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Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Greenergy Biofuels Teesside Limited

Greenergy Biofuels Teesside Seal Sands Terminal South Site Seal Sands Road Middlesbrough TS2 1UB

Variation application number

EPR/EP3334AS/V004

Permit number

EPR/EP3334AS

Greenergy Biofuels Teesside Permit number EPR/EP3334AS

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.

Changes introduced by this variation notice/statutory review

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

The Industrial Emissions Directive (IED) came into force on 7th January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) conclusions as described in the Commission Implementing Decision. The BAT conclusions for production of large volume organic chemicals were published on 07 December 2017 in the Official Journal of the European Union (L323) following a European Union wide review of BAT, implementing decision 2017/2117/EU of 21 November 2017.

Where appropriate, we also considered other relevant BAT Conclusions published prior to this date but not previously included in a permit review for the Installation:-

Common waste water and waste gas treatment/management systems in the chemical sector. Published 09 June 2016

The BAT Conclusions for this installation which apply from 7th December 2021 are:

Production of Large Volume Organic Chemicals:

BATc 2, 8, 10, 11, 14 and 16 – 19.

Common waste water and waste gas treatment/management systems in the chemical sector: BATc 1 - 4, 7 - 16, 19 and 23.

Variation EPR/EP3334AS/V003 was issued to permit the direct discharge of process effluent to the River Tees via emission point to water W1. The operator must meet BAT associated emission levels (BAT-AELs) in the Common waste water and waste gas treatment/management systems in the chemical sector (CWW) BAT Conclusions by 07/12/2021. These are included as emission limit values in Table S3.2 and are applicable from 07/12/2021 if the discharge of process effluent is still being made via W1. The operator had planned to reinstate their sewer connection (S1) and achieve compliance with the BAT-AELs by discharging the process effluent as an indirect emission, for treatment at Bran Sands Industrial Effluent Treatment Works. The permit contains a pre-operational condition for the operator to demonstrate that this is BAT, as well as improvement conditions requiring quarterly progress reports on the operator's proposals to meet the BAT-AELs and confirmation of whether this has been achieved.

Under the quarterly progress reports, the operator now proposes to eliminate the discharge of process effluent to surface water by reusing it within the plant. This variation retains the emission limit values, improvement conditions and pre-operational condition previously set, with amendments to reflect the operator's current proposal for effluent management. When these plant upgrades have been made, improvement condition 28 requires the operator to update their responses on the relevant BAT conclusions, with details of their operating techniques and to confirm compliance.

Material recovery is a key aspect of LVOC BAT conclusion 17 and the operator's process is designed to address this requirement. If the residues from the treatment of waste to produce biodiesel are sold or transferred as non-wastes an assessment is required of whether the residues have stopped being waste and

have satisfied all of the conditions within Article 6 of the Waste Framework Directive. This is addressed with improvement condition 29 requiring the operator to confirm the waste status.

The schedules specify the changes made to the 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. Only the variations specified in schedule 1 are subject to a right of appeal.

Brief Description of the process

Greenergy Biofuels Teesside Limited operate a plant to convert a blend of virgin cooking oil, used cooking oil and tallow into biodiesel and glycerine by-product. The relevant listed activities are:

- Section 4.1 Part A(1)(a)(ii): Producing organic chemicals containing oxygen; and
- Section 5.4 Part A(1)(a)(ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment.

The manufacturing process consists of Feedstock pre-treatment, Free Acid Distillation, Transesterification, Biodiesel Drying and Acid-esterification. Conversion is done by transesterification; the feedstock being changed via a reaction using monovalent alcohol methanol resulting in Fatty Acid Methyl Ester (FAME) and glycerine. Some fats and oils need to undergo pre-treatment prior to transesterification. Acid-esterification of residues in the presence of an acid catalyst and methanol is used to further increase product yield. Biodiesel is dried by evaporation where methanol and water are removed under vacuum. Glycerine is separated from the methanol and water which are then reused within the process. Potassium sulphate is separated from the acid esterification stream. The manufacturing process in continuous and capable of producing up to 250,000 tonnes/annum of biodiesel and 25,000 tonnes/annum of glycerine.

