

# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2016**

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Renewi UK Services Limited

Frog Island Waste Management Facility  
Creek Way  
Rainham  
Essex  
RM13 8EN

**Variation application number**

EPR/ZP3533BS/V011

**Permit number**

EPR/ZP3533BS

# Frog Island Waste Management Facility

## Permit number EPR/ZP3533BS

### Introductory note

#### **This introductory note does not form a part of the notice**

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

#### **Changes introduced by this variation notice/statutory review**

The Industrial Emissions Directive (IED) came into force on 7 January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) Conclusions as described in the Commission Implementing Decision. Article 21(3) of the IED requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions. The BAT Conclusions for Waste Treatment (the BREF) was published on 17 August 2018 following a European Union wide review of BAT, implementing decision (EU) 2018/1147 of 10 August 2018.

The scope of the permit review also covers the assessment of:

- the bioaerosols monitoring and compliance with M9 bioaerosols monitoring requirements;
- the design and construction of secondary containment and storage lagoons;
- the available storage facilities and measures to reduce ammonia emissions from storage; and
- information on existing medium combustion plant and/or specified generators on site.

This variation has been issued to update some of the conditions following a statutory review of the permits in the industry sector for biowaste treatment. The opportunity has also been taken to consolidate the original permit and subsequent variations.

#### **Brief Description of the process**

The installation is known as Frog Island Lane Waste Management Facility and initially comprised of a Mechanical Biological Treatment (MBT) process and a Reuse and Recycling Centre (RRC) Materials Recovery Facility (MRF) to sort mixed waste originating from various Reuse and Recycling Centres (RRC's) operated by Renewi UK Services Limited as part of the contract with the East London Waste Authority (ELWA). The operation of the site has changed significantly over time and as a result of greater waste segregation at the RRC the MRF was decommissioned with the building used for RDF storage instead including the installation of a bailing plant and operation, to prepare RDF for export to mainland Europe for recovery under R1.

The site is regulated under the following activities:

S5.4A(1)(b)(i) - Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities: biological treatment;

S5.4A(1)(b)(ii) - Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities: pre-treatment of waste for incineration or co-incineration.

The site accepts and treats unsorted household and commercial waste within a Mechanical Biological Treatment (MBT) system with a capacity of up to 192,000 tonnes per annum referred to as the Bio-MRF. This first bio-dries waste which is then passed into a mechanical sorting system to produce a number of

recyclable and recoverable outputs that predominantly comprise of Solid Recovered Fuels (SRF) and Refuse Derived Fuels (RDF). The entire process is housed within a purpose-designed building with the aim of operating under negative air pressure. This gives a high degree of climate control within the building thus preventing the uncontrolled escape of dust, moisture, and odours. All air extracted from the building passes through a series of bio-filters on the roof before being discharged to the atmosphere.

The site's RRC-MRF has a throughput of 160,000 tonnes per annum and is a Materials Recovery Facility (MRF) where co-mingled collected recyclables from the local waste authority are stored prior to transport to reprocessors.

The permit was varied on 2 April 2015 to reflect the regulation of the activities being undertaken on site including the use of a shredder and baler-wrapper for the preparation of RDF for onwards transportation, as well as consolidating the requested changes, within the Environmental Permit. The variation included a new scheduled activity, waste operations, directly associated activities, revision of waste throughput and storage capacities and the addition of new waste codes. The updated permit also took account of the change in operations since the time of the operator's initial application.

The permit was varied on 29 June 2018 to increase the permitted area to allow for the storage of Refuse Derived Fuel (RDF) bales outside in concrete bunkers on a temporary basis (no more than 72 hours). It also allowed for the installation of a Post-Refinement-Plant in place of the currently installed shredder – the proposal to take place under the already permitted "Pre-treatment of waste for incineration or co-Incineration activity". It also changed the name of the operator from Shanks Waste Management Limited to Renewi UK Services Limited.

This permit also includes Standard Rule 2008No24\_75kte – clinical waste and healthcare waste transfer station. This Standard Rule permits waste limited to non-hazardous and hazardous clinical and healthcare waste. The total quantity of waste that can be accepted at this site must be less than 75,000 tonnes a year.

All conditions of the Standard Rule are conditions of this permit. The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application (BT9372) received	Duly made 07/02/2003	Application for recycling centre and materials recovery facility.
Section 28 Notice served	23/05/2003	
Response to Section 28 Notice received	02/07/2003	
Further information received	23/09/2003	
Further information received	26/09/2003	
Further information received	22/10/2003	
Permit BT9372 granted	08/12/2003	
Permit ZP3533BS transferred	28/04/2004	Permit transferred from Shanks Waste Services Limited to Shanks Waste Management Limited
Application EPR/BT9372IY/V003	Duly made 27/04/2009	
Minor technical variation EPR/BT9372IY issued	10/03/2010	
Administrative variation EPR/ZP3533BS issued	16/06/2010	Variation to correct the permit number.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Environment Agency initiated variation determined (EPR/ZP3533BS/V005)	06/03/2014	Variation to implement the changes introduced by the Industrial Emissions Directive.
Application EPR/ZP3533BS/V006 (variation and consolidation)	Duly made 05/06/2014	Application to vary and consolidate permit to modern conditions.
Schedule 5 Notice of Request for further information	Served 16/07/2014	Completed response received 24/09//2014.
Schedule 5 Notice	Served 04/08/2014	Completed response received 24/09//2014.
Schedule 5 Notice	Served 21/10/2014	Completed response received 09/03/2015.
EPR/ZP3533BS determined	02/04/2015	Varied, modernised and consolidated permit issued.
Application EPR/ZP3533BS/V010 (variation)	Duly made 21/11/2016	Application to add two waste codes to the permit.
Variation determined EPR/ZP3533BS	17/01/2017	Varied permit issued.
Application EPR/ZP3533BS/V008	Received 24/05/2017	Application to add construction waste
Application EPR/ZP3533BS/V008	Returned 30/05/2017	Did not qualify for admin variation.
Application EPR/ZP3533BS/V009 (variation and consolidation)	Duly made 17/10/2017	Application to increase permitted area, change in operating techniques and change in name.
Schedule 5 Notice	Served 22/12/2017	Completed response received on 25/04/2018.
Variation determined EPR/ZP3533BS/V009	29/06/2018	Consolidated permit issued to Renewi UK Services Limited.
Application ZP3533BS/V010 (variation and consolidation)	Duly made 20/03/2019	Application to include Standard Rule 2008No24_75kte – clinical waste and healthcare waste transfer station.
Variation determined EPR/ZP3533BS/V010	26/04/2019	Consolidated permit issued to Renewi UK Services Limited.
Regulation 61 Notice sent to Operator	21/10/2019	Regulation 61 Notice requiring information for statutory review of permit.
Regulation 61 Notice response	21/04/2020	Response received from the operator.
Application EPR/ZP3533BS/V011 (variation and consolidation)	Environment Agency Initiated Variation	Statutory review of permit occasioned by Waste Treatment BAT Conclusions published on 17 August 2018.
Environment Agency Biowaste Treatment Sector Review Permit reviewed Variation determined EPR/ZP3533BS (Billing Ref: UP3602SF)	02/11/2021	Varied and consolidated permit issued.

