



## Fire Prevention Plan

The Old Peat Works  
Reading Gate  
Swinefleet  
Goole  
East Riding of Yorkshire  
DN17 4BL

**Doc Ref:** 4RMS041 - Part B2\_5d Fire Prevention Plan DRAFT

**Date:** 24/10/2018

This DRAFT Fire Prevention Plan has been written using latest guidance available at the time of writing. Should 4R Group be successful with obtaining planning permission for the Old Peat Works site then visits will be arranged for the Environment Agency and Fire Service.

The visits will give the Environment Agency and Fire Service the opportunity to provide site specific guidance and suggestions to 4R Group regarding this Fire Prevention Plan. A revised Fire Prevention Plan will then be submitted for approval prior to the commissioning of the site.

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## Site Information and Key Contacts List

**Site Address:** The Old Peat Works, Reading Gate, Swinefleet, Goole, East Riding of Yorkshire. DN17 4BL

**Site Grid Reference:** SE 76875 16851

**Site Operator:** 4R Group

Contact	Description	Office hours	Out of hours
Graham Roberts	Technically Competent Manager	0113 232 2400 07852 902987	
4R Group	Site Operator Head Office	0800 012 1769	
Crowle Fire Station Goole Fire Station	Fire and Rescue Service	999 (emergency) 01724 710744 (Crowle) 01405 752700 (Goole)	999 (emergency) 01724 710744 (Crowle) 01405 752700 (Goole)
Humberside Police – Goole North Police Station	Local Police Station	999 (emergency) 101 (non-emergency)	999 (emergency)
Goole and District Hospital	Local NHS Hospital	999 (emergency) 111 (non-emergency) 01405 720 720	999 (emergency) 01405 720 720
Environment Agency	Environmental Regulator	0800 80 70 60	0800 80 70 60
East Riding of Yorkshire Council	Local Authority General Enquiries	01482 393939	



# 1 Introduction

## 1.1 General

- 1.1.1 This Fire Prevention Plan (FPP) considers the risks associated with fire on site at The Old Peat Works, Reading Gate, Swinefleet, Goole, East Riding of Yorkshire, DN17 4BL. Primarily, the site will be used by 4R Group for the treatment and storage of biosolids derived from sewage treatment processes, before the end product is removed to be taken to land. Other waste materials may also be stored at the site.
- 1.1.2 The site is operated by 4R Group in accordance with an Environmental Management System (EMS) and Environmental Permit (Ref No. EPR/GB3202XN/A001), regulated by the Environment Agency (EA).
- 1.1.3 All site staff will be provided with a copy of this Fire Prevention and Response Plan and are aware of where it is located on site.
- 1.1.4 The registered address and contact details for 4R Group:

4R Group  
Control House  
A1 Business Park  
Knottingley Road  
Knottingley  
WF11 0BU

Phone: 0113 232 2400  
Mobile: 07824 323 318  
Email: [theoldpeatworks@4r-group.co.uk](mailto:theoldpeatworks@4r-group.co.uk)

## 1.2 Reason for implementation

- 1.2.1 This FPP has been produced to accompany a permit application submitted to the EA.
- 1.2.2 In accordance with the EA's latest guidance document, "Fire Prevention Plans: Environmental Permits", issued 04/05/2018, this document will outline fire hazards on site and a number of accompanying measures which will be implemented to ensure every action is taken to prevent fire, contain fire on site if it does occur, and ensure quick suppression and detection.

## 1.3 Staffing and management

- 1.3.1 Table 1 below details the staff structure of the site when operating at full capacity.
- 1.3.2 Positions in bold italic print below are the minimum staff requirements when the site is open for the reception of waste and, therefore, shows the minimum number of staff available to tackle a fire on site during operational hours. Only the site manager, machine/plant operators and general operatives will be permitted to tackle fires on-site.

**Table 1: Staff Structure**

<b>Position</b>	<b>Employees</b>	<b>Responsibilities</b>
<b>Site Manager (TCM)</b>	1	Overseeing all activities which take place at the site
<b>Admin / Office Staff</b>	1	Managing site administration
<b>Machine / Plant Operator</b>	3 (1)	Waste handling/processing, reception and plant operation
<b>General Operatives</b>	2	Waste sorting, maintenance & tidying
<b>Lorry drivers</b>	2	Importing and exporting material

1.3.3 The Technically Competent Manager is responsible for the general management of the site.

#### 1.4 Plant and equipment

1.4.1 Table 2 below shows the plant on site which is available to assist with the construction of fire breaks. Only trained operators will be permitted to drive/operate the plant listed below and construct fire breaks. Construction of fire breaks will only be under instruction from the Chief Fire Officer. Any changes to the list will be notified to the Environment Agency prior to implementation. The minimum requirements when the site is operational are shown in bold italic print.