The installation also includes water treatment (reverse osmosis); steam raising boilers; storage areas for raw materials, products and liquid and solid waste; and facilities for the management of process effluent. The steam raising boilers use natural gas as the main fuel with gas oil as back-up.

Releases to air will include Volatile Organic Compounds (mainly methanol) and particulates from processing and combustion gases from site boilers. Surface water is discharged to the River Tees via an interceptor system. Emission points of potential significance have adequate abatement meeting relevant technical guidance benchmarks.

The Teesmouth and Cleveland Coast Special Protection Area, Site of Special Scientific Interest and proposed Ramsar are within 400 metres of the installation.

Greenergy Biofuels Teesside Limited have an Environmental Management System (EMS) certified to ISO 14001.

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 BU1601IC (Ref EA/EPR/BU1601IC/A001)	Issued 21/06/05	Original permit issued to Biofuels Corporation (Trading) Limited.
Variation DP3434XS (Ref EA/EPR/BU1601IC/V002)	Issued 14/03/08	
Variation UP3131GN (Ref EA/EPR/BU1601IC/V003)	Issued 20/03/09	
Variation UP3431KP (Ref EA/EPR/BU1601IC/V004)	Issued 03/12/09	

Status log of the permit		
Description	Date	Comments
Transfer application EPR/VP3635TJ/T001	Duly made 05/05/10	
Transfer application EPR/VP3635TJ/T001	Issued 13/05/10	Permit transferred to Harvest Energy Limited.
Environment Agency led variation determination EPR/VP3635TJ/V002	Issued 21/09/10	Varied and consolidated permit issued in modern condition format.
Application EPR/VP3635TJ/V003 (variation)	Duly made 03/05/12	Minor technical variation.
Variation determined EPR/VP3635TJ/V003	Issued 07/09/12	Varied permit issued.
Application for variation EPR/VP3635TJ/V004	Duly made 02/07/14	Normal variation.
Variation determined EPR/VP3635TJ/V004	Issued 02/09/14	Varied permit issued.
Transfer application EPR/EP3334AS/T001	Duly made 20/02/15	
Transfer application EPR/EP3334AS/T001	27/05/15	Permit transferred to Greenergy Biofuels Teesside Limited.
Application for a variation EPR/EP3334AS/V002	Duly made 30/11/16	Application for a variation to reflect an extension to installation boundary.
Variation determined EPR/EP3334AS/V002	27/02/17	Varied and consolidated permit issued in modern format.
Application for a variation EPR/EP3334AS/V003	Duly made 08/11/19	Application to request that the direct discharge of process effluent to the River Tees via W1 is permitted.
Further information response to request dated 14/02/20	29/05/20	Dataset of the composition of the effluents discharging via W1 and comparison with required standards.
Further information responses to request dated 24/06/20	21/07/20 23/07/20 14/08/20	Details of waste water treatment options to meet BAT, current treatment techniques, effluent volume and laboratory analysis.
Further information responses to request dated 17/09/20	05/10/20 02/11/20	Updated modelling report to address queries and preliminary report on treatment plant options.
Further information response to request dated 08/12/20	05/02/21	Updated modelling report to include additional substances. Confirmation of decision to discharge process effluent to sewer for treatment.
Variation determined and consolidation issued EPR/EP3334AS/V003	20/05/21	Varied and consolidated permit issued in modern format
Regulation 61 Notice dated 04/05/18 (Notice requiring information for statutory review of permit)	Response Received 09/08/18	Technical standards detailed in response to the information notice.
EPR/EP3334AS/V004	Environment Agency Initiated	Statutory review of permit occasioned by LVOC BAT Conclusions published 07 December