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates

### Permit number

EPR/ZP3533BS

### Issued to

**Renewi UK Services Limited** (“the operator”)

whose registered office is

**Dunedin House  
Auckland Park  
Milton Keynes  
Buckinghamshire  
MK1 1BU**

company registration number 02393309

to operate a regulated facility at

**Frog Island Waste Management Facility  
Creek Way  
Rainham  
Essex  
RM13 8EN**

to the extent set out in the schedules.

The notice shall take effect from 02/11/2021.

Name	Date
Louise Hann	02/11/2021

Authorised on behalf of the Environment Agency

## **Schedule 1**

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2016

### Permit number

**EPR/ZP3533BS**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/ZP3533BS/V011 authorising,

**Renewi UK Services Limited** (“the operator”),

whose registered office is

**Dunedin House  
Auckland Park  
Milton Keynes  
Buckinghamshire  
MK1 1BU**

company registration number 02393309

to operate an installation//waste operations at

**Frog Island Waste Management Facility  
Creek Way  
Rainham  
Essex  
RM13 8EN**

to the extent authorised by and subject to the conditions of this permit.

Under regulation 27(2) of the Regulations, standard rules 2008No24\_75kte are conditions of this permit.

Name	Date
Louise Hann	02/11/2021

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

### 1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
  - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

### 1.2 Energy efficiency

- 1.2.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR7) The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
  - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
  - (c) take any further appropriate measures identified by a review.

### 1.3 Efficient use of raw materials

- 1.3.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR7) The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
  - (b) maintain records of raw materials and water used in the activities;
  - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
  - (d) take any further appropriate measures identified by a review.

### 1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
  - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
  - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.



- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

## **2 Operations**

### **2.1 Permitted activities**

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 The activities shall be undertaken in accordance with best available techniques.
- 2.1.3 All process plant and equipment shall be commissioned, operated and maintained and shall be fully documented and recorded in accordance with the manufacturer’s recommendations.
- 2.1.4 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR7), waste authorised by this permit shall be clearly distinguished from any other waste on the site.

### **2.2 The site**

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

### **2.3 Operating techniques**

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2 and S2.3; and
  - (b) it conforms to the description in the documentation supplied by the producer and holder.
  - (c) the facility has sufficient free capacity to store and treat the waste.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
  - (b) the composition of the waste;
  - (c) the handling requirements of the waste;
  - (d) the hazardous property associated with the waste, if applicable; and
  - (e) the waste code of the waste.
- 2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

- 2.3.7 Waste pre-acceptance and acceptance procedures shall be undertaken in accordance with best available techniques.

## **2.4 Waste battery and accumulator treatment**

- 2.4.1 Treatment of waste batteries and accumulators must meet the minimum requirements set out in Annex III, Part A of Directive 2006/66/EC of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC.

## **2.5 Improvement programme**

- 2.5.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.5.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

## **3 Emissions and monitoring**

### **3.1 Emissions to water, air or land**

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

### **3.2 Emissions of substances not controlled by emission limits**

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
  - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

### **3.3 Odour**

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used

appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

### **3.4 Noise and vibration**

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
  - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

### **3.5 Monitoring**

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2;
  - (b) process monitoring specified in table S3.3;
  - (c) bioaerosols monitoring specified in table S3.4.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2 unless otherwise agreed in writing by the Environment Agency.

### **3.6 Bioaerosols**

- 3.6.1 The operator shall take all appropriate measures, to prevent or where that is not practicable to minimise the release of bioaerosols. Emissions of bioaerosols from the operational activities should not exceed the emission action levels specified in table S3.4.
- 3.6.2 The operator shall where the emission action levels are exceeded:
- (a) notify the Environment Agency and investigate and take remedial action;
  - (b) submit to the Environment Agency for approval within the period specified, a bioaerosols management plan which identifies and minimises the risks of pollution from bioaerosols; and
  - (c) implement the bioaerosols management plan from the date of approval and revise the plan periodically, unless otherwise agreed in writing by the Environment Agency.

## **3.7 Pests**

- 3.7.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.7.2 The operator shall:
- (a) only use approved products for pest control;
  - (b) treat pest infestations promptly;
  - (c) reject pest-infected incoming waste;
  - (d) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
  - (e) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

## **3.8 Fire prevention**

- 3.8.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.
- 3.8.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
  - (b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

# **4 Information**

## **4.1 Records**

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
  - (b) be made as soon as reasonably practicable;
  - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
  - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
    - (i) off-site environmental effects; and
    - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

## 4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR7), a report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
  - (b) the annual production/treatment data set out in schedule 4 table S4.2; and
  - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
  - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
  - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.
- 4.2.6 The operator shall submit to the Environment Agency a bi-annual report of the efficiency of the biofilter in the first year of operations. This shall include but not be limited to, the assessment of the efficiency to reduce odours, the summary of maintenance and any re-commissioning planned or conducted, assessment of back pressure, venting and cracking. Thereafter the operator shall submit the report within one month of the end of each year, unless otherwise agreed in writing by the Environment Agency.
- 4.2.7 The operator shall keep records of non-waste materials leaving the site, including the type of material, the batch number, the date of export off-site and the tonnage exported on that date. These records shall be maintained for at least 2 years.