**Table 2: Plant and Equipment**

<b>Item</b>	<b>Number</b>	<b>Function</b>
<b><i>Loading shovel</i></b>	<i>1</i>	Movement of material for fire breaks
<b><i>Diesel generator</i></b>	<i>1</i>	Power pumps to move water

#### 1.5 Scope of document

1.5.1 This FPP details the measures which will be put in place with regards to site design, infrastructure, and management, to ensure the waste operations will be carried out with paramount consideration to the risk of fire. All necessary prevention measures and procedures will be strictly implemented and followed through essential training and inspection regimes as detailed in this document and in the site's EMS.

## 2 Potential Fire Hazards on Site

### 2.1 Potentially combustible materials

- 2.1.1 Although the main purpose of the site is to treat and store biosolids, other wastes on the site permit will also be brought to site for treatment and temporary storage. These wastes are listed in document Part B4\_1b Lists of Wastes. Some of these wastes are potentially combustible or reactive (as also shown in Part B4\_1b Lists of Wastes), and therefore require further fire risk assessment. These wastes are listed in table 3 below.
- 2.1.2 Combustible wastes will be monitored as described in section 3, and 4R has procedures in place for the handling, storage and protection of such materials. The EMS and FPP will be updated and redistributed amongst site personnel prior to novel waste streams being delivered.
- 2.1.3 Rejected waste – This material will be stored in clearly identified quarantined areas if it cannot be removed from the site immediately. Which areas are used for this may vary as operating conditions permit (i.e. to permit the loading of rejected wastes but clear labelling and management control will ensure its use as specified). Rejected items can sometimes contain materials which are particularly susceptible to combustion. If any such items or materials are discovered, they will be subject to individual quarantine and the EA will be contacted to agree a course of action.
- 2.1.4 Reactive wastes predominantly consist of liquid or drummed wastes. Three proposed large outdoor storage tanks will house any liquid wastes brought to site. These wastes will be monitored as described in section 3, and 4R has procedures for handling, storage, and protection for any such material that will be put in place prior to any delivery.
- 2.1.5 Fuel tanks (pressurised cylinders) - Fuel tanks which are stored on site (primarily for the generator) will be stored in a proposed plant room

**Table 3. List of wastes on 4R permit that require fire risk assessment**

Treatment of wastes by physical treatment i.e. screening or crushing	
List SFC wastes – Taken from Table 2.2 of SR2015No6 75Kte	
Waste Code	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 03	plant-tissue waste
02 01 07	wastes from forestry
02 02	Wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 03	materials unsuitable for consumption or processing
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 02	wastes from spirits distillation

03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
19	WASTE FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 01	wastes from incineration or pyrolysis of wastes
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17 - biochar manufactured from untreated wood, bark, and cork from the furniture manufacturing and wood processing industries (including untreated sawdust, wood shavings, and wood cuttings, except from particle board).
19 01 18	biochar manufactured from untreated wood and plant matter from agriculture, horticulture and forestry, or from vegetable waste from food preparation and processing.
19 05	wastes from aerobic treatment of solid wastes
19 05 03	off-specification compost
19 05 03	compost from source segregated biodegradable waste only
19 05 03	compost from source segregated biodegradable waste and sludges from treatment of urban waste water only
19 05 99	compost derived from non-source segregated biodegradable waste
19 06	wastes from the anaerobic treatment of waste
19 06 04	whole digestate and fibre digestate from anaerobic treatment of non-source segregated biodegradable waste
19 06 06	whole digestate and fibre digestate from anaerobic treatment of source segregated biodegradable waste and sludges from treatment of urban waste water only
19 08	waste from waste water treatment plants
19 08 01	screenings
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 12	soil substitutes other than that containing dangerous substances only

Storage of wastes	
List SFDA wastes – Taken from Table 2.2 from SR2010No17	
Waste Code	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 05	Effluent from the on-site treatment of wash waters from cleaning fruit and vegetables on farm only

