Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Fernbrook Bio Limited

Rothwell Lodge AD Facility
Rothwell Lodge Farm
Rothwell Road
Kettering
Northamptonshire
NN16 8XF

Variation application number

EPR/EP3894SC/V006

Permit number

EPR/EP3894SC

Rothwell Lodge AD Facility
Permit number EPR/EP3894SC

Introductory note

This introductory note does not form a part of the notice.

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.

The Industrial Emissions Directive (IED) was transposed in England and Wales by the Environmental Permitting (England and Wales) (Amendment) Regulations 2013 on 27 February 2013. This variation implements the changes brought about by the IED for "existing facilities operating newly prescribed activities" and completes the transition of this facility from a waste operation to an IED Installation.

The activity is an anaerobic digestion facility, with the use of the resultant biogas in a combined heat and power generation unit. The two spark ignition engines have an aggregated rated thermal input of 3.75 megawatts. Permitted waste input does not include hazardous wastes. The total quantity of waste that can be accepted at the site is less than 49,000 tonnes per year. Any wastes controlled by the Animal By-Products Regulations 2005 (SI No. 2347) must be treated and handled in accordance with any requirements imposed by those Regulations.

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.

Status log of the permit		
Description	**Date**	**Comments**
Permit determined EPR/EP3894SC	12/02/10	Bespoke Permit issued to Fernbrook Bio Limited.
Variation determined EPR/EP3894SC/V002	17/04/12	Variation to add Waste Codes 02 04 99 and 19 05 99 issued.
Application EPR/EP3894SC/V003	Duly made 23/09/14	IED variation application.
Application EPR/EP3894SC/V004	Duly made 26/05/15	Application to increase tonnage and add permitted activity.
Variation determined EPR/EP3894SC/V004	21/12/15	Varied permit issued.
Application EPR/EP3894SC/V005	Duly made 07/07/16	
Variation determined EPR/EP3894SC/V005	12/09/16	Change in registered address.
Variation determined EPR/EP3894SC/V006 (duly made as EPR/EP3894SC/V003) (Billing ref: RP3332WT)	02/11/17	Varied and consolidated permit issued in modern condition format.

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/EP3894SC

Issued to

Fernbrook Bio Limited ("the operator")

whose registered office is

The Mine Site
Mill Lane
South Witham
Grantham
Lincolnshire
NG33 5QN

company registration number **06595831**

to operate a regulated facility at

Rothwell Lodge AD Facility
Rothwell Lodge Farm
Rothwell Road
Kettering
Northamptonshire
NN16 8XF

to the extent set out in the schedules.

The notice shall take effect from 02/11/2017.

Name	Date
Rebecca Warren	**02/11/2017**

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/EP3894SC

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/EP3894SC/V006 authorising,

Fernbrook Bio Limited ("the operator"),

whose registered office is

The Mine Site
Mill Lane
South Witham
Grantham
Lincolnshire
NG33 5QN

company registration number **06595831**

to operate an installation at

Rothwell Lodge AD Facility
Rothwell Lodge Farm
Rothwell Road
Kettering
Northamptonshire
NN16 8XF

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

Name	Date
Rebecca Warren	**02/11/2017**

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 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 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 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 table S2.2; and

(b) it conforms to the description in the documentation supplied by the producer and holder.

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.

2.4 Improvement programme

2.4.1 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.

2.4.2 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.

3.3.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

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;

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 3.6.1 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 Pests

3.6.1 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.

3.6.2 The operator shall:

(a) 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;

(b) implement the pests management 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 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.

4.3 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 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.

4.3.4 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:

(c) any change in the operator's name or address; and

(d) any steps taken with a view to the dissolution of the operator.

In any other case:

(e) the death of any of the named operators (where the operator consists of more than one named individual);

(f) any change in the operator's name(s) or address(es); and

(g) 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.

4.3.5 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.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

(a) a decision by the Secretary of State not to re-certify the agreement;

(b) a decision by either the operator or the Secretary of State to terminate the agreement; and

(c) any subsequent decision by the Secretary of State to re-certify such an agreement.