## 4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
    - (i) inform the Environment Agency,
    - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
    - (iii) take the measures necessary to prevent further possible incidents or accidents;

- (b) of a breach of any permit condition the operator must immediately—
    - (i) inform the Environment Agency, and
    - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Following the detection of an issue listed in condition 4.3.1, the operator shall review and revise the management system and implement any changes as necessary to minimise the risk of reoccurrence of the issue.
- 4.3.4 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.5 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
  - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
  - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (a) the death of any of the named operators (where the operator consists of more than one named individual);
  - (b) any change in the operator's name(s) or address(es); and
  - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.6 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
  - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.7 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

## 4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

# Schedule 1 – Operations

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
AR1	S5.4 A(1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving biological treatment.	R3: Recycling/reclamation of organic substances which are not used as solvents  D8: Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12.	From receipt of waste to despatch for other on-site operations (bio-drying) and recovery of by-products.  Biological treatment of waste consisting of aerobic composting, anaerobic digestion and/or bio-drying for the purpose of recovery.  Treatment of waste in closed buildings/vessels fitted with appropriate odour abatement.  Waste types suitable for acceptance are limited to those specified in Table S2.2.
AR2	S5.4A(1)(b)(ii) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving pre-treatment of waste for incineration or co-incineration	R3: Recycling/reclamation of organic substances which are not used as solvents	Limited to separating of high calorific waste streams limited to the waste codes within table S2.3.  No more than 1,200 tonnes of waste shall be stored within the RRC-MRF building at any one time.
<b>Directly Associated Activity</b>			
AR3	Storage of waste pending recovery or disposal	R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)  D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where the waste is produced)	From the receipt of permitted waste to pre-treatment and despatch to other on-site operations (bio-drying).  Storage of residual wastes from pre-treatment to despatch off-site for recovery.  Storage of waste pending despatch off-site for disposal.



<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
			<p>Storage of waste associated with activity AR1 to be in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system.</p> <p>Storage of waste associated with activity AR2 to be in an enclosed building and on an impermeable surface with a sealed drainage system.</p> <p>RDF bales that are stored outside must meet the following requirements:</p> <ul style="list-style-type: none"> <li>• wrapped in multiple plastic sheeting to render them impermeable to rainfall</li> <li>• not to be stored for longer than 72 hours</li> </ul> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2 and S2.3.</p>
AR4	Physical treatment for the purpose of recycling	<p>R3: Recycling/reclamation of organic substances which are not used as solvents</p> <p>R4: Recycling/reclamation of metals and metal compounds</p> <p>R5: Recycling/reclamation of other inorganic compounds</p>	<p>From the receipt of waste to despatch for biological treatment or despatch off site for recovery.</p> <p>Pre-treatment of waste in enclosed building and on impermeable surface with a sealed drainage system including shredding, sorting, screening, compaction, baling, mixing and repacking.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2 and S2.3.</p>
AR5	Raw material storage	Storage of raw materials including lubrication oil, antifreeze, propane, ferric chloride, activated carbon, diesel.	From the receipt of raw materials to despatch for use within the facility.

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
AR6	Surface water collection and storage	Collection and storage of uncontaminated roof and site surface water in storage tank(s).	From the collection of uncontaminated roof and site surface water from non-operational areas only to re-use within the facility or discharge off-site.
AR7	Air treatment	Collection and treatment of air from the buildings or plant using abatement system – [3 x open bed biofilters and fabric filters] prior to release to atmosphere.	From the collection of air from site processes to treatment and release of treated air to atmosphere.
<b>Activity reference</b>	<b>Description of activities for waste operations</b>		<b>Limits of activities</b>
A8	<p><b>RRC-MRF: Treatment of non-hazardous waste for the purpose of recovery or disposal</b></p> <p>R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R3: Recycling/reclamation of organic substances which are not used as solvents</p> <p>R4: Recycling/reclamation of metals and metal compounds</p> <p>R5: Recycling/reclamation of other inorganic compounds</p> <p><b>D15:</b> Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced).</p>		<p>Transfer operations shall be limited to:</p> <p>Transfer consisting of manual sorting, manual separation, use of trommels and screening of waste into different components, repackaging and bailing of some wastes for disposal or recovery.</p> <p>No more than 2,500 tonnes of waste shall be stored within the RRC-MRF building at any one time.</p> <p>All activities shall be undertaken within a building with an impermeable surface and sealed drainage system.</p> <p>Limited to the waste codes within table S2.3.</p>
A9	<p><b>Treatment of non-hazardous gully detritus for the purpose of recovery</b></p> <p>R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p>R3: Recycling/reclamation of organic substances which are not used as solvents</p> <p>R5: Recycling/reclamation of other inorganic compounds</p>		<p>Treatment activity shall only comprise of dewatering.</p> <p>No more than 50 tonnes of waste shall be stored within the gully detritus bay at any one time.</p> <p>Limited to the waste codes within table S2.3.</p>