List SFDB wastes – Wastes listed in SR2010No4/No5 but not covered by SR2010No17
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Waste Code	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 03	plant-tissue waste
03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	untreated sawdust and wood shavings other than those mentioned in 03 01 04 only
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood, pulp from virgin timber
04	WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES
04 02	wastes from the textile industry
04 02 21	wastes from unprocessed biodegradable textile fibres only
04 02 22	wastes from processed biodegradable textile fibres only
19	WASTE FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 05	wastes from the aerobic treatment of waste
19 05 03	compost from source segregated biodegradable waste only
19 05 03	compost from source segregated biodegradable waste and sludges from treatment of urban waste water only

List SFDc wastes - wastes for storage, not listed in SR2010No17, SR2010No4 or SR2010No5	
Waste Code	Description
2	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD, PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 07	wastes from forestry
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 03	materials unsuitable for consumption or processing
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL USE
19 05	wastes from aerobic treatment of solid wastes
19 05 03	off-specification compost
19 08	wastes from waste water treatment plants
19 08 01	screenings

## 2.2 Potential burn times of material

- 2.2.1 The Waste Industry Safety and Health Forum (WISH) prepared the 'Reducing Fire Risk at Waste Management Sites' document. As well as general guidance on managing fire risk, this guidance contains information about burn times for different wastes. To calculate the burn time of wastes, the 'mass rate of burning' is needed but WISH document outlines the lack of data to help calculate this value. WISH conducted their own trials on different wastes in 2015 and 2016 with varying degrees of success.
- 2.2.2 4R will routinely monitor for information regarding the burn time of wastes imported to The Old Peat Works and update the FPP accordingly.

## 2.3 Common causes of fire

- 2.3.1 The following list outlines common causes of fire and potential ignition sources with examples for the material on site.
- a) Naked flame/discarded smoking materials, e.g. cigarette ends
  - b) Burning of waste on site
  - c) The overheating of material from being too close to heat sources such as heating pipes, naked flames, space heaters, etc.
  - d) Vandalism and arson
  - e) Electrical faults, both in processing equipment and general electrical systems, such as lighting and heating
  - f) Leakage from fuel and oil tanks, e.g. diesel for the generator and then exposure to an ignition source
  - g) Overheating of motors in plant machinery such as loading shovels
  - h) Hot works, e.g. welding or cutting
  - i) Hot exhausts, i.e. dusts falling on hot exhausts and engine parts of plant machinery
  - j) Build-up of loose combustible wastes, dust and fluff and then exposure to an ignition source
  - k) Reactions between wastes
  - l) Lightning strike

## 2.4 Overhead lines

- 2.4.1 There are no overhead power lines traversing the permitted site, which, if ignited, would worsen the effects.

## 2.5 Sensitive receptors

- 2.5.1 The day to day operations of the site, with the material being handled and 4R's EMS and FPP in place, are unlikely to result in any fires. Should fire occur however, the fire service and the EA will be contacted as a matter of urgency.
- 2.5.2 There are no major roads or residential areas within 2 km of the site but there are 4 isolated residences/farms within 1km. The closest of these farms is Red House Farm >550m west of the nearest point of the site. Due to prevailing winds, the most likely human receptors to be impacted by smoke or debris from a fire are The Red Bungalow and Moors Farm, >770m northeast of the site. The distances to these areas from the site means that any impact from a fire is highly unlikely to be felt by any local population.
- 2.5.3 Over 1.2km southwest of the site is an area of peat and moorland with multiple environmental designations and protections. This area is registered as;
- Humberhead Peatlands National Nature Reserve
  - Thorne, Crowle, and Goole Moors Site of Special Scientific Interest
  - Thorne Moor Special Area of Conservation
  - Thorne and Hatfield Moors Special Protection Area

Although this area has various designations as a site of environmental importance, it is sufficiently far away against prevailing wind direction that any impact from fire at the former peat works is highly unlikely.

Section 4 highlights mitigation measures which will decrease the likelihood of a fire occurring on site and limit the size and duration if it does occur. These measures will ensure the potential impact on any of the receptors outlined above is minimal.

## 3 Monitoring

### 3.1 Site inspection programme

- 3.1.1 Regular inspections of all site areas will be undertaken in accordance with the site's EMS which will include areas just outside of the site boundary.
- 3.1.2 When the site shuts down at the end of each working day, inspections will be conducted on all machinery, all material in the operations facility and outdoor storage areas, other storage areas if in use and material if present.
- 3.1.3 Inspections will also take place on plant and machinery when shut down, after any hot works such as welding or other repairs take place, and any other maintenance work on the site.
- 3.1.4 These inspections will be conducted by a person who is familiar with the requirements of the management system and of this document. The inspections will identify any small smouldering areas before fire occurs, as well as keeping the levels of dust, fibre, litter and other loose combustible materials on surfaces to a minimum.
- 3.1.5 The results of site inspections will be recorded either on the appropriate record form in the EMS or in the site diary and made available to the EA and local authority upon request.