Status log of the permit		
Description	Date	Comments
(variation and consolidation)	Variation	2017.
Additional information	Received 22/10/21	Response to improvement condition 26 detailing the proposals to eliminate the discharge of process effluent to surface water by reusing it within the plant.
Variation determined EPR/EP3334AS/V004 (Billing Ref: HP3138QB)	30/11/21	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

Permit number

EPR/EP3334AS

Issued to

Greenergy Biofuels Teesside Limited ("the operator")

whose registered office is

198 High Holborn London WC1V 7BD

company registration number 08460063

to operate a regulated facility at

Greenergy Biofuels Teesside Seal Sands Terminal South Site Seal Sands Road Middlesbrough TS2 1UB

to the extent set out in the schedules.

The notice shall take effect from 30/11/2021

Name	Date
Philip Lamb	30/11/2021

Authorised on behalf of the Environment Agency

Schedule 1

Only the following conditions have been varied by the consolidated permit EPR/EP3334AS as a result of an Environment Agency initiated variation:

- Table S1.1 as referred to in condition 2.1.1 is updated to reflect the descriptions and limits of the specified activities currently undertaken.
- Table S1.2 as referred to in condition 2.3.1 is updated to introduce new operating techniques.
- Table S1.3 as referred to in condition 2.4.1 is updated to reflect new improvement conditions and remove those previously completed.
- Table S3.1 as referred to in condition 3.5.1 is updated to reflect the monitoring requirements.
- Table S3.3 as referred to in condition 3.5.1 is updated to refer to the corresponding pre-operational measure.
- Table S3.5 as referred to in condition 3.5.1 is updated to correct the abatement techniques.
- Table S4.1 as referred to in condition 4.2.3 is updated to add a reporting requirement.
- Table S4.4 as referred to in condition 4.2.3 is updated with the current reporting forms.
- Schedule 7 as referred to in condition 2.2.1 is updated to add a site location plan.

Schedule 2 - consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/EP3334AS

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/EP3334AS/V004 authorising,

Greenergy Biofuels Teesside Limited ("the operator"),

whose registered office is

198 High Holborn London WC1V 7BD

company registration number 08460063

to operate an installation at

Greenergy Biofuels Teesside Seal Sands Terminal South Site Seal Sands Road Middlesbrough TS2 1UB

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

Name	Date
Philip Lamb	30/11/2021

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.

1.2 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").

2.2 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.

2.5 Pre-operational conditions

2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

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, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Total annual emissions from the emission point(s) set out in schedule 3 tables S3.1, S3.2 and S3.3 of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.
- 3.1.4 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, S3.2 and S3.3; and
 - (b) process monitoring specified in table S3.5;
- 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, S3.2 and S3.3 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, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.

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 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:

- (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.
- 4.3.5 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	Table S1.1 activities			
Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity		
Section 4.1 Part A(1)(a)(ii): Producing organic chemicals containing oxygen	Transesterification of vegetable oils and waste vegetable and animal oils into Biodiesel (FAME) and glycerine. Stages include Feedstock Pretreatment, Free Fatty Acid distillation, Trans-esterification, Biodiesel drying, Acid-esterification, separation and distillation.	From receipt of raw materials to dispatch of finished product.		
Section 5.4 Part A(1)(a)(ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico- chemical treatment	Effluent treatment including pH adjustment, removal of oil and removal of suspended solids.	From collection, storage and treatment of process effluents and surface water run-off to disposal to sewer (S1) or the River Tees (W1)		
Directly Associated Activity	/			
Water treatment	Water treatment (Reverse Osmosis)	From receipt of raw materials to dispatch of finished product.		
Boiler house	Burning natural gas, gas oil or technical grade glycerol produced from virgin vegetable oil to generate steam to provide heat use in the stationary technical unit	From receipt of raw materials, generation of high and low pressure steam in the boilers and distribution of steam around site.		
Solid / liquid waste handling	Storage and handling of solid and liquid wastes	Production and storage of solid and liquid wastes to the dispatch from the Permitted facility.		