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application BT9372	The response to question B2.1 of the application form given in Schedule 5 of the document Frog Island Facility/48744/CO-498/Final/6 <sup>th</sup> January 2003.	03/02/2003
Application BT9372	The response to question B2.1 of the application form given in Schedule 5 of the document Frog Island Facility/48744/CO-498/Final/6 <sup>th</sup> January 2003.	26/09/2003
Application BT9372	The response to question B2.3 given in Section 7 of the document Frog Island Facility/48744/CO-498/Final/6 <sup>th</sup> January 2003.	29/09/2003
Substantial Variation Application EPR/ZP3533BS/V006	Form EPC: Application for an environmental permit – Part C3 varying a bespoke installation permit, Question 3	05/06/2014
Substantial Variation Application EPR/ZP3533BS/V006	Supporting document; PPC Application – Frog Island Facility 48744/CO2-498/Amended 1/3/06, March 2014.	05/06/2014
Substantial Variation Application EPR/ZP3533BS/V006	Frog Island RRC MRF – FI-RRC-OP013 Operating Procedure – Small WEEE collections.	09/03/2015
Substantial Variation Application EPR/ZP3533BS/V006	Frog Island Odour Management Plan, March 2015.	09/03/2015
Substantial Variation Application EPR/ZP3533BS/V006	Schedule 5 response.	09/03/2015
Variation and consolidation application EPR/ZP3533BS/V009	Environmental Risk Assessments.	26/06/2017
	The following documents: Revised Appendix 1, specifically the sections “Changes to Operating Techniques and Waste Processing” and “Use of the Proposed Area for Baled RDF Storage and Articulate Trailers Parking” Frog Island WMF Fire Prevention Plan Issue 3: March 2018	07/03/2018
	Email detailing standard of bunkers and surface water drainage arrangements.	25/04/2018
Variation to include Standard Rule EPR/ZP3533BS/V010	Variation to add Standard Rule 2008No24_75kte – clinical waste and healthcare waste transfer station to the permit.	24/01/2019
Response to Regulation 61 Notice dated 21/10/2019	<ul style="list-style-type: none"> <li>Annex 1 Returns Spreadsheet</li> <li>Regulation 61 Notice – Frog Island – Appendix 2</li> <li>Compliance and operating techniques identified in response to BAT Conclusions 1 to 8, 10 to 24 and 33 to 39 in the Waste Treatment BREF published on 17 August 2018.</li> </ul>	21/04/2020

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
<b>Improvement condition for progress report to achieve BAT-AELs</b>		
IC1	<p>The operator shall provide a report assessing the performance and short term variations in emission concentrations from the Biofilters and Baghouse Filters as part of the commissioning phase of the Frog Island Waste Management Facility. The date and duration of the commissioning phase is to be agreed in writing with the Environment Agency before waste is received at the facility.</p> <p>Following the completion of the commissioning phase the operator shall submit confirmation of the BAT calculation to the Environment Agency.</p>	Completed
IC2	<p>For a period of 12 months from the end of the commissioning phase, emissions to sewer shall be monitored monthly for the parameters listed in Table 23 of Section 16.2 of the document entitled Frog Island Facility 48744/CO2- 498/6<sup>th</sup> January 2003. In addition the discharge flow rate shall be monitored at the same time using a flow proportional sampler to create a 24 hour composite sample.</p> <p>Within one month of the end of this period a report shall be submitted to the Environment Agency documenting the values recorded for each month to establish that BAT is being achieved for the facility.</p>	Completed
IC3	<p>The operator shall submit, for approval by the Environment Agency, a report setting out progress to achieving the Best Available Techniques Conclusion Associated Emission Levels (BAT-AELs) where BAT is currently not achieved, but will be achieved before 17 August 2022. The report shall include, but not be limited to, the following:</p> <p>Current performance against the BAT-AELs. Methodology for reaching the BAT-AELs. Associated targets /timelines for reaching compliance by 17 August 2022. Any alterations to the initial plan (in progress reports).</p> <p>The report shall address the BAT Conclusions for Waste Treatment with respect to the following:</p> <p><b>BAT 20 Table 6.1</b> (compliance with BAT-AELs for direct discharges to a receiving water body) <b>BAT 34 Table 6.7</b> (compliance with BAT-AELs for channelled NH<sub>3</sub>, odour, dust and TVOC emissions to air from the biological treatment of waste)</p> <p>Refer to BAT Conclusions for a full description of the BAT requirement.</p>	<p>Progress reports at three monthly intervals from date of permit issue:</p> <p>02/02/2022 02/05/2022 02/08/2022</p>
<b>Improvement condition for progress report to achieve Narrative BAT</b>		
IC4	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved, but will be achieved before 17 August 2022. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> <li>1) Methodology for achieving BAT</li> <li>2) Associated targets /timelines for reaching compliance by 17 August 2022</li> <li>3) Any alterations to the initial plan (in progress reports).</li> </ol> <p>The report shall address the BAT Conclusions for Waste Treatment with respect to BAT 1, 2, 3, 6, 7, 19, 20, 23, 35 and 36.</p>	<p>Progress reports at three monthly intervals from date of permit issue:</p> <p>02/02/2022 02/05/2022 02/08/2022</p>

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
<b>Improvement condition for primary containment</b>		
IC5	<p>The operator shall submit a written 'primary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a qualified engineer, and shall assess the extent design specification and condition of primary containment systems where polluting liquids and solids are being stored, treated, and/or handled.</p> <p>The plan shall include:</p> <ul style="list-style-type: none"> <li>• an assessment of the physical condition of all primary containment systems (storage and treatment vessels) using a Written Scheme of Examination and their suitability for providing primary containment when subjected to the dynamic and static loads caused by catastrophic tank failure;</li> <li>• a program of works with timescales for the implementation of individual improvement measures necessary to demonstrate that the primary containment is fit for purpose or alternative appropriate measures to ensure all polluting materials will be contained on site; and</li> <li>• a preventative maintenance and inspection regime</li> </ul> <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	17/08/2022 or other date as agreed in writing with the Environment Agency
<b>Improvement condition for secondary containment design</b>		
IC6	<p>The operator shall submit a written 'secondary and tertiary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a competent structural engineer, in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance, of the condition and extent of secondary and tertiary containment systems where all polluting liquids and solids are being stored, treated, and/or handled.</p> <p>The inspection shall consider, but not be limited to, the storage vessels, bunds, loading and unloading areas, transfer pipework/pumps, temporary storage areas, and liners underlying the site.</p> <p>The plan shall include:</p> <ul style="list-style-type: none"> <li>• an assessment of the physical condition of all secondary and/or tertiary containment systems, using a Written Scheme of Examination and their suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure;</li> <li>• a program of works with timescales for the implementation of individual improvement measures necessary for the secondary and/or tertiary containment systems to comply with CIRIA C736 (2014) guidance, or equivalent.</li> <li>• a preventative maintenance and inspection regime</li> </ul> <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	17/08/2022 or other date as agreed in writing with the Environment Agency