## 3.2 Preventative maintenance

- 3.2.1 All items of plant and vehicles are subject to preventative maintenance checks and a regular cleaning regime to ensure their safe operation and to prevent any potential situations which may give rise to adverse impacts on the environment.
- 3.2.2 Much of the plant and equipment on site and all vehicles in the fleet are subject to periodic manufacturer maintenance to ensure proper working order in the form of service contracts.
- 3.2.3 Site management will undertake or delegate additional preventative maintenance checks on a more frequent basis to ensure, where possible, the machinery is mechanically sound. These checks will be carried out using a preventative maintenance checklist and any results / defects will be recorded in the site diary and actioned immediately and, in any event, prior to operational use.

## 3.3 Temperature Monitoring Procedure

- 3.3.1 A requirement exists to ensure that temperatures of waste piles, both processed and unprocessed, are monitored and recorded. Decomposition of various waste streams can generate sufficient heat that the material may spontaneously combust. Product temperatures of self-heating materials are monitored.
- 3.3.2 The waste materials to be monitored for temperature will include but not be limited to those listed in Table 3 as a fire risk.
- 3.3.3 Each of the above will be monitored for temperature periodically, using either a temperature probe and/or a hand-held thermographic (thermal imaging) device.
- 3.3.4 Temperatures will be recorded on the designated temperature monitoring form in Appendix 1 of this document. The following information should be recorded:
  - a) Date
  - b) Waste Type
  - c) Lowest Temperature & highest temperature (°C)
  - d) Type of temperature recording (Probe or Thermographic)
  - e) Any relevant comments regarding the waste type (e.g. physical condition, steam etc)
- 3.3.5 The completed temperature monitoring form should be returned to the site office for filing. Files must be retained for a minimum of 3 years.

## 3.4 Record keeping

- 3.4.1 The following forms will be completed for each delivery where waste is accepted at the site and will be used to detail how long waste has been on site. This will ensure significant residence times of wastes are avoided:
  - a) The date and time of delivery.
  - b) The name and address of the waste producer.
  - c) The detailed and accurate description of the waste including type, quantity (in tonnes and/or cubic metres) and EWC codes.
  - d) How the waste is contained e.g. loose, container type.
  - e) The carrier's name and address.
  - f) Driver's name, signature and vehicle registration No.

- g) Signature or initials of person(s) producing/ accepting/ inspecting/ carrying the waste.
- h) Additional handling details/notes made by the driver after inspection of the load.
- i) SIC code of the premises which produced the waste (where relevant).
- j) Waste hierarchy declaration.
- k) Information on previous treatment of the waste e.g. manual or mechanical.

3.4.2 Unprocessed and processed waste will be stored in stockpiles and separated according to how long the waste has been on site. The range of time for each stockpile will depend on how much material has been brought on site but, for example, it can be estimated that material brought on site in a one-week period will be stored together. This, combined with the details in Section 3.4.1, will allow a reliable estimate of how long wastes in stockpiles have been on site. This information will be used to ensure residence time of material does not exceed the maximum duration of storage for each material, listed in the table 3 below.

**Table 4: Storage times and quantities on site**

Waste Type	Max Duration of Storage	Max Quantity Stored
Pre-processed biosolids	2 weeks	1000t and 9 x 1000t in storage bays
Treated biosolids	12 months	13 x 1000t in storage bays (indoor and outdoor)
Solid combustible waste	6 months	9 x 750m <sup>3</sup> in storage bays
Composted material	Dependent on maturation time	9 x 750m <sup>3</sup> in storage bays
Non-combustible solid wastes	12 months	9 x 1000t in storage bays
Combustible liquid wastes	6 months	3 x 4500m <sup>3</sup> in storage tanks
Non-combustible liquid wastes	12 months	3 x 4500m <sup>3</sup> in storage tanks

## 4 Mitigation

### 4.1 Fire Prevention

4.1.1 The following prevention measures will be implemented on site to reduce the likelihood of fires. The measures required will be discussed in relation to their associated ignition sources as discussed in section 2.3.

