Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Northumbrian Water Limited

Industrial Effluent Treatment Works
Bran Sands
Tees Dock Road
Middlesborough
TS6 6UE

Variation application number

EPR/LP3439LK/V012

Permit number

EPR/LP3439LK

Industrial Effluent Treatment Works
Permit number EPR/LP3439LK

Introductory note

This introductory note does not form a part of the notice

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

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

Changes introduced by this variation notice/statutory review

The Industrial Emissions Directive (IED) came into force on 7 January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) Conclusions as described in the Commission Implementing Decision. The schedule of waste management activities includes the recovery 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, but excludes activities covered by the Urban Waste Water Treatment Regulations (UWWTR). However, UK environmental regulators concluded that the biological treatment of waste sewage sludge is not an activity covered by the UWWTR and is therefore within the scope of the IED.

Article 21(3) of the IED requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions. The BAT Conclusions for Waste Treatment (the BREF) was published on 17 August 2018 following a European Union wide review of BAT, implementing decision (EU) 2018/1147 of 10 August 2018.

The scope of the permit review covers the assessment of activities AR2, AR7, AR8 and all directly associated activities only and includes:

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

The permitted activities in relation to AR2 have ceased at this installation and this activity is therefore not operational. The operator has commenced site decommissioning to return the site to its original state. We have taken the opportunity to issue a modern and consolidated permit to aid site compliance prior to permit surrender. We have not undertaken the statutory BAT review for this installation as the site is in the decommissioning phase. This notice includes condition 2.1.3 which prevents the operator from operating activities listed within table S1.1 of this permit until they have demonstrated compliance with the Best Available Techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on Industrial Emissions (integrated pollution prevention and control) for Waste Treatment.

This variation has been issued following a statutory review of the permits in the industry sector for biowaste treatment and to bring the biological treatment of sewage sludge within the scope of IED. The opportunity has also been taken to consolidate the original permit and subsequent variations.

The schedules specify the changes made to the permit.

Brief description of the process

This permit allows Northumbrian Water Ltd to operate a hazardous and non-hazardous waste treatment facility at the Bran Sands Effluent Treatment Works and Regional Sludge Treatment Centre in

Middlesbrough. The activities are regulated by the Environment Agency under the following sections of Schedule 1 to the EPR Regulations:

- **Two Section S5.3 A(1)(a)(i)** – Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving biological treatment;
- **Four Section S5.4 A(1)(a)(i)** – Disposal of non-hazardous waste in a facility with a capacity exceeding 50 tonnes per day involving biological treatment; and
- **One Section S5.6 A(1)(a)** – Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes; and
- **One Section S5.4 A(1)(a)(ii)** - Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment.

Aerobic treatment (Train A and train B)

Activities AR1, AR3, AR4, AR5 and AR6 at the installation comprise of the aerobic treatment of hazardous and non-hazardous wastes in Train A and Train B. The majority of the waste arrives via dedicated pipelines, with some waste also being brought in by tanker. All aerobic treatment processes are activated sludge processes, with aerobic digestion followed by sludge settlement. The effluents from the train A and train B processes are combined prior to discharge under emission point D2.

Anaerobic digestion of Terephthalic acid

Activity AR2 is an anaerobic process that pre-treats waste effluent from the production of pure Terephthalic acid (PTA 2 waste)

Advanced Sludge Digestion (A7, AR8 and all directly associated activities)

The site will accept up to 250,000 tonnes per annum of indigenous (sludge produced at Bran Sands WwTW) and imported (Sewage sludge produced at Northumbrian water satellite sites) waste sludge.

Under activity AR8 sludge is dewatered and screened with the liquor produced being discharged to the WwTW (which does not form part of the permit boundary) by emission point S1.

Once waste has been thickened, blended, dewatered and excess liquor removed, the dewatered sludge is transferred to the thermal hydrolysis process (THP) where the application of temperature and pressure is used to enhance the digestion of the sludge.

From the THP process, sludge is transferred to one of the three anaerobic digester (AD) tanks at the site. The treatment of sludge in a biological AD process is a Section 5.4 Part A (1)(b)(i) scheduled activity of the above regulations (AR7).

Biogas produced as part of the AD process is stored in one of two biogas holders and the roof of the primary digesters prior to being used for combustion in four combined heat and power (CHP) engines (with an agregated thermal input of 10.9 MWth), and two dual fuel boilers (with an aggregated thermal input of 9.8 MWth). The electrical energy and heat produced, is used to power on-site processes and provide heat to the sludge treatment process, with some exported to the grid.

In the event of emergency, biogas is flared in one of two waste gas burners.