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
<b>Improvement condition for site risk assessment to prevent soil &amp; groundwater pollution</b>		
IC7	The operator shall submit to the Environment Agency for approval a risk assessment considering the possibility of soil and groundwater contamination at the installation where the activity involves the use, production or release of a relevant hazardous substance (as defined in Article 3(18) of the Industrial Emissions Directive). The risk assessment shall clearly establish with appropriate evidence whether or not there is a risk of contamination of soil and groundwater and should follow the Defra Guidance – Industrial Emissions Directive EPR Guidance on Part A Installations (Section 5.10-5.15, pages 28-29 - Baseline Reports and Permit Surrender).	17/08/2022 or other date as agreed in writing with the Environment Agency
IC8	Where the risk assessment carried out under IC4 above establishes a risk to soil and groundwater, the operator shall: <ul style="list-style-type: none"> <li>a) prepare and submit a baseline report compliant with Article 22 of the Industrial Emissions Directive (IED) containing information necessary to determine the current state of soil and groundwater contamination; or</li> <li>b) provide a summary report referring to information previously submitted where the operator is satisfied that such information represents the current state of soil and groundwater contamination,</li> </ul> <p>so as to enable a quantified comparison to be made with the state of soil and groundwater contamination upon definitive cessation of activity.</p>	17/08/2022 or other date as agreed in writing with the Environment Agency
<b>Improvement condition for review of effectiveness of abatement plant</b>		
IC9	The operator shall carry out a review of the abatement plant on site, in order to determine whether the measures have been effective and adequate to prevent and where not possible minimise emissions released to air including but not limited to odour and ammonia. <p>The operator shall submit a written report to the Environment Agency following this review for assessment and approval.</p> <p>The report shall include but not limited to the following aspects:</p> <ul style="list-style-type: none"> <li>• Full investigation and characterisation of the waste gas streams.</li> <li>• Abatement stack monitoring results (not limited to odour and ammonia)</li> <li>• Abatement process monitoring results (not limited to odour and ammonia)</li> <li>• Details of air quality quantitative impact assessment including modelling and a proposal for site-specific “action levels” (not limited to odour concentration, hydrogen sulphide and ammonia).</li> <li>• Odour monitoring results at the site boundary</li> <li>• Records of odour complaints and odour related incidents</li> <li>• Recommendations for improvement including the replacement or upgrading the abatement plant</li> </ul>	17/08/2022 or other date as agreed in writing with the Environment Agency

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
	<ul style="list-style-type: none"> <li>• Timescales for implementation of improvements to the abatement plant</li> </ul> <p>The operator shall implement the improvements in line with the timescales as approved by the Environment Agency.</p>	

## Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
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Table S2.2 Permitted waste types and quantities for mechanical biological treatment	
<b>Maximum quantity</b>	<b>Annual throughput of waste at the Bio-MRF must be no more than 192,000 tonnes per annum</b>
<b>Exclusions</b>	Wastes having any of the following characteristics shall not be accepted: <ul style="list-style-type: none"> <li>• previously separated waste</li> </ul>
<b>Waste code</b>	<b>Description</b>
<b>20</b>	<b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 01	paper and cardboard
20 01 02	glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 01	biodegradable waste
20 02 02	soil and stones
<b>20 03</b>	<b>other municipal wastes</b>
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 07	bulky wastes



<b>Table S2.3 Permitted waste types and quantities</b>	
<b>Maximum quantity</b>	<b>Annual throughput of waste for pre-treatment for incineration or co-incineration must be no more than 35,000 tonnes per annum</b>  <b>Annual throughput of waste at the RRC-MRF must be no more than 160,000 tonnes per annum</b>
<b>Waste code</b>	<b>Description</b>
<b>15</b>	<b>Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 09	textile packaging
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 01</b>	<b>end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)</b>
16 01 03	end-of-life tyres
<b>17</b>	<b>Construction and demolition wastes (including excavated soil from contaminated sites)</b>
<b>17 01</b>	<b>concrete, bricks, tiles and ceramics</b>
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
<b>17 05</b>	<b>soil (including excavated soil from contaminated sites), stones and dredging spoil</b>
17 05 04	soil and stones other than those mentioned in 17 05 03
<b>17 09</b>	<b>other construction and demolition wastes</b>
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
<b>19</b>	<b>Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use</b>
<b>19 05</b>	<b>wastes from aerobic treatment of solid wastes</b>
19 05 01	non-composted fraction of municipal waste
19 05 99	Wastes from the aerobic treatment of waste not otherwise specified, specifically limited to one or more rejected fractions from the Mechanical Biological Treatment of waste that does not fit any other category.
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 01	paper and cardboard
19 12 02	ferrous metal

<b>Table S2.3 Permitted waste types and quantities</b>	
<b>Maximum quantity</b>	<b>Annual throughput of waste for pre-treatment for incineration or co-incineration must be no more than 35,000 tonnes per annum</b>  <b>Annual throughput of waste at the RRC-MRF must be no more than 160,000 tonnes per annum</b>
<b>Waste code</b>	<b>Description</b>
19 12 03	non-ferrous metal
19 12 04	plastic and rubber
19 12 05	glass
19 12 07	wood other than that mentioned in 19 12 06
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
<b>20</b>	<b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 01	paper and cardboard
20 01 02	glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 33	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries
20 01 34	batteries and accumulators other than those mentioned in 20 01 33
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
20 01 41	wastes from chimney sweeping
<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes
<b>20 03</b>	<b>other municipal wastes</b>
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 07	bulky waste
20 03 99	municipal wastes not otherwise specified