## 4.2 Naked flames/smoking materials

4.2.1 No naked flames or substantial heat sources are to be near potentially combustible materials.

4.2.2 Smoking is prohibited on site.

## 4.3 Burning of waste on site

4.3.1 No waste will be burnt on site

4.3.2 Extensive training will be provided to all site staff and contractors.

4.3.3 Employment contracts recognise the severity of any instances of unauthorised burning of waste and would lead to immediate dismissal and threat of prosecution through civil/criminal courts depending on the circumstances.

4.3.4 Firefighting equipment will be kept close to the areas of waste storage and all vehicles will be fitted with fire extinguishers

## 4.4 Overheating of stored waste

4.4.1 EA guidance limits piles of wastes to 4m in height and 20m in width/length, and maximum pile sizes vary depending on waste type. EA guidance will be followed where applicable for listed wastes.

4.4.2 To minimise any risk of spontaneous combustion, all combustible materials, will be stored in accordance with Table 4 above.

4.4.3 Prior to processing all waste material will be kept in its largest form, to reduce susceptibility to combustion. Furthermore, stockpiles of the waste will be preferentially worked on a first in first out basis. Stored wastes will be periodically agitated to prevent the occurrence of "hot spots".

4.4.4 A clear recording method will be in place to document how long material has been on site.

4.4.5 Wastes that are prone to self-heating will have further measures in place to ensure they do not overheat on site. In the event of the stockpiles overheating the material will be turned to release heat. These materials will be subject to more frequent monitoring and in the event of overheating, stockpiles will be reduced in size until stable.

4.4.6 If a hot spot is identified in stored or imported waste and turning of the material is not deemed sufficient, the hot spot will be dug out of the stockpile and deposited in a designated emergency quarantine area. As it would be high risk, this area would have increased separation distances and be closely monitored until the risk of combustion had ceased.

4.4.7 Although unlikely due to the types of material stored on site and the strict waste acceptance and verification procedures, consideration will be given to the location of certain stockpiles to ensure no reactions take place between incompatible materials.

4.4.8 Any wastes identified during the incoming waste inspections which are likely to be either particularly combustible or reactive will be removed and quarantined immediately to await safe removal from site and the EA contacted (where necessary) if the non-conforming waste discovered is likely to lead to a breach of permit conditions.

#### 4.5 Arson or vandalism

- 4.5.1 The entire site will be contained within a steel palisade fence and locked gates of the same height and construction. The fence will be inspected on a daily basis by the site manager. Any damage is reported to the in-house engineering team and repaired.
- 4.5.2 The site will be manned during working hours and a security firm contracted to provide either remote or on site cover out of hours.
- 4.5.3 The site is closed to public access unless by prior arrangement. These measures will prevent access to the site by unauthorised visitors.

#### 4.6 Electrical faults or damaged/exposed electrical cables

- 4.6.1 All electrical cables on site will be installed by a certified electrical engineer and electrical installation certificates issued.
- 4.6.2 Cables and fixed wiring and portable appliance testing will be undertaken as defined by regulations. They will be inspected and periodically maintained by qualified personnel to ensure they are not damaged or exposed.

#### 4.7 Leakage/spillage of oils/fuels

- 4.7.1 Any fuel tanks on site will be stored within the main operations facility.
- 4.7.2 Any fuel tanks which are stored on site will be surrounded by a bund capable of containing a minimum of 110% of the volume of fuel stored in the tank.
- 4.7.3 All pipework and associated infrastructure will be enclosed within the bund.
- 4.7.4 A lock will be fitted to the tank valve to prevent unauthorised operation.
- 4.7.5 All valves and gauges on the bund will be constructed to prevent damage caused by frost.
- 4.7.6 The tank will be clearly marked showing the product within and its capacity.
- 4.7.7 Any spillages of fuel from vehicles or machinery will be cleared immediately by depositing sand or absorbents on the affected area.