Table S1.2 Operating techniques		
Description Parts		Date Received
Application	The response to questions B2.1, B2.2 and B2.3 in the Main Application excluding table under Section 2.3.2	
Additional information	Revised table under section 2.2.3 in Additional Information	07/03/05
Variation application	Full variation application	12/03/08
Variation application	Application document HAR01 in response to Section 3, Tables 3 – technical standards, Part C3 of the application form	
Variation application EPR/VP3635TJ/V004 Form EPC: Application for an Environmental Permit – Part C3 varying a bespoke installation permit, Question 3		09/05/14
	Further Information Response – H1 ERA Letter and site plan (reference: J4332-02-GA-001 REV P1)	05/06/14
Variation application EPR/EP3334AS/V003	Table 3 – technical standards, Part C3 of the application form Duly made 08/11/19	
Response to Schedule 5	Response to Question 3: operating techniques for the 21/07/20	

Table S1.2 Operating techniques			
Description	Description Parts		
Notice dated 24/06/20	neutralisation of the effluent to achieve the pH limits.		
Response to Schedule 5 Notice dated 24/06/20	Response to Question 4: removal of oil from the effluent stream prior to disposal.	23/07/20	
Response to Schedule 5 Notice dated 17/09/20	Response to Question 2: removal of suspended solids from the effluent stream prior to disposal.	05/10/20	
		Received 09/08/18	
Note 1: Updates are requi	Note 1: Updates are required by Improvement programme 28		

Table S1.3 Improvement programme requirements			
Reference	Requirement	Date	
26	The operator shall submit, for approval by the Environment Agency, progress reports on achieving the BAT-associated emission levels (AELs) where BAT is currently not achieved, but will be achieved before 07/12/2021. The progress reports shall include, but not be limited to, the following: 1) Current performance against the BAT-AELs. 2) Methodology for reaching the BAT-AELs. 3) Associated targets / timelines for reaching compliance by 07/12/2021. 4) Any alterations to previous plans to achieve compliance. The report shall address compliance with the following BAT-AELs: • Common waste water and waste gas treatment/management systems in the chemical sector (CWW) section 3.4 Tables 1, 2 & 3.	Completed	
	Refer to BAT Conclusions for a full description of the BAT requirements.		

Table S1.3 Improvement programme requirements			
Reference	Requirement	Date	
27	 The operator shall either: A) Submit and obtain the Environment Agency's written approval to a report confirming that the management of process effluent is in compliance with the BAT-AELs for direct emissions to a receiving water body detailed in section 3.4 Tables 1, 2 & 3 of the Common waste water and waste gas treatment/management systems in the chemical sector BAT Conclusions Note 1; or 	07/12/2021	
	B) Submit to the Environment Agency alternative emission limits by way of a derogation in accordance with article 15(4) of the Industrial Emissions Directive and Industrial Emissions Directive EPR Guidance on Part A installations.		
	The derogation application shall include, but not be limited to, the following:		
	 a) The BAT conclusions the operator wishes to derogate from and the relevant BAT-AELs; 		
	b) The operator's current performance against the BAT-AELS;		
	 c) Derogation evidence and the qualifying criteria identified in article 15(4) of IED that is relevant to this site; 		
	 d) A timeline for compliance with the BAT-AELs or confirmation that this is a request for an open ended derogation; 		
	 e) An options appraisal of all other potential ways to deliver compliance with the BAT-AELs with justifications as to which options are to be taken forward; 		
	 f) A cost benefit analysis of the options and preferred solution showing that any other action would incur disproportionate costs; and 		
	 g) A demonstration that no significant pollution is caused and that a high level of environmental protection is achieved. 		
28	The operator shall submit a report, for approval by the Environment Agency, following finalisation of the plant upgrades for the management of process effluent and their commissioning. The report shall provide updates to the operator's responses to the Regulation 61 Notice (received 09/08/18), to provide details of their operating techniques and compliance with:		
	LVOC BATc 14;		
	• CWW BATc 2, 7, 8, 10, 11 and 12; and		
	any other BATc as relevant, where changes have occurred due to the change in process effluent management.		
	Following approval of the report by the Environment Agency, these updated responses to the requirements of the BAT conclusions shall be deemed to be incorporated into Table S1.2 Operating techniques.		