## Schedule 3 – Emissions and monitoring

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
EMPFGT 2 NGR: TQ 5095 8115 (Baghouse stack 1)	Baghouse stacks	Dust	5 mg/m <sup>3</sup>	Average over sample period	Once every 6 months	EN 13284-1
EMPFGT 3 NGR: TQ 5096 8116 (Baghouse stack 2)						
EMPFGT 4 NGR: TQ 5095 8115 (Biofilter 1)	Odour abatement stack or vent (open bed biofilters)	Hydrogen sulphide	No limit set	Average over sample period	Once every 6 months	CEN TS 13649 for sampling  NIOSH 6013 for analysis
EMPFGT 5 NGR: TQ 5096 8111 (Biofilter 2)		Ammonia	20 mg/m <sup>3</sup>	Average over sample period	Once every 6 months	EN ISO 21877
EMPFGT 6 NGR: TQ 5094 8109 (Biofilter 3)		Dust	5 mg/m <sup>3</sup>	Average over sample period	Once every 6 months	EN 13284-1
	TVOCs	40 mg/m <sup>3</sup>	Average over sample period	Once every 6 months	BS EN 12619	
	Odour concentration	No limit set	--	Once every 6 months	BS EN 13725	
Vents from tank(s)	Oil/Fuel Storage tank(s)	No parameter set	No limit set	--	--	--

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. unit)</b>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
EMPFGT. 1. Emission to River Thames	Roofs, Internal site roadways and non-waste handling areas	Oil or grease	No visible oil or grease	--	Weekly	Visual assessment

**Table S3.2 Point source emissions to water (other than sewer) and land – emission limits and monitoring requirements**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. unit)</b>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
NGR: TQ 5084 8106		Total organic carbon (TOC) [Note 1 & 2]	60 mg/l	Spot sample or flow-proportional composite sample	Once every month	BS EN 1484
		Chemical oxygen demand (COD) [Note 1 & 2]	180 mg/l	Spot sample or flow-proportional composite sample	Once every month	BS EN ISO 15705
		Total suspended solids [Note 2]	60 mg/l	Spot sample or flow-proportional composite sample	Once every month	BS EN 872
		Total nitrogen [Note 2]	25 mg/l	Spot sample or flow-proportional composite sample	Once every month	BS EN ISO 11905-1 or BS EN 12260
		Total phosphorus [Note 2]	2 mg/l	Spot sample or flow-proportional composite sample	Once every month	EN ISO 5681-1 and -2 or EN ISO 6878 or EN ISO 11885
		Arsenic [Note 2]	0.05 mg/l	Spot sample or flow-proportional composite sample	Once every month	BS EN ISO 11885 or BS EN ISO 17294-2 or BS EN ISO 15586
		Cadmium [Note 2]	0.05 mg/l			
		Chromium [Note 2]	0.15 mg/l			
		Copper [Note 2]	0.5 mg/l			
		Nickel [Note 2]	0.5 mg/l			
		Lead [Note 2]	0.1 mg/l			
		Zinc [Note 2]	1 mg/l			
Mercury [Note 2]	5 µg/l					

Note 1 – Either TOC or COD can be monitored. TOC is the preferred option, because its monitoring does not rely on the use of very toxic compounds.

Note 2 – The monitoring only applies when the substance concerned is identified as relevant in the waste water inventory.

<b>Table S3.3 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Waste reception building or area; and storage tank(s)	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.
Meteorological conditions	Wind speed, air temperature, wind direction	Continuous	Method as specified in management system	Conditions to be recorded in operational diary and records.  Equipment shall be calibrated on a 4 monthly basis, in accordance with manufacturer's recommendations or as agreed in writing by the Environment Agency.
Storage tanks	Volume	Daily	Visual or flow metre measurement	750 mm freeboard must be maintained for storage lagoons.
<b>Open biofilters</b>				
<b>Biofilters 1, 2 and 3</b>	Surface condition (signs of vegetation and channelling)	Daily	Visual assessment	Odour abatement plant shall be regularly checked and maintained to ensure appropriate temperature and moisture content.
	Gas temperature – inlet	Daily	Temperature probe / Traceable to national standards	
	Biofilter media moisture	Daily	Moisture metre or recognised industry method	Odour abatement plant shall be managed in accordance with permit condition 3.3, the odour management plan and manufacturer's recommendations.
	Thatching /compaction	Weekly	Back pressure	
	Gas flow rate – inlet	Continuous	Gas flow metre / EN 16911-1 and MID for EN 16911-1	
	pH (biofilter drainage effluent)	Daily	pH metre	Equipment shall be calibrated on a 4 monthly basis, or as agreed in writing by the Environment Agency.
	Efficiency assessment	Annual	Media health, air-flow distribution and emission removal	

<b>Table S3.3 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
			efficiency (BS EN 13725 for odour removal)	
	Hydrogen sulphide – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	As agreed in the odour management plan and approved by the Environment Agency	Action levels to be agreed on completion of IC9 as approved in writing by the Environment Agency.  Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.
	Ammonia – inlet	Every 6 months or as agreed in writing by the Environment Agency.	As agreed in the odour management plan and approved by the Environment Agency	Action levels to be agreed on completion of IC9 as approved in writing by the Environment Agency.  Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.
	Odour concentration – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	BS EN 13725	Action levels to be agreed on completion of IC9 as approved in writing by the Environment Agency.  Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.