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

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
A1	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 (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	R3: Recycling/reclamation of organic substances which are not used as solvents	From receipt of waste through to digestion and recovery of by-products (digestate). Anaerobic digestion of waste in 2 tanks followed by burning of biogas produced from the process. Waste types suitable for acceptance are limited to those specified in Table S2.2.
	Directly Associated Activity		
A2	Storage of waste pending recovery	R13: Storage of waste pending the operations numbered R1 to R11 (excluding temporary storage, pending collection, on the site where it is produced)	From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery. Storage of waste in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with sealed drainage. Waste types suitable for acceptance are limited to those specified in Table S2.2
A3	Physical treatment for the purpose of recycling	R3: Recycling/reclamation of organic substances which are not used as solvents	From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery. Pre-treatment of waste in enclosed building and on impermeable surface with sealed drainage system including shredding, sorting, screening, compaction, baling, mixing and maceration. Post-treatment of digestate in an enclosed building and on an impermeable surface

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
			with sealed drainage system, including screening to remove contraries, centrifuge or pressing and addition of thickening agents (polymers) or drying. Heat treatment (pasteurisation) of waste in 2 tanks for the purpose of recovery. Gas cleaning by biological or chemical scrubbing. Waste types suitable for acceptance are limited to those specified in Table S2.2.
A4	Steam and electrical power supply	R1:Use principally as a fuel to generate energy	From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases. Combustion of biogas in a combined heat and power (CHP) generation unit. The 2 spark ignition engines with an aggregated thermal input of 3.75 megawatts.
A5	Emergency flare operation	D10: Incineration on land	From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases. Use of 1 auxiliary flare required only during periods of breakdown or maintenance of the CHP engine(s) and/or auxiliary boiler(s).
A6	Gas upgrading	Upgrading of biogas to biomethane (including the removal of moisture and other substances such as	From the receipt of biogas produced at the on-site anaerobic digestion process to injection into the National

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
		carbon dioxide, hydrogen sulphide, Volatile organic compounds) for injection into the National Grid.	Grid. This includes return of off-specification biogas for combustion to the on-site CHP engine(s), auxiliary boiler(s) and/or emergency flare.
A7	Raw material storage	Storage of raw materials	From the receipt of raw materials to despatch for use within the facility
A8	Gas storage	Storage of biogas produced from on-site anaerobic digestion of permitted waste in roof space of digester(s).	From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.
A9	Digestate storage	Storage of whole digestate in a storage tank.	From the receipt of digestate produced from the on-site anaerobic digestion process to despatch for use off-site.
A10	Surface water collection and storage	Collection and storage of uncontaminated roof and site surface water in attenuation pond or 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.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	The response to section 5a table 2 of Part B of the application form – technical standards	08/09/09
Application	Odour management plan reference "K114.1~09~006/V2 dated 11/02/10: Rothwell Lodge AD Facility Management Plan" and Reference "K114.1~11~001 Issue 1: Simple Assessment of Environmental Risk for Odour, Noise and Fugitive Emissions for Rothwell Lodge Anaerobic Digestion Facility" in response to section 5b, table 3 – general requirements, Part B of the application form	11/02/10 08/09/09
Application	Accident management plan reference "K114.1~09~006/V2 dated 11/02/10: Rothwell Lodge AD Facility Management Plan", Reference "K114.1~11~002 Issue 1: Simple Assessment of Environmental Risk from Accidents for Rothwell Lodge Anaerobic Digestion Facility" and Reference "K114.1~11~001 Issue 1: Simple Assessment of Environmental Risk for Odour, Noise and Fugitive Emissions for Rothwell Lodge Anaerobic Digestion Facility" in response to section 5b, table 3 – general requirements, Part B of the application form	11/02/10 08/09/09 08/09/09

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	Fugitive emissions management plan reference "K114.1~09~006/V2 dated 11/02/10: Rothwell Lodge AD Facility Management Plan" and Reference "K114.1~11~001 Issue 1: Simple Assessment of Environmental Risk for Odour, Noise and Fugitive Emissions for Rothwell Lodge Anaerobic Digestion Facility" in response to section 5b, table 3 – general requirements, Part B of the application form	11/02/10 08/09/09
Application	Noise management plan reference "K114.1~09~006/V2 dated 11/02/10: Rothwell Lodge AD Facility Management Plan" and Reference "K114.1~11~001 Issue 1: Simple Assessment of Environmental Risk for Odour, Noise and Fugitive Emissions for Rothwell Lodge Anaerobic Digestion Facility" in response to section 5b, table 3 – general requirements, Part B of the application form	11/02/10 08/09/09
Variation Application	The response to section 3a Table 3a of Part C4 of the application form – technical standards. Additional guidance for Anaerobic Digestion LIT 8737	26/05/15