Following AD treatment sludge is transferred for dewatering with the resultant liquor being transferred to WwTW via emission point S1. Cake produced as part of the dewatering is sent for disposal.

The site also operates two Odour Control Unit (OCU) at emission points A13 and A18.

There is one sensitive European site within close proximity to the installation, which is the Teesmouth and Cleveland Coast SPA. This site also contains a number of SSSIs, which are Seal Sands SSSI, and South Gare and Coatham Sands SSSI.

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**
Application received LP3439LK	Duly made 22/12/2005	Application for treatment of hazardous and non-hazardous waste.
Email requesting additional information	14/03/2006	Response 26/04/06
Request for additional Information	12/05/2006	25/05/06 & 09/06/06
E-mail Requesting additional Information	12/06/2006	15/06/06
Permit determined EPR/LP3439LK	29/09/2006	Original permit issued to Northumbrian Water Limited.
Variation notice TP3438ME issued	25/10/2006	
Variation notice JP3535MB issued	27/02/2007	
Application for variation EPR/LP3439LK/V004	05/01/2009	
Email requesting inclusion of an extra Waste Code	02/04/2009	
Variation Notice EPR/LP3439LK/V004 determined	03/12/2009	
Application EPR/LP3439LK/V005 (variation and consolidation)	Duly made 22/10/2012	Application to vary and update the permit to modern conditions.
Additional Information Received	09/11/2012	Alternative sources of COD during Lotte (PTA) effluent shutdown.
Variation determined EPR/LP3439LK/V005	18/01/2013	Varied and consolidated permits (EPR/LP3439LK & EPR/HP3937PN) issued in modern condition format as EPR/LP3439LK.
Agency variation determined EPR/LP3439LK/V006	30/05/2013	Environment Agency variation to implement the changes introduced by IED.
Application EPR/LP3439LK/V007 (variation and consolidation)	Duly made 26/09/2013	Application to amend ammoniacal nitrogen emission limit during Alternative Operating Mode, add bespoke conditions for the Alternative Operating Mode and update the permit to modern conditions.
Variation determined EPR/LP3439LK/V007	09/12/2013	Variation and consolidated permit issued in modern condition format.
Variation application EPR/LP3439LK/V008	Duly made 16/06/2014	Application to increase the volume of hazardous and non-hazardous waste to be accepted by tanker to 1,250 m^3/day.
Variation determined EPR/LP3439LK/V008	03/07/2014	
Variation application EPR/LP3439LK/V009	Duly made 18/11/2015	Application to add waste codes to certain waste tables.
Variation determined EPR/LP3439LK	12/01/2016	Varied permit issued.
Application EPR/LP3439LK/V010 (variation and consolidation)	Duly made 17/10/2019	Variation to add a new biogas upgrading plant and to convert three existing CHP engines to run on natural gas and biogas (previously solely run on biogas).

Status log of the permit		
Description	**Date**	**Comments**
Additional information received	12/12/2019	Response to the Schedule 5 notice dated 11/12/19, including information on odour management techniques related to the gas upgrading process and confirmation of information related to the conversion of the CHP engines.
Additional information received	17/12/2019 & 18/12/2019	Response to request for information dated 16/12/19, including information related to odorant and propane receipt, handling and storage and the odour control unit serving the gas upgrading plant.
Additional information received	20/12/2019	Response to request for information dated 19/12/19, including information related to odorant spillage procedures.
Additional information received	08/01/2020	Confirmation of the thermal input of site boilers.
Additional information received	28/01/2020	Confirmation of the status of site boilers.
Variation determined EPR/LP3439LK (Billing ref: TP3804PE)	30/01/2020	Varied and consolidated permit issued.
Application EPR/LP3439LK/V011 (Application not duly made)	12/10/2023	Application returned
Regulation 61 Notice sent to Operator	17/08/2021	Regulation 61 Notice requiring information for statutory review of permit.
Regulation 61 Notice response	30/03/2022	Response received from the operator.
Additional information received	12/09/2024	Response to request for further information dated 23/07/2024
Application EPR/LP3439LK/V012 (variation and consolidation)	Environment Agency Initiated Variation	Statutory review of permit occasioned by Waste Treatment BAT Conclusions published on 17 August 2018.
Additional information received PR/LP3439LK/V012	30/03/22	Application of BAT
Additional information received PR/LP3439LK/V012	12/09/24	Further information regarding open topped tanks, emissions from odour control units, waste quantities, indirect emissions to water and sewer, waste water emissions during storm overflow conditions and secondary containment.
Application EPR/LP3439LK/V013	N/A	Raised in error
Application EPR/LP3439LK/V014 (Application not duly made)	07/03/2024	Application returned
Application EPR/LP3439LK/V015 (Application not duly made)	21/06/2024	Application returned
Additional information received PR/LP3439LK/V012	26/02/25	Further information regarding thermal hydrolysis and site layout plan.