#### 4.8 Overheating from plant machinery

- 4.8.1 Plant and equipment will be subjected to separate manufacturer-specific and operator-specific preventative maintenance programmes which include regular inspections by the Technically Competent Manager or suitably qualified person(s).
- 4.8.2 Machinery used for long continuous periods will be given sufficient 'cool-down' time if signs of overheating are visible.
- 4.8.3 Where practical, machinery will be fitted with fire extinguishers and firefighting equipment will be available in the main operations facility.
- 4.8.4 Machinery will be stored away from any waste and/or combustible materials when not in use.
- 4.8.5 Machinery will be subject to regular cleaning regimes to minimise build-up of combustible materials

## 4.9 Hot works

- 4.9.1 Any maintenance requiring 'hot works' (i.e. welding or cutting) will take place within a designated workshop area, separate from any waste. If this is not possible (due to plant issue located in the same vicinity), fire retardant blankets/screens will be put down to contain sparks.
- 4.9.2 The site manager will issue a 'permit to work' for any hot works. The permit will assess risks, list controls *etc.* The permit will be issued by the site manager and also closed off by the site manager to confirm work activity has been completed and that the area/equipment has been left safe.
- 4.9.3 There will be a 'permit to work' book to keep permits logged.
- 4.9.4 Any hot works will be conducted by suitably qualified personnel following safe work practices.
- 4.9.5 Fire extinguishers will be situated and available in all areas where hot works take place.
- 4.9.6 A 'fire watch' (visual checks) will be carried out after hot works have ended especially at the end of the day.

## 4.10 Hot exhausts

- 4.10.1 Refer to section 4.8 regarding maintenance and storage of machinery.
- 4.10.2 A fire watch will take place frequently during the working day to detect signs of a fire caused by dust settling on hot exhausts and engine parts.
- 4.10.3 Fire watches will also take place at the end of the day.

## 4.11 Build-up of loose combustible wastes, dust and fluff

- 4.11.1 The site will be inspected and subject to a cleaning schedule to prevent build-up of loose wastes, dusts and fluff.

## 4.12 Reactions between wastes

- 4.12.1 Although unlikely due to the types of material stored on site and the strict waste acceptance and verification procedures, consideration will be given to the location of certain stockpiles to ensure no reactions take place between incompatible materials.
- 4.12.2 Different wastes will be stored in separate bays to prevent reactions occurring.
- 4.12.3 There will be a quarantine area/bay for hot loads or particularly reactive or combustible wastes.

## 5 Fire Containment Measures

In the unlikely event that a fire was to break out on site, the site has a number of measures in place, in addition to a number of existing characteristics of the site, which would limit the size, duration and impact of a fire on site. These are listed below:



## 5.1 Fire Breaks

- 5.1.1 A separation distance of 6m will be enforced within the operations facility for stockpiles and any pressurised cylinders, to create significant distance between combustible materials and limit the spread of fire.
- 5.1.2 Waste stored in bays will be monitored as described in section 3 and rotated with a first in first out policy.
- 5.1.3 All storage bays will be walled with prestressed concrete panels up to 4m high. This style of panels is interlocking, limiting any possibility of fire pathway between walls, and they have a fire resistance of up to 4 hours.
- 5.1.4 In addition, site operatives will be trained to create fire breaks on site upon the discovery of a fire, under the guidance of the emergency services.

## 5.2 Controlled burn

- 5.2.1 In the event of a significant fire on site, it may be beneficial to initiate a controlled burn to mitigate against potential impacts of fire spreading.
- 5.2.2 It must be stressed that this is not the safest method of tackling fire, as this technique has inherent risk associated with it and, if not conducted properly, could actually accelerate a fire on site.
- 5.2.3 If it is deemed absolutely necessary that a controlled fire is initiated on site, it will be conducted under the control and direction of the fire and rescue service (FRS), who have significantly more training with regard to fire management and equipment available to them than site operatives.
- 5.2.4 In the majority of situations, separation distances will provide sufficient isolation of a fire prior to the FRS arriving and assessing the situation. If it is deemed that further isolation is required, operatives will be instructed to move flammable materials away from the fire and instructed to place inflammable material in the path of the fire, to impede the spread of fire across the site.

## 5.3 Storage on flat ground

- 5.3.1 The land to which the site relates is flat, therefore reducing the risk of falling materials accelerating the spread of fire.

#### 5.4 Quarantine areas

- 5.4.1 Any of the storage bays, both indoor or outdoor, may be used as a quarantine area for particularly combustible wastes.
- 5.4.2 In the event of a fire, if safe to do so, burning wastes will be placed in a quarantine area to be tackled and extinguished.
- 5.4.3 However, it may be more practical to move nearby unburnt wastes to this area to be isolated and prevent them catching fire.
- 5.4.4 Quarantine bays will be flexible for operational reasons. At least one bay will be kept empty always as a quarantine area. In exceptional circumstances where all bays have material in them (for temporary storage), a bay will be cleared immediately using the plant on site.