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	The operator shall carry out a monitoring study to quantify the emissions in relation to the releases of pollutants to air from the installation. The study shall include the monitoring of point source releases to air from the biogas upgrading plant (emission point EXHAUST STACK 1) during normal operation, having regard to the Environment Agency technical guidance M2 and to MCERTS standards. Two separate monitoring campaigns in a year shall be completed as follows: • one monitoring campaign 6 months following operation of the biogas upgrading plant; and • one monitoring campaign 12 months following operation of the biogas upgrading plant. The following pollutants to be monitored shall include: • Total Volatile Organic Compounds (VOCs); and Hydrogen sulphide	12 months following operation of the biogas upgrading plant.
IC2	Following the completion of IC1, the operator shall undertake an environmental impact assessment of point source releases to air from the biogas upgrading plant (emission point EXHAUST STACK 1), using the information obtained through the emissions monitoring. The environmental impact assessment and all associated monitoring reports shall be submitted in writing to the Environment Agency for review. The environmental impact assessment shall include: • details of the monitoring undertaken and the results obtained; • results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance Note H1, Annex F – Air emissions • a completed H1 assessment software tool	1 month following the completion of IC1.

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	If the H1 assessment shows that long or short term impacts from the emissions do not screen out as insignificant, the operator shall propose an action plan to reduce the impacts of the substances identified.	

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
Fuel oil	Sulphur content not exceeding 0.1% by mass.

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	**Annual throughput shall not exceed 49,000 tonnes**
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 01	sludges from washing and cleaning – food processing waste, food washing waste
02 01 02	animal-tissue waste including blood, animal flesh, fish processing waste, fish carcasses, poultry waste
02 01 03	plant-tissue waste including husks, cereal dust, waste animal feeds, off-cuts from vegetable and fruit and other vegetation waste
02 01 06	animal faeces, urine and manure including spoiled straw
02 01 07	wastes from forestry
02 01 99	residues from commercial mushroom cultivation
02 02	**wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 01	sludges from washing and cleaning, process water, food washing waste
02 02 02	animal-tissue waste including blood, animal flesh, fish processing waste, fish carcasses, poultry waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 02 99	sludges from gelatine production, animal gut contents
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 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 03 99	sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only
02 04	**wastes from sugar processing**
02 04 03	sludges from on-site effluent treatment
02 04 99	other wastes
02 05	**wastes from the dairy products industry**

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	**Annual throughput shall not exceed 49,000 tonnes**
Waste code	**Description**
02 05 01	materials unsuitable for consumption or processing including solid and liquid dairy products, milk, food processing wastes, yoghurt, whey
02 05 02	sludges from on-site effluent treatment
02 06	**wastes from the baking and confectionery industry**
02 06 01	materials unsuitable for consumption or processing including condemned food, food processing wastes, biscuits, chocolate, yeast, bread, bakery wastes
02 06 03	sludges from on-site effluent treatment
02 07	**wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials including brewing waste, food processing waste, fermentation waste
02 07 02	wastes from spirits distillation including spent grains, fruit and potato pulp, sludge from distilleries
02 07 04	materials unsuitable for consumption or processing including brewing waste, food processing waste, fermentation waste, beer, alcoholic drinks, fruit juice
02 07 99	spent grains, hops and whisky filter sheets/cloths, yeast and yeast-like residues, sludge from production process
03	**Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard**
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 02	green liquor sludge
03 03 08	paper and cardboard – not allowed if any non-biodegradable coating or preserving substance is present
03 03 10	fibre rejects and sludges i.e. paper pulp (de-inked only), paper fibre
04	**Wastes from the leather, fur and textile industries**
04 01	**wastes from the leather and fur industry**
04 01 01	fleshings and lime split wastes
04 01 05	tanning liquor free of chromium
04 01 07	sludges not containing chromium
04 02	**wastes from the textile industry**
04 02 10	organic matter from natural products, e.g. grease, wax
07	**Wastes from organic chemical processes**
07 02	**wastes from the manufacture, formulation, supply and use of plastics, synthetic rubber and man-made fibres**
07 02 13	Waste plastic – must conform to BS EN 13242 or equivalent standards
15	**Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging – not allowed if any non biodegradable coating or preserving substance is present
15 01 02	biodegradable plastic packaging – must be independently certified to BS EN 13432