Status log of the permit		
Description	**Date**	**Comments**
Environment Agency Water and Sewerage Companies Review Permit reviewed Variation determined EPR/LP3439LK/V012	26/03/2025	Varied and consolidated permit issued.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

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

Permit number

EPR/LP3439LK

Issued to

Northumbrian Water Limited ("the operator")

whose registered office is

Northumbria House
Abbey Road
Pity Me
Durham
DH1 5FJ

company registration number 02366703

to operate a regulated facility at

Industrial Effluent Treatment Works
Bran Sands
Tees Dock Road
Middlesborough
TS6 6UE

to the extent set out in the schedules.

The notice shall take effect from 26/03/2025

Name	Date
Rebecca Warren	**26/03/2025**

Authorised on behalf of the Environment Agency

Schedule 1

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

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/LP3439LK

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/LP3439LK/V012 authorising,

Northumbrian Water Limited ("the operator"),

whose registered office is

Northumbria House
Abbey Road
Pity Me
Durham
DH1 5FJ

company registration number 02366703

to operate an installation at

Industrial Effluent Treatment Works
Bran Sands
Tees Dock Road
Middlesborough
TS6 6UE

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

Name	Date
Rebecca Warren	**26/03/2025**

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 The activities shall be undertaken in accordance with best available techniques.

2.1.3 No activities authorised under AR2 by this permit shall take place until the operator has submitted a report in writing to the Environment Agency assessing compliance against the Best Available Techniques (BAT) as described in BAT conclusions (BATc) under Directive 2010/75/EU of the European Parliament and of the Council on Industrial Emissions (integrated pollution prevention and control) for Waste Treatment, and has obtained written approval from the Environment Agency.

2.1.4 All process plant and equipment shall be commissioned, operated and maintained and shall be fully documented and recorded in accordance with the manufacturer's recommendations.

2.1.5 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

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

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.4 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3, S2.4A, S2.4B, S2.5, S2.6, S2.7 and S2.8; and

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

(c) the facility has sufficient free capacity to store and treat the waste.

2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

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

2.3.8 For the following activities referenced in schedule 1, table S1.1 (AR15):

(a) each MCP must be operated in accordance with the manufacturer's instructions and records must be made and retained to demonstrate this.

(b) the operator must keep periods of start-up and shut-down of each combustion plant as short as possible.

(c) there must be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993.

Hazardous waste storage and treatment

2.3.9 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

Use of Settled Domestic Sewage

2.3.10 The operator shall only use settled domestic sewage as a feed of last resort to the Industrial Effluent Treatment Plant in the event of the interruption of the feed from the PTA plant.

2.3.11 While adding the settled domestic sewage, the operator shall:

(a) Monitor and report the operation of the IETP to ensure compliance with the BOD and Chemical Oxygen Demand (COD) destruction requirements of the Urban Waste Water Treatment Directive (UWWTD).

(b) Monitor the final effluent concentration from the IETP for presumptive E.coli on every second day, fifth day and then weekly while processing. Should these counts exceed 50,000 per 100ml during the bathing water season, the operator shall cease adding domestic sewage to the Industrial Effluent Treatment Plant.

(c) Monitor weekly for two weeks after the use of settled sewage has stopped.

(d) Monitor the Inlet, including the sampling and flow measurement of all relevant incoming flows to calculate the total influent BOD/COD concentrations.

(e) Monitor the Outlet, by taking samples and flow readings of the combined industrial/diverted sewage final effluent BOD/COD concentrations.

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 Alternative Operating Mode

2.5.1 Notwithstanding condition 3.1.2 during the Metastable Phase the ammoniacal nitrogen limit of 3 tonnes per day based on 5 day rolling average shall not be exceeded at the emission point D2 shown on drawing No CC0952 A. The operator shall inform the Environment Agency immediately in the event that the concentration of ammoniacal nitrogen exceeds 100 mg/l.

2.5.2 During the Flush-Out Phase the total daily emission of ammoniacal nitrogen at the emission point D2, shown on drawing No CC0952 A, shall not exceed 4 tonnes per day.

2.5.3 Every two years, the operator shall systematically review operations while running in the Alternative Operating Mode in order to check that the operation is minimising the environmental impact of operation in this mode. The operator shall submit a written summary report to the Environment Agency describing the review. The first summary report shall be submitted on or before 31st December 2015.