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
29	The operator shall ensure that any residues from the treatment of waste to produce biodiesel have stopped being waste and have satisfied all the conditions within Article 6 of the Waste Framework Directive if these residues are sold or transferred as non-wastes. This includes, but is not limited to, glycerine/glycerol/glycol and potassium sulphate. The operator may self-assess using the available guidance and/or consult with the Environment Agency's Definition of Waste (DoW) Service. The operator shall submit a written report to the Environment Agency to confirm the waste status.	30/11/2022 or prior to any increase in waste acceptance, whichever is sooner.

Note 1:

The operator may address this requirement with:

- A report confirming that the process effluent has been eliminated from the direct emission to the River Tees and the BAT-AELs are therefore not applicable; or
- The submission of the report detailed in pre-operational measure PO1, to demonstrate that the indirect emission is BAT.

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
PO1	Reconnection of discharge to sewer for treatment at Bran Sands Industrial Effluent Treatment Works	The operator must demonstrate that the treatment provided off- site is BAT and that it provides an equivalent level of treatment and protection of the environment as if the effluent were treated on-site, in accordance with Article 15 (1) of the Industrial Emissions Directive. The demonstration should use the BAT- AELs as a reference point (Common waste water and waste gas treatment/management systems in the chemical sector (CWW) section 3.4 Tables 1, 2 & 3). A written report shall be submitted to the Environment Agency.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Sulphur content of gas oil	Only gas oil as defined in the Sulphur Content of Liquid Fuels Regulations 2000 may be burned.

Table S2.2 Permitted waste types and quantities for the manufacture of biodiesel.				
Maximum quantity	250,000 tonnes			
Waste code	Description			
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing.			
02 02	Wastes from the preparation and processing of meat, fish and other foods of animal origin.			
02 02 99	Wastes not otherwise specified			
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 processing.			
02 03 99	Wastes otherwise not specified.			
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 25	Edible oil or fat			

Schedule 3 – Emissions and monitoring

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on emission point plan in Schedule 7]	Biodiesel/Glycerol Plant via Condenser and Scrubber	Total Volatile Organic Compounds (Total VOCs)	2 kg/hour [Note 3]	Hourly average [Note 4]	Annual [Note 7]	EN 12619
A2 [Point A2 on emission point plan in schedule 7]	KOH big BagFilter Plant 000 (Biofuels Plant)	No parameter set	No limit set			Permanent sampling access not required
A3 [Point A3 on emission point plan in schedule 7]	KOH big BagFilter Plant 700 (Glycerine Plant)	No parameter set	No limit set			Permanent sampling access not required
A4 [Point A4 on emission point plan in schedule 7]	Activated carbon big BagFilter Plant 800 (Glycerine Plant)	No parameters set	No limit set			Permanent sampling access not required
A5 [Point A5 on emission point plan in schedule 7]	16,300 kg/hr Boiler	Carbon monoxide	100 mg/m ³	Hourly average [Note 5]	Annual [Note 2]	BS EN 15058
		Oxides of Nitrogen (as NO ₂)	140 mg/m ³	Hourly average [Note 5]	Annual [Note 2]	BS EN 14792
A6 [Point A6 on emission point plan in schedule 7]	22,900 kg/hr boiler	Carbon monoxide	100 mg/m ³	Hourly average [Note 5]	Annual [Note 2]	BS EN 15058
		Oxides of Nitrogen (as NO ₂)	140 mg/m ³	Hourly average [Note 5]	Annual [Note 2]	BS EN 14792
A7 [Point A7 on emission point plan in schedule 7]	Glycerine Mixing Vessel Exhaust Vent	No parameters set	No limit set			Permanent sampling access not required
A8 [Point A8 on emission point plan in schedule 7]	Methanol Storage Tank Vent	No parameters set	No limit set			Permanent sampling access