#### 5.5 Fire suppression system

- 5.5.1 In line with EA guidance, a fire suppression system must be installed as waste will be stored inside the main operations facility. Before commissioning, 4R will employ the services of a fire prevention company to assess our facility/process to recommend the required level of suppression system for the wastes and activities proposed at The Old Peat Works.

#### 5.6 Adequate supply of water

- 5.6.1 There is no running water on site. There is an approximately 700m<sup>3</sup> clean water pond on site which is over 1m deep and more in places. This gives an approximate volume of at least 700,000 litres of water available to fight fires.
- 5.6.2 The EA guidance estimated water supply required is at least 2,000 litres per minute for a minimum of 3 hours. The pond holds almost twice that; therefore, it is deemed that there is sufficient water available for the FRS if they have to tackle any fire.
- 5.6.3 The pond can be excavated further to hold more water once the site is operational.
- 5.6.4 Any dirty water and fire water could be recirculated from the dirty water tank as described in section 5.7 below as another supply of water if needed.

## 5.7 Containment of firewater

- 5.7.1 The site is surfaced with a mixture of concrete and impermeable hardstanding. Two sleeping policemen at either end of the outdoor dirty water area capture all leachate and run off, which is drained into a 10x10x2m dirty water tank.
- 5.7.2 In the event of a fire, any spare capacity allows for fire water to also be directed to the tank thus minimising environmental damages from the waters used to extinguish any fires and in almost all circumstances allow for recirculation of fire water.
- 5.7.3 The aforementioned drainage characteristics of the site mean that any firewater which is created on site can be collected and stored safely on site. If in the unlikely event the tank is full, and no more firewater can be stored, the water will be immediately tankered away for permitted disposal to a foul sewer or for specialised treatment. If additional storage is required, local contractors are known to the operator and are available at short notice to provide additional storage and remove contaminated water from the site.
- 5.7.4 These measures will ensure that there is more than sufficient storage on site for any contaminated water and under no circumstances will firewater be released into surrounding waterways, non-designated drains or any other system which might lead to contamination of water or land.

## 6 Fire Detection and Handling Procedures

### 6.1 Staff training

- 6.1.1 All staff will receive 'fire marshal' training.
- 6.1.2 Staff will be suitably trained in how to raise the alarm, including supervisory contacts and guidance on how to use the extinguishing equipment should the fire be small enough to tackle.
- 6.1.3 A full understanding of the site's EMS and the procedures outlined in this FPRP document will be required to be demonstrated as part of the site induction for all new staff.
- 6.1.4 Ongoing training will also be provided to ensure site staff are informed of any changes to any of the site management documentation subject to regular review.

### 6.2 Infrastructure

- 6.2.1 The following measures are in place to ensure that fires are detected and tackled quickly on site:
  - a) Manual fire alarm systems – will be activated on discovery of a fire.
  - b) Indoor areas will be fitted with emergency lighting in case of electrical failure due to a fire. Emergency lighting will assist evacuation by staff and entry by FRS.
  - c) Regular manual checks – the site operator will perform visual checks for fire or situations likely to increase the risk of fire.
  - d) Fire Extinguishers – firefighting equipment will be provided on site and appropriate and regular training will be given for their use in tackling small fires. All vehicles on

site used for the processing and moving of material will be fitted with fire extinguishers.

- e) Visible worded signs – will be placed strategically around the site, giving full and clear instructions for fire alarm and means of escape (registration point, 999 instructions).
- f) Fire Safety Equipment – suitable breathing apparatus will be supplied in the event that the fire can be tackled by appropriately trained workers. Operatives will only attempt to extinguish small fires and will be trained in the use of the equipment.
- g) Water supply – the pond provides a constant water supply for the site in the unlikely event that a fire was to occur and that fire was extinguishable using water. If a fire does occur, and the site operatives are unsure of the nature of the fire, guidance will be taken from the local fire service.
- h) Dirty water tank – on site tank from which water can be extracted and which have sufficient capacity to hold any resulting fire water.
- i) An emergency pack containing the FPP, Fire Emergency Site Plan, notepad, pens, and COSHH/MSDS for the chemicals on site will be kept at each entrance to the site ready for the emergency services when they arrive.

### 6.3 Access for emergency services

6.3.1 The site has two entrances at either end. The main site entrance is adequate for large lorries and is therefore adequate and quick access for the emergency services.

6.3.2 The secondary entrance is also large enough for lorries and more suitable for smaller vehicles such as ambulances and police vehicles.