2.5.4 The operator shall monitor the daily average Ammoniacal Nitrogen concentration and effluent flow rate and calculate the quantity of Ammoniacal Nitrogen in the discharge to controlled waters daily during the Flush-Out Phase. These daily loads shall be reported in writing to the Environment Agency within one month of the cessation of any Flush-Out Phase.

2.5.5 In the event of the PTA plant being permanently shutdown, within two years of being notified of this shutdown, the operator shall reconfigure the IETP to meet the ammoniacal nitrogen limit for normal operating conditions.

2.5.6 The Operator shall notify the Environment Agency as soon as reasonably practicable of any planned switch to Alternative Operating Mode with the following details:

- Date the IETP will commence in Alternative Operating Mode
- Explanations for running the IETP in Alternative Operating Mode
- Anticipated duration of the Alternative Operating Mode.

2.5.7 The Operator shall notify the Environment Agency within 24 hours of the PTA plant starting to recommence discharges to the IETP.

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 S3.4.

3.1.2 The limits given in schedule 3 shall not be exceeded except for the limit for ammoniacal nitrogen within table S3.2 when the alternative limits in conditions 2.5.1 and 2.5.2 apply.

3.1.3 Where a substance is specified in schedule 3 table S3.2 (R1, R2 and R3) but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.

3.1.4 Total annual emissions from the emission points set out in schedule 3 table S3.2 of a substance listed in schedule 3 table S3.3 shall not exceed the relevant limit in table S3.3.

3.1.5 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, but including ammonia) 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 Subject to condition 3.2.4, below, all liquids in containers, whose emission to water or land could cause pollution, shall be provided with adequate secondary containment, unless other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container have been agreed in writing with the Environment Agency.

3.2.4 Condition 3.2.3, above, shall apply unless the operator strictly complies in full with IC23 below.

3.2.5 The operator shall implement a leak detection and repair (LDAR) programme to detect and mitigate the release of volatile organic compounds, including methane from diffuse sources.

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 S3.4 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, S3.4, S3.5 and S3.6 unless otherwise agreed in writing by the Environment Agency.

3.5.5 In the case of new medium combustion plant, the first monitoring measurements shall be carried out within four months of the issue date of the permit or the date when the MCP is first put into operation, whichever is later.

3.5.6 For existing MCP Monitoring measurements shall be carried out before the relevant compliance date or within four months of the issue date of the permit whichever is the later.

3.5.7 Monitoring shall not take place during periods of start up or shut down.

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) only use approved products for pest control;

(b) treat pest infestations promptly;

(c) reject pest-infected incoming waste;

(d) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;

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

3.7 Fire prevention

3.7.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.7.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;

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

3.7.3 The operator shall undertake a DSEAR assessment and maintain an accident management plan.

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.

4.1.3 The operator shall maintain a record of the type and quantity of fuel used and the total annual hours of operation of each MCP.

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.

4.2.6 The operator shall keep records of non-waste materials leaving the site, including the type of material, the batch number, the date of export off-site and the tonnage exported on that date. These records shall be maintained for at least 2 years.

4.2.7 The operator shall submit an annual report detailing the efficiency of removal of non-digestible materials from feedstock prior to processing and the level of contamination in the final recovered digestate.

4.3 Notifications

4.3.1 In the event:

(a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) of a breach of any permit condition the operator must immediately—

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Following the detection of an issue listed in condition 4.3.1, the operator shall review and revise the management system and implement any changes as necessary to minimise the risk of re-occurrence of the issue.

4.3.4 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.5 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(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:

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

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

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.6 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

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

4.3.8 The operator shall notify the Environment Agency as soon as is practicable, in writing of any change of medium combustion plant.

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**
AR1	S5.6 A(1)(a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Section 5.1, 5.2, 5.3 and paragraph (b) of this Section, except – (i) temporary storage, pending collection, on the site where the waste is generated, or (ii) activities falling within Section 5.2.	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	Storage of hazardous waste types as specified in Schedule 2 tables S2.2, S2.4B and S2.5.
AR2	S5.4 A(1)(a)(i) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	D8: Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	Receipt of wastewater for anaerobic treatment of non-hazardous waste waters from PTA manufacturing plant (two reactors) with a capacity exceeding 50 tonnes per day. The treatment and transfer of waste water into Train A or Train B. Discharge of biogas to flares and transfer of off-gas to municipal waste water treated train B. Waste types suitable for acceptance are limited to those specified in Schedule 2 table S2.2.
AR3	S5.3 A(1)(a)(i) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving biological treatment.	D8: Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	Receipt of waste water for aerobic treatment of hazardous waste water in train B (cells B1 to B9) with a capacity exceeding 10 tonnes per day. Emission to water shall be discharges at point D2. Hazardous waste types as specified in Schedule 2 table S2.7.
AR4	S5.3 A(1)(a)(i) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day	D8: Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are	Receipt of waste water for aerobic treatment of hazardous wastewater in water in train A with a capacity exceeding 10 tonnes per day.