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
						not required
A9 [Point A9 on emission point plan in schedule 7]	Vacuum vent point Plant 700 (FAME distillation plant)	Total Volatile Organic Compounds (Total VOCs)	2 kg/hour [Note 3]	Hourly average [Note 4]	Annual [Note 7]	EN 12619
A10 [Point A10 on emission point plan in	FFA Package boiler	Carbon monoxide	100 mg/m ³	Hourly average [Note 5]	Annually	BS EN 15058
schedule 7]	FFA Package boiler (Low NOx Burner)	Oxides of Nitrogen (as NO ₂)	140 mg/m ³	Hourly average [Note 5]	Annually	BS EN 14792
A11 [Point A11 on emission point plan in schedule 7]	Vacuum vent point Plant 150 (FFA Column)	Total Volatile Organic Compounds (Total VOCs)	No limit set	Hourly average [Note 4]	Annual [Note 7]	EN 12619

Note 1: Compliance is achieved on the basis of the 95% of all hourly averages in any 24 hour period not exceeding the relevant emission limit value. No single hourly average value shall exceed 150% of the emission limit value.

- Note 2: Periodic monitoring shall be performed when only natural gas is used.
- Note 3: Monitoring results should be expressed in both mg/m³ and kg/hour. The term "Volatile Organic Compounds" includes all organic compounds released to air in the gas phase.
- Note 4: The VOC monitoring should be three sets of samples of one hour duration each.
- Note 5: The duration of monitoring shall be a minimum of 1 hour.
- Note 6: Emission points not in use. Monitoring requirements must be agreed in writing with the Environment Agency prior to the use of any of these emission points.
- Note 7: The annual monitoring frequency reflects stability in the emission levels, with flow rates below 0.5 m/s. Monthly monitoring is required if emissions increase.

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
plan in schedule 7 find the fi	Surface Water Run-off from roadways, building roofs and car park,	Total daily volume of discharge	No limit set	24-hour total	Continuous	MCERTS self- monitoring of effluent flow scheme
River Tees	cooling tower purge, boiler blowdown, reverse osmosis purge, isotank heating bays	рН	5 min – 9 max.	Hourly average	Continuous	BS ISO 10523
	and process effluent	Total Organic Carbon (TOC)	500 mg/l	Daily average	Continuous	BS EN 1484
		Visible oil or grease	No significant trace present	Instantaneous	Daily	Visual examination
		Total Organic Carbon (TOC)	33 mg/l	Yearly average of 24- hour flow proportional composite samples	Daily	BS EN 1484
		Total suspended solids Note 1	35 mg/l	Yearly average of 24- hour flow proportional composite samples	Daily	BS EN 872
		Total phosphorus	3 mg/l	Yearly average of 24- hour flow proportional composite samples	Daily	BS EN ISO 15681-1 BS EN ISO 15681-2 BS EN ISO 6878
	Copper (expressed as Cu)	50 µg/l	Yearly average of 24- hour flow proportional composite samples	Monthly	BS EN ISO 11885 BS EN ISO 17294-1 BS EN ISO 17294-2	
		Zinc (expressed as Zn)	300 µg/l	Yearly average of 24- hour flow proportional composite samples	Monthly	BS EN ISO 15586

Note 1: Applicable from 07/12/2021 if the discharge of process effluent is still being made via W1.

Note 2: A limit of 400 m³/d of process effluent will be applicable from 07/12/2021 if the discharge of process effluent is still being made via W1.

Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 on emission point plan in schedule 7	Process effluent Note 1	Total daily volume of discharge	No limit set	24-hour total	Continuous	Operator self- monitoring of flow
Emission to Bran Sands Industrial Effluent Treatment Works						

Table S3.4 Annual limits					
Substance	Medium	Limit (including unit)			
Volatile Organic Compounds (VOCs) Class B (as carbon)	Air	5000 kg/year			

Table S3.5 Process monitoring requirem	nents			
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
A2, A3, A4, A7	Particulates, Volatile Organic Compounds (VOCs)	When operational	Not applicable	Abatement of emissions to air is by fabric filters. These abatement and control systems shall be maintained so as to ensure efficient operation. Records of this maintenance and the reaction parameters for process shall be available as required by condition 4.1.2 The process shall not operate without these abatement and control measures being fully operational and will operate in accordance with written procedures.
A1	Total Volatile Organic	Continuous	Not applicable	The process shall not operate without

Table S3.5 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications	
	Compounds (VOCs) (as carbon)			these abatement and control measures being fully operational and will operate in accordance with written procedures.	

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.	A1, A5, A6, A9, A10, A11	Every 12 months	13/05/15		
Emissions to water (other than sewer) Parameters as required by condition 3.5.1	W1	Every 12 months	1 January		
Emissions to sewer Parameters as required by condition 3.5.1	S1	Every 12 months	1 January		

Table S4.2: Annual production/treatment			
Parameter	Units		
Production of organic chemicals	tonnes		

Table S4.3 Performance parameters				
Parameter	Frequency of assessment	Units		
Water usage	Annually	tonnes		
Energy usage	Annually	MWh		
Chemical Oxygen Demand (COD) Note 1	Annually	COD/t Product		
Volatile Organic Compounds (VOCs)	Annually	VOC/t Product		
Hazardous waste	Annually	Hazardous waste/t Product		
Non-hazardous waste	Annually	Non-hazardous waste/t Product		

Table S4.3 Performance parameters			
Parameter	Frequency of assessment	Units	
Effluent treatment at Bran Sands Industrial Effluent Treatment Works		No change/Change Note 2	

Note 1: Chemical Oxygen Demand released to Sewer S1.

Note 2: Confirm whether there have been any significant changes at the installation or at Bran Sands Industrial Effluent Treatment Works that may affect whether treatment off-site at Bran Sands Industrial Effluent Treatment Works is BAT and provides an equivalent level of protection of the environment as if the effluent were treated on-site.

Table S4.4 Reporting forms			
Media/parameter	Reporting format	Date of form	
Air	Emissions to Air Reporting Form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021	
Emissions to Water	Emissions to Water Reporting Form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021	
Emissions to Sewer	Emissions to Sewer Reporting Form or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021	
Water usage	Form WU1 or other form as agreed in writing by the Environment Agency	September 2010	
Energy usage	Form E1 or other form as agreed in writing by the Environment Agency	September 2010	
Waste Return	Form R1 or other form as agreed in writing by the Environment Agency	September 2010	
Other performance indicators	Form Performance 1 or other form as agreed in writing by the Environment Agency	20/05/2021	

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	
	any malfunction, breakdown or failure of equipment or techniques, ince not controlled by an emission limit which has caused, is 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	
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 breach of permit c	onditions not related to limits				
To be notified within 24 hours of detection					
Condition breached					
Date, time and duration of breach					
Details of the permit breach i.e. what happened including impacts observed.					
Measures taken, or intended to be taken, to restore permit compliance.					
(d) Notification requirements for the detection of any si To be notified within 24 hours of detection Description of where the effect on	<u></u>				
the environment was detected					
Substances(s) detected					
Concentrations of substances detected					
Date of monitoring/sampling					
Part B – to be submitted as soon as Any more accurate information on the matters for notification under Part A.	s practicable				
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 unauthorized emissions from the					
The dates of any unauthorised emissions from the facility in the preceding 24 months.					