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	**Annual throughput shall not exceed 49,000 tonnes**
Waste code	**Description**
15 01 03	Untreated wooden packaging – not allowed if any non-biodegradable coating or preserving substance is present
15 01 05	composite packaging – must conform to BS EN 13432 and not allowed if any non-biodegradable coating or preserving substance is present
19	**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**
19 02	**wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 10	glycerol not designated as hazardous i.e. excludes EWC code 19 02 08
19 05	**wastes from aerobic treatment of wastes**
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification waste
19 05 99	wastes not otherwise specified (other biodegradable wastes)
19 06	**wastes from anaerobic treatment of waste**
19 06 03	liquor from anaerobic treatment of municipal waste (from a process that treats wastes which are listed in this table only)
19 06 04	digestate from anaerobic treatment of source segregated biodegradable waste (from a process that treats wastes which are listed in this table only)
19 06 05	liquor from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
19 06 06	digestate from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 09	grease and oil mixture containing edible oils and fats
19 08 12	sludges from industrial biological treatment
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard – not allowed if any non biodegradable coating or preserving substance is present. Excludes laminates such as Tetrapaks.
20 01 08	kitchen and canteen waste
20 01 25	edible oil and fat
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 03	**other municipal wastes**
20 03 01	mixed municipal waste – separately collected biowastes
20 03 02	waste from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
ENGINE 1 located in the combined heat and power plant room marked on "External Works Layout Drainage Design" drawing reference EO2 revision P6 dated August 2009.	Exhaust stack of the gas engine [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m^3			BS EN 14791
		Carbon monoxide	1400 mg/m^3			BS EN 15058
		Total VOCs	1000 mg/m^3			BS EN 12619:2013
ENGINE 2 located in the combined heat and power plant room marked on "External Works Layout Drainage Design" drawing reference EO2 revision P6 dated August 2009.	Exhaust stack of the gas engine [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m^3			BS EN 14791
		Carbon monoxide	1400 mg/m^3			BS EN 15058
		Total VOCs	1000 mg/m^3			BS EN 12619:2013
FLARE 1 located to the west of the digester tanks marked on "Proposed Site Plan" reference FB/BR09/007D dated 25/03/09	Emergency flare [note 2]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Hourly average	[note 3]	BS EN 14792
		Carbon monoxide	50 mg/m^3			BS EN 15058
		Total VOCs	10 mg/m^3			BS EN 12619:2013
EXHAUST STACK 1 Biogas upgrading plant	Exhaust stack of biogas upgrading plant	No parameter set	No limit set	--	--	--
Boilers	Exhaust stack from boilers	No parameter set	No limit set	--	--	--

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
Pressure relief valves	Digesters and digestate storage tanks	No parameter set	No limit set	--	Record of operating hours	--
Vents from tank(s)	Oil/Fuel Storage tank(s)	No parameter set	No limit set	--	--	--
Note 1 – These limits are based on normal operating conditions and load – temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in LFTGN08 v2 2010 shall apply. Note 2 – These limits are based on normal operating conditions and load – temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 3 per cent (dry gas). The measurement uncertainty specified in LFTGN05 v2 2010 shall apply. Note 3 – Monitoring to be undertaken in the event the emergency flare has been operational for more than 10 per cent of a year (876 hours). Record of operating hours to be submitted annually to the Environment Agency.						

Table S3.2 Point source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
Point source emission of clean uncontaminated surface water via an oil interceptor to a soakaway (marked on drawing External Works Layout Drainage Design Drawing reference EO2, revision P6 dated August 2009)	Surface drainage from external hardstading areas via an oil interceptor	--	--	--	--	--
Point source emission of clean uncontaminated roof water and clean uncontaminated	Drainage from the building roof and from the containment area	--	--	--	--	--

Table S3.2 Point source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
water from the containment area to soakaway (marked on drawing: External Works Layout Drainage Design Drawing reference EO2, revision P6 dated August 2009)						

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Biogas from Digesters	Flow	Continuous	In accordance with EU weights and measures Regulations	--
Biogas from Digesters	Methane	Continuous	None specified	Gas monitors to be calibrated in accordance with manufacturer's recommendations
	Hydrogen sulphide	Continuous	None specified	--
Waste reception building; Digester(s) and storage tank(s)	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary
Carbon filter	Key process parameters to include pH, temperature and air flow	In accordance with manufacturer's recommendations.	None specified	Carbon filter shall be regularly checked and maintained to ensure appropriate temperature and moisture content. Carbon filters to be replaced when saturated in accordance with manufacturer's recommendations.
Digester and storage tank(s)	Integrity checks	Weekly	Visual assessment	--