<b>Table S3.4 Bioaerosols monitoring requirements – ambient monitoring</b>					
<b>Location or description of point of measurement</b>	<b>Parameter</b>	<b>Bioaerosols action levels (CFU m<sup>-3</sup>)</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Upwind of the operational area, as described in the Technical Guidance Note M9	Total bacteria	1000 <sup>Note 1</sup>	Quarterly for the first year of operation and twice a year thereafter, unless another frequency is agreed in writing by the Environment Agency <sup>Note 2</sup>	In accordance with Technical Guidance Note M9 – Environmental monitoring of bioaerosols at regulated facilities.	As described in the Technical Guidance Note M9, including all the additional data requirements specified therein.
Downwind of the operational area, as described in the Technical Guidance Note M9	Aspergillus Fumigatus	500 <sup>Note 1</sup>			
<p>Note 1 – The bioaerosols action levels are only applicable at downwind sampling locations equivalent to the distance of the nearest sensitive receptor. Where these action levels are elevated, the operator must take action to mitigate the impact on sensitive receptors. Assessment of compliance will be based on risk and in line with guidance.</p> <p>Note 2. Where the bioaerosols action levels are exceeded, then monitoring remain quarterly until such time that it is demonstrated that the site has adequate mitigation for a 12 month period.</p>					

## Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Emissions to air from odour abatement plant (Biofilters) Parameters as required by condition 3.5.1.	EMPFGT 4, EMPFGT 5, EMPFGT 6	Every 6 months or as agreed in writing with the Environment Agency	1 January, 1 July
Emissions to air from Bag House Stacks Parameters as required by condition 3.5.1.	EMPFGT 2, EMPFGT 3	Every 6 months or as agreed in writing with the Environment Agency	1 January, 1 July
Emissions to water Parameters as required by condition 3.5.1	EMPFGT. 1. Emission to River Thames NGR: TQ 5084 8106	Every 12 months	1 January
Process monitoring Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.3	Every 12 months	1 January
Bioaerosols monitoring Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.4	Every 3 months or as agreed in writing by the Environment Agency	1 January, 1 April, 1 July, 1 October
Biofilter efficiency Parameters as required by condition 4.2.6	Biofilters	Annually or as agreed in writing with the Environment Agency	1 January

<b>Table S4.2 Annual production/treatment</b>	
<b>Parameter</b>	<b>Units</b>
Non-waste outputs	tonnes

<b>Table S4.3 Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Water usage	Annually	tonnes or m <sup>3</sup>
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m <sup>3</sup>



<b>Table S4.4 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Air	Form air 1 or other form as agreed in writing by the Environment Agency	02/11/2021
Bioaerosols	As specified in the Technical Guidance Note M9 or other form as agreed in writing by the Environment Agency	--
Process monitoring	Form process 1 or other form as agreed in writing by the Environment Agency	02/11/2021
Water	Form water 1 or other form as agreed in writing by the Environment Agency	02/11/2021
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	02/11/2021
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	02/11/2021
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	02/11/2021
Waste returns	E-waste Return Form or other form as agreed in writing by the Environment Agency	--

# Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

## Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

<b>(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution</b>	
<b>To be notified within 24 hours of detection</b>	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Measures taken, or intended to be taken, to stop the emission	

<b>Time periods for notification following detection of a breach of a limit</b>	
<b>Parameter</b>	<b>Notification period</b>

<b>(c) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

## Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“animal waste” means any waste consisting of animal matter that has not been processed into food for human consumption.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“Best available techniques” means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole:

(a) ‘techniques’ includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;

(b) ‘available techniques’ means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator;

(c) ‘best’ means most effective in achieving a high general level of protection of the environment as a whole.

“bioaerosols action levels” mean the acceptable bioaerosols concentrations at the nearest sensitive receptor, or at an equivalent distance downwind of the biowaste treatment operations, which are attributable to the biowaste treatment operations. The acceptable concentrations are respectively 1000 and 500 CFU m<sup>-3</sup> for total bacteria and *Aspergillus fumigatus*. Where these action levels are elevated, the operator must take action to mitigate the impact on sensitive receptors.

“Biodegradable” means a material is capable of undergoing biological anaerobic or aerobic degradation leading to the production of CO<sub>2</sub>, H<sub>2</sub>O, methane, biomass, and mineral salts, depending on the environmental conditions of the process.

“building” means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

“Capacity” means the potential capacity and not historical or actual production levels or throughput. This means that the designed capacity is the maximum rate at which the site can operate. Biological treatment of waste usually takes place over more than one day, so the physical daily capacity can be calculated by dividing the maximum quantity of waste that could be subject to biological treatment at any one time by the minimum residence time. For in-vessel composting, the residence time for sanitisation should be calculated separately and then aggregated to the complete composting time.

“channelled emissions” means the emissions of pollutants into the environment through any kind of duct, pipe, stack, etc. This also includes emissions from open top biofilters.

“compost” means a solid particulate material that is the result of composting, which has been sanitised and stabilised, and which confers beneficial effects when added to soil, used as a component of growing media or used in another way in conjunction with plants.

“compostable plastics” means plastics that are certified to meet the standards of EN 13432, EN 14995 or equivalent and is capable of breaking down by microbial digestion to create compost.

“composting” means the managed biological decomposition of biodegradable waste organic materials, under conditions that are predominantly aerobic and that allow the development of thermophilic temperatures as a result of biologically produced heat and that result in compost.

“composting batch” means an identifiable quantity of material that progresses through the composting system and when fully processed has similar characteristics throughout. For composting systems that operate on a continuous- or plug-flow basis, batches will be taken to mean a series of “portions of production”.

“diffuse emissions” mean non-channelled emissions (e.g. of dust, organic compounds, odour) which can result in ‘area’ sources (e.g. tanks) or ‘point’ sources (e.g. pipe flanges). This also includes emissions from open-air windrow composting.

“disposal” means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“Leak detection and repair (LDAR) programme” means a structured approach to reduce fugitive emissions of organic compounds by detection and subsequent repair or replacement of leaking components. Currently, sniffing (described by EN 15446) and optical gas imaging methods are available for the identification of leaks as set out in BAT 14 and section 6.6.2 of the Waste Treatment BAT Conclusions.