6.3.3 The site is in a sparsely populated area, so it is unlikely that any traffic will be present, but the operator will ensure the road up to the site is kept clear for emergency vehicles.

### 6.4 Contingency Plan

6.4.1 In the event of a fire on site the acceptance of any further wastes will be suspended.

## 6.5 Fire detection procedure

6.5.1 If a fire is detected or suspected it must be immediately reported to the site manager or Technically Competent Manager. The site manager will then conduct the following procedure:

- a) Raise the alarm (if not already done by another staff member), initiate evacuation of staff and visitors on site to a fire assembly point and instruct delegated person(s) to conduct a roll-call to ensure all site users are accounted for.
- b) Assess the intensity and scale of the fire and make a judgment as to whether the fire can be managed without the requirement for assistance from the emergency services.
- c) If viable and safe, instruct necessary site staff to commence extinguishment. If successfully extinguished, follow procedure in Section 7.
- d) If not viable or safe, call the Fire Response Service (FRS) immediately using 999.
- e) Prior to the FRS arriving, inform all neighbouring premises likely to be affected.
- f) Ensure access routes are clear.
- g) Ensure operators of appropriate machinery are standing by in a safe location to help create fire breaks, under the direction of the FRS when they arrive.
- h) The site manager/TCM will identify themselves to the fire service as soon as they arrive on site and will provide them with a copy of this document and update them with relevant information that will assist them in dealing with a fire more effectively.
- i) Implement pollution control measures only when safe to do so.

## 6.6 Staff/visitor procedure

6.6.1 The following actions will be undertaken by site operatives when a fire is detected or suspected on site:

- a) Do not panic.
- b) Inform the site manager/TCM immediately.
- c) Raise the alarm (if not done so already).
- d) Do not try to tackle the fire yourself unless you are trained in doing so and you are sure of the nature of the fire.
- e) Leave the site using the nearest exit as quickly and as orderly as possible.
- f) Assemble at the specified fire assembly point.
- g) The site manager or delegated operative will be in charge of calling the emergency services on '999'.
- h) Ensure that all persons who were working on site or visiting the sites are assembled safely.
- i) Do not return to site until you have been given the 'all clear' by the emergency services and/or the site manager.

## 7 Post-Fire Site Recovery

### 7.1 General recovery procedure

7.1.1 When the fire has been successfully dealt with the following actions will take place:

- a) Any fires will be reported to the Environment Agency on the working day that they occur and will be confirmed in writing by fax or letter within 3 working days, including all steps taken by site staff, management and/or emergency services to deal with the fire.
- b) Removal of burnt material using appropriate and lawful disposal.
- c) Root Cause Analysis into the cause of the fire, to ensure it does not re-occur.
- d) A review of the accident plan, FPRP and EMS, associated amendments will be implemented.
- e) Review of any training requirements for site personnel.
- f) All fire extinguishers used to tackle the fire will be serviced and/or replaced after use.

7.1.2 In addition to the above-mentioned procedures, the section below outlines specific procedures following a fire.

### 7.2 Fire debris

7.2.1 Fire debris should continue to be turned using the onsite plant and dowsed as necessary. Debris should be turned and dowsed until site management confirm that the embers are cooled and there is no chance of a flare up.

7.2.2 Fire water will be disposed of to a foul sewer or taken for specialised treatment.

7.2.3 Debris can then be cleared and isolated to a series of storage piles for onward temperature monitoring until they have cooled to an acceptable level for landfill disposal (<40 degrees C). Once cooled to an acceptable temperature, as described above, bulk haulage should be arranged for the removal of the ash from the site.

## Temperature Monitoring Sheet

### Summary of Requirement

- A requirement exists to ensure that temperatures of waste piles both processed and unprocessed, at the 4R Swinefleet Former Peat Works facility are monitored and recorded daily.
- Decomposition of various waste piles can generate sufficient heat that the material may combust. This monitoring sheet is to be used for manually recording these temperatures.

### Instructions

- Two temperatures should be taken from each waste pile using either the metre temperature probe or the hand-held thermographic unit.
- Both temperatures should be recorded in the table below, identifying the time, waste type and monitoring method (probe or thermographic).

Time	Bay no.	Waste Type	Low temp (°C)	High temp (°C)	Probe or Thermo	Comment
	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					

**Any recorded temperature above 50°C should be reported immediately to a senior member of the management team.**

**Date:**

**Name:**

**Signed:**