks completed – Telehandler, Excavator, FLT |  |  |  |  |
| No trailing leads / plugged in devices |  |  |  |  |
| Soakaway clear, with capacity |  |  |  |  |
| Tanks / Bays Labelled |  |  |  |  |
| **Office:** |  |  |  |  |
| Laboratory area is clean |  |  |  |  |
| No trailing leads or plugged in devices etc |  |  |  |  |
| FLT Daily checks completed by operators |  |  |  |  |
| Stock take completed by chemist |  |  |  |  |
| Temperature Checks on Rags Completed **OP11-DCL-02-Temperature Checks** |  |  |  |  |
| Temperature Checks Remainder of storage completed |  |  |  |  |
|  |  |  |  |  |

1. https://www.gov.uk/government/publications/fire-prevention-plans-environmental-permits/fire-prevention-plans-environmental-permits [↑](#footnote-ref-1)
2. <http://www.metoffice.gov.uk/climate/uk/regional-climates/so> [↑](#footnote-ref-2)