“maturation” means optional period of treatment or storage of separated fibre digestate under predominantly aerobic conditions.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“operational area” means any part of a facility used for the handling, storing and treatment of waste.

“operator” means in relation to a regulated facility:

- (a) the person who has control over the operation of the regulated facility,
- (b) if the regulated facility has not yet been put into operation, the person who will have control over the regulated facility when it is put into operation, or
- (c) if a regulated facility authorised by an environmental permit ceases to be in operation, the person who holds the environmental permit

“pests” means Birds, Vermin and Insects.

“pollution” means emissions as a result of human activity which may—

- (a) be harmful to human health or the quality of the environment,
- (b) cause offence to a human sense,
- (c) result in damage to material property, or

(d) impair or interfere with amenities and other legitimate uses of the environment.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Representative internal” – means representative monitoring at a point internally of the windrows that will give a representative assessment of temperature. Note: Larger windrows will require more bespoke temperature equipment to adequately assess temperature profiles accurately.

“sanitisation” means the actively managed and intensive stage of composting, lasting for at least 5 days, characterised by high oxygen demand and temperatures of over 55°C, during which biological processes, together with conditions in the composting mass, eradicate human and animal pathogens or reduce them to acceptably low levels.

“sealed drainage system” in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

- no liquids will run off the surface otherwise than via the system
- all liquids entering the system are collected in a sealed sump, except where liquids may be lawfully discharged to foul sewer.

“specified generator” means a group of generators other than excluded between 1 and 50 megawatts or less than 50 megawatts as defined in Schedule 25B(2) of SI 2018 No.110 of the EPR.

“stable, stabilised” means the degree of processing and biodegradation at which the rate of biological activity has slowed to an acceptably low and consistent level and will not significantly increase under favourable, altered conditions.

“stabilisation stage” means the stage of composting following sanitisation, during which biological conditions in the composting mass, give rise to compost that is nominally stable.

“treated wood” means any wood that has been chemically treated (e.g. to enhance or alter the performance of the original wood). Treatments may include penetrating oils, tar oil preservatives, water-borne preservatives, organic-based preservatives, boron and organo-metallic based preservatives, boron and halogenated flame retardants and surface treatments (including paint and varnish).

“VOC” means Volatile organic compounds as defined in Article 3(45) of Directive 2010/75/EU – ‘volatile organic compound’ means any organic compound as well as the fraction of creosote, having at 293.15K a vapour pressure of 0.01 kPa or more, or having a corresponding volatility under the particular conditions of use.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“year” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

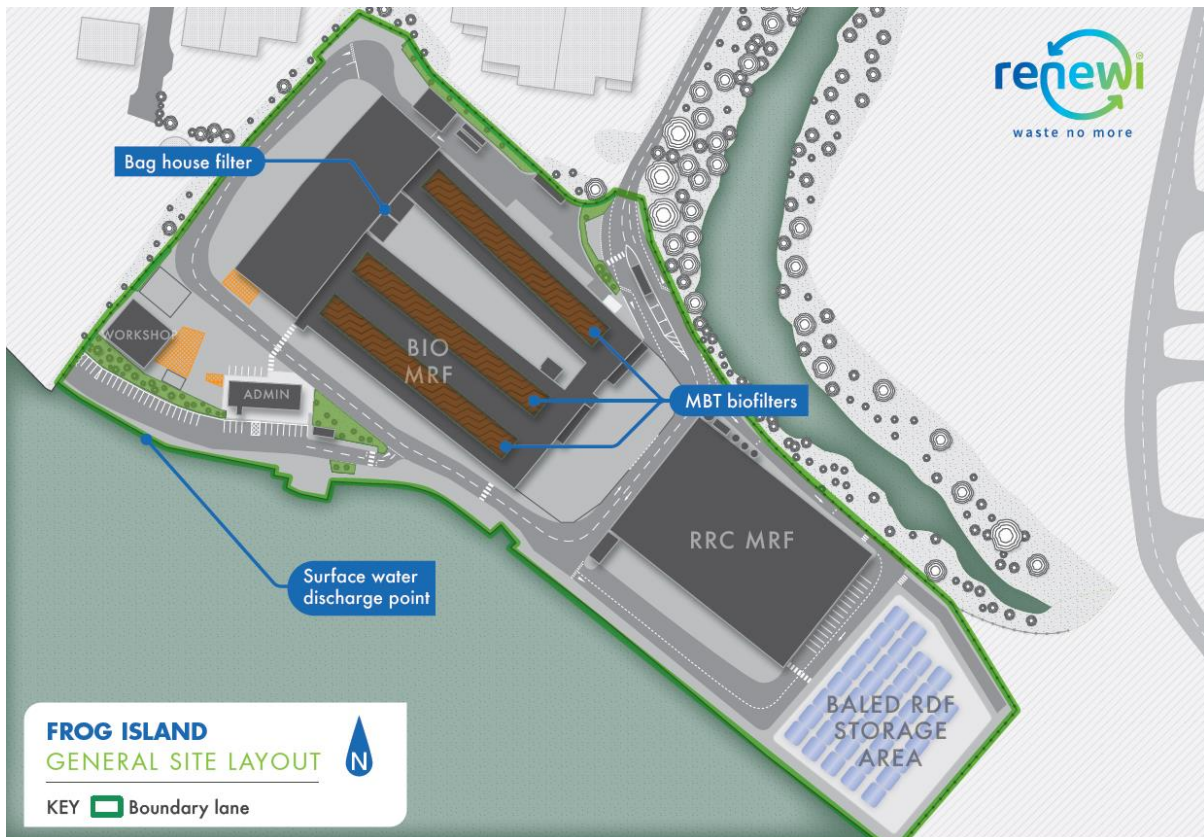
Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid fuels and gaseous fuels, 6% dry for solid fuels; and/or

- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

# Schedule 7 – Site plan

This site plan and boundary is the one referred to in the associated Standard Rule.



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