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Emissions to air Parameters as required by condition 3.5.1.	ENGINE 1, ENGINE 2, FLARE 1	Every 12 months	1 January

Table S4.2 Annual production/treatment	
Parameter	**Units**
Electricity generated	MWh
Biomethane generated	tonnes or m^3
Whole digestate	tonnes
Liquid digestate	tonnes or m^3
Solid digestate	tonnes

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Water usage	Annually	tonnes or m^3
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m^3
Emergency flare operation	Annually	hours
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	hours

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Air	Form Air1 or other form as agreed in writing by the Environment Agency	02/11/17
Water usage	Form WaterUsage1 or other form as agreed in writing by the Environment Agency	02/11/17
Energy usage	Form Energy1 or other form as agreed in writing by the Environment Agency	02/11/17
Other performance indicators	Form Performance1 or other form as agreed in writing by the Environment Agency	02/11/17
Waste returns	E-waste Return Form 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	

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

(b) Notification requirements for the breach of a limit		
To be notified within 24 hours of detection unless otherwise specified below		
Measures taken, or intended to be taken, to stop the emission		
Time periods for notification following detection of a breach of a limit		
Parameter		Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
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.

“ADQP” means Anaerobic Digestion Quality Protocol

“anaerobic digestion” means a process of controlled decomposition of biodegradable materials under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobes and facultative anaerobe bacteria species, which convert the inputs to a methane-rich biogas and whole digestate.

“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.

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

“digestate” means material resulting from an anaerobic digestion process.

“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.

“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

“Industry Standard Protocol” means “A standardised protocol for the monitoring of bioaerosols at open composting facilities” published by the Association for Organics Recycling and developed in conjunction with the Environment Agency.

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

“pests” means Birds, Vermin and Insects.

“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.

“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.

“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 venner).

“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.

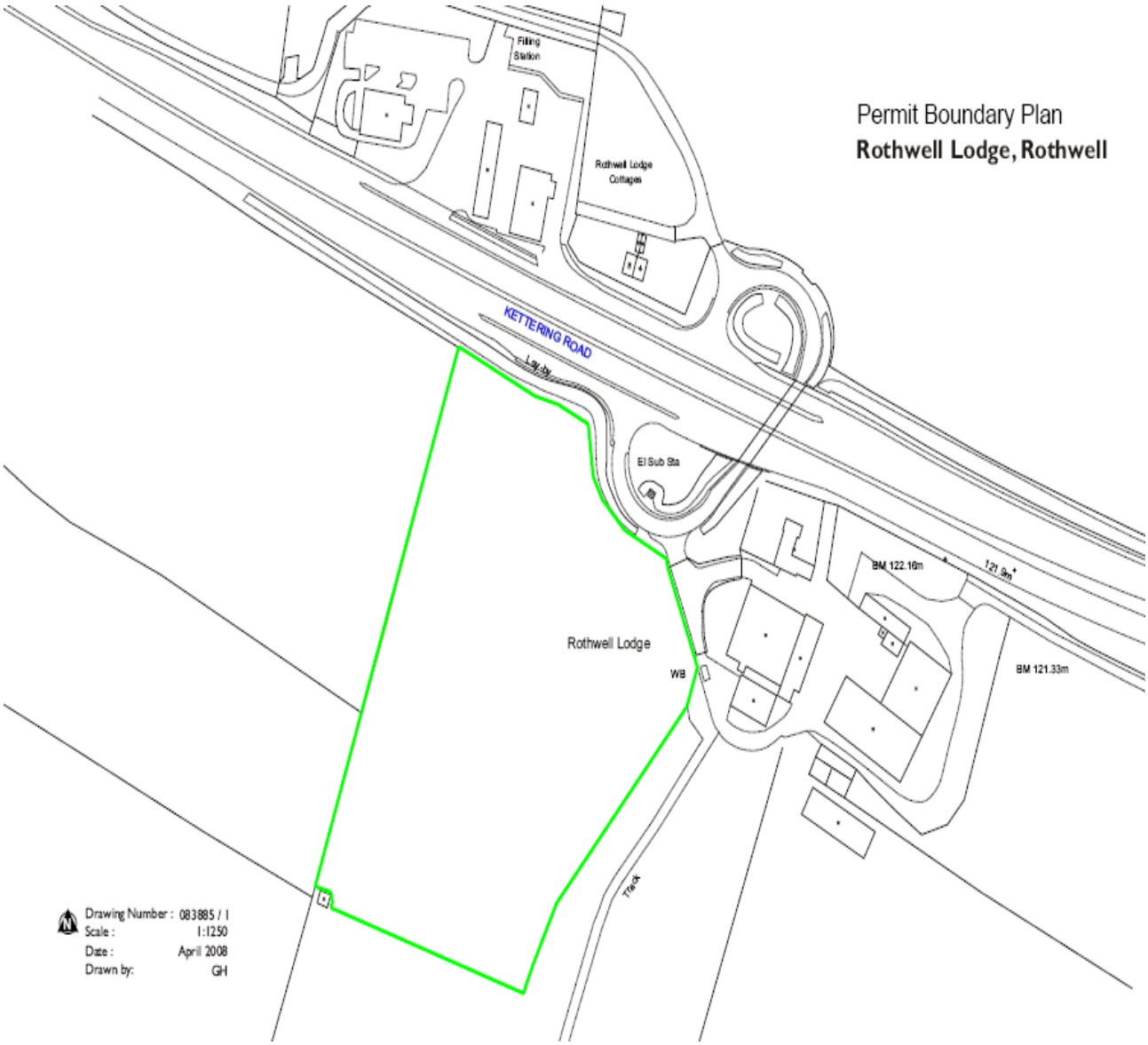
“year” means calendar year ending 31 December.