Post	
Signature	
Date	

^{*} authorised to sign on behalf of the operator

Schedule 6 - Interpretation

"accident" means an accident that may result in pollution.

"annually" means once every year.

"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.

"BAT-AELs" means BAT-associated emission levels, i.e. the emission levels associated with the best available techniques for emissions to air and/or water, as set out in

"Common waste water and waste gas treatment/management systems in the chemical sector BAT Conclusions or CWW" means Commission Implementing Decision (EU) 2016/902 of 30 May 2016 establishing Best Available Techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for Common Waste Water And Waste Gas Treatment/ Management Systems in the Chemical Sector as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016

"diffuse emissions" means non-channelled emissions which can result from 'area' sources (e.g. tanks) or 'point' sources (e.g. pipe flanges).

"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.

"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.

"EWC code" means the code number from the European Waste Catalogue.

"fugitive emissions" means diffuse VOC emissions from 'point' sources.

"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.

"Hazardous property" has the meaning in Annex III of the Waste Framework Directive as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

"Hazardous waste" has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

"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

"Large Volume Organic Chemicals BAT Conclusions or LVOC" means The Commission Implementing Decision (EU) 2017/2117 of 21 November 2017 establishing Best Available Techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the Production of Large Volume Organic Chemicals as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

"List of Wastes" means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on

waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

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

"Waste code" means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

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.

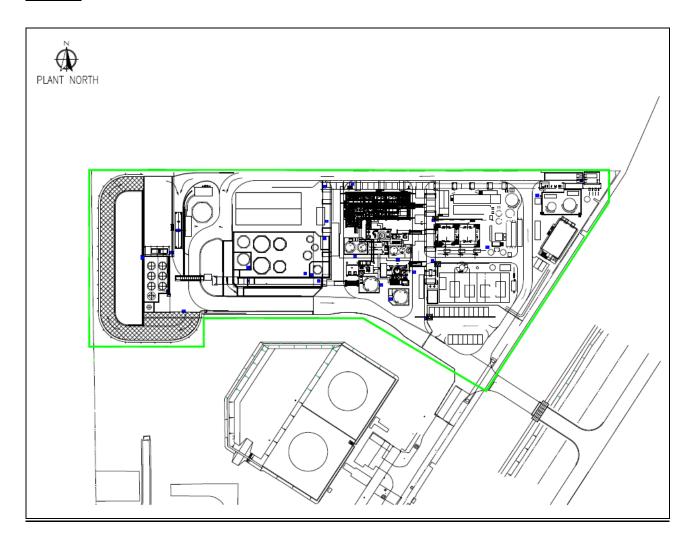
Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- 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 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.

[&]quot;year" means calendar year ending 31 December.

Schedule 7 – Site plan

Site plan



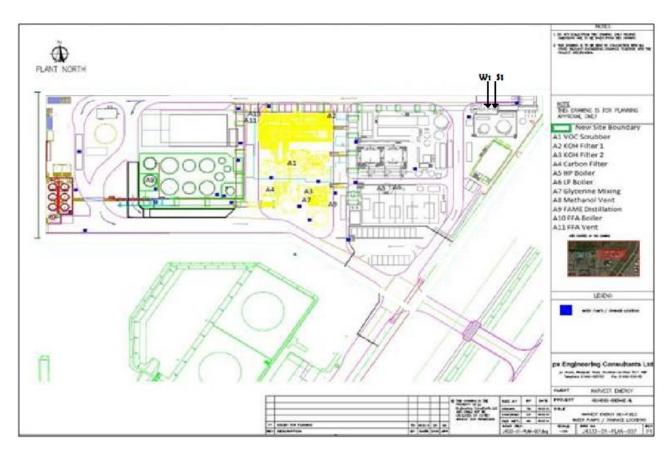
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Site location plan



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Emission point plan



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