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, 3% or 5% for 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



END OF PERMIT

Permit Number: EP3894SC **Operator: Fernbrook Bio Limited**

Facility: Rothwell AD Lodge **Form Number: Air1/02/11/17**

Reporting of emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
ENGINE 1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	1 hour period		BS EN 14792		
ENGINE 1	Sulphur dioxide	350 mg/m^3	1 hour period		BS EN 14791		
ENGINE 1	Carbon monoxide	1400 mg/m^3	1 hour period		BS EN 15058		
ENGINE 1	Total VOCs	1000 mg/m^3	1 hour period		BS EN 12619:2013		
ENGINE 2	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	1 hour period		BS EN 14792		
ENGINE 2	Sulphur dioxide	350 mg/m^3					
ENGINE 2	Carbon monoxide	1400 mg/m^3	1 hour period		BS EN 15058		
ENGINE 2	Total VOCs	1000 mg/m^3	1 hour period		BS EN 12619:2013		
FLARE 1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	1 hour period		BS EN 14792		

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
FLARE 1	Carbon monoxide	50 mg/m^3	1 hour period		BS EN 15058		
FLARE 1	Total VOC's	10 mg/m^3	1 hour period		BS EN 12619:2013		

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… Date……..

(Authorised to sign as representative of Operator)

(Authorised to sign as representative of Operator)

Permit Number: EP3894SC **Operator: Fernbrook Bio Limited**

Facility: Rothwell AD Lodge **Form Number: WaterUsage1/02/11/17**

Reporting of Water Usage for the year

Water Source	Usage (m3/year)	Specific Usage (m3/unit output)
Mains water		
TOTAL WATER USAGE		

Operator's comments:

Signed ……. Date……..

(authorised to sign as representative of Operator)

Permit Number: EP3894SC **Operator: Fernbrook Bio Limited**

Facility: Rothwell Lodge AD Facility **Form Number: Energy1/02/11/17**

Reporting of Energy Usage for the year

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	MWh		
Biogas	tonnes or m^3		
Biomethane	tonnes or m^3		
Natural Gas	MWh		
Recovered Fuel Oil	tonnes		
TOTAL	-		

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:

Signed …… Date……..

(Authorised to sign as representative of Operator)

Permit Number: EP3894SC **Operator: Fernbrook Bio Limited**

Facility: Rothwell Lodge AD Facility **Form Number: Performance1/02/11/17**

Reporting of other performance indicators for the period DD/MM/YYYY to DD/MM/YYYY

Parameter	**Units**
Total raw material used	tonnes
CHP engine usage	hours
CHP engine efficiency	%
Emergency flare operation	hours
Electricity exported	MWh
Biomethane exported	tonnes or m^3

Operator's comments:

Signed ……. Date……..

(Authorised to sign as representative of Operator)