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**
	involving biological treatment.	discarded by means of any of the operations numbered D 1 to D 12	Emission to water shall be discharges at point D2. Hazardous waste types as specified in Schedule 2 table S2.6.
AR5	S5.4 A(1)(a)(i) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	D8: Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	Receipt of waste water into the treatment via pH adjustment followed by aerobic treatment of non-hazardous wastewater in train A with a capacity exceeding 50 tonnes per day. Emission to water shall be discharges at point D2. Non-hazardous waste types as specified in Schedule 2 table S2.6.
AR6	S5.4 A(1)(a)(i) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	D8: Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	Receipt of wastewater for aerobic treatment of non-hazardous wastewater in train B (Cells B1 to B9) with a capacity exceeding 50 tonnes per day. through to the discharge at Emission to water shall be discharges at point D2. Non-hazardous waste types as specified in Schedule 2 table S2.7.
AR7	S5.4 A(1)(a)(i) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	D8: Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12	From receipt of waste through to digestion and disposal of by-products (waste treated by anaerobic digestion). Anaerobic digestion of waste in three tanks followed by burning of biogas produced from the process. Anaerobic digestion shall be limited to 730 tonnes per day. Waste types suitable for acceptance are limited to those specified in Table S2.8.
AR8	S5.4 A(1)(a)(ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment.	D9: Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12	From the receipt of waste to despatch for anaerobic digestion. Dilution of incoming wastes using final waste waters from the wastewater treatment works to aid pre-treatment and digestion only. Pre-treatment of waste in enclosed equipment and tanks [or an enclosed building fitted with appropriate odour

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**
			abatement and on an impermeable surface with a sealed drainage system, including shredding, sorting, screening, compaction, baling, mixing and maceration before transfer to the anaerobic digestion activity AR7. Waste types suitable for acceptance are limited to those specified in Table S2.8.
Directly Associated Activity			
AR9	Physical treatment for the purpose of disposal	D9: Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12, e.g. evaporation, drying, calcination	Undertaken in relation to Activity AR7. From the receipt of waste to despatch off site for disposal. Post-treatment of digestate in enclosed equipment and tanks fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system, including separation, screening to remove contraries, centrifuge or pressing and addition of thickening agents (polymers) or drying for use as a fertiliser or soil conditioner (drying for the purpose of use as a fuel is not permitted). . Heat treatment (thermal hydrolysis) of waste in four tanks for the purpose of recovery. Tanks are comprised of pulping tank, reactor tanks and a flash tank Gas cleaning by biological or physical (carbon filtration) or chemical scrubbing. Waste types suitable for acceptance are limited to those specified in Table S2.8.
AR10	Emergency flare operation	D10: Incineration on land	Undertaken in relation to Activities AR2 and AR7. From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases. There shall be no venting or flaring of gas for disposal.

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**
			Use of two auxiliary flares required only during periods of breakdown or maintenance of the CHP engines, biogas upgrading plant and/or auxiliary boilers.
AR11	Gas storage	R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Undertaken in relation to Activity AR7. Storage of biogas produced from on-site anaerobic digestion of permitted waste in two stand-alone tanks or roof space of digesters. From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility. Emissions of unburnt biogas shall be minimised.
AR12	Storage of non-hazardous waste pending disposal	D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)	Undertaken in relation to Activities AR2 and AR7. From the receipt of permitted waste to pre-treatment and despatch for anaerobic treatment (AR2) or anaerobic digestion (AR7) on site. Storage of residual wastes from pre-treatment to despatch off-site for disposal. Storage of waste in enclosed equipment and tanks fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system. Waste types suitable for acceptance are limited to those specified in Tables S2.2, S2.3, S2.4A and S2.8.
AR13	Cooling of industrial wastewater	Cooling of industrial wastewater using treated municipal final effluent.	Receipt and use of cooling water.
AR14	Reuse of settled sewage	Reuse of settled sewage as COD source in Industrial Effluent Treatment Plant (IETP).	Only in the event of shutdown of the PTA plant. Operation of the IETP to comply with the BOD and COD destruction requirements of the Urban Waste Water Treatment Directive. Only in accordance with conditions 2.3.7 and 2.3.8.
AR15	Steam and electrical power supply	R1: Use principally as a fuel to generate energy.	Undertaken in relation to Activity AR7. Combustion of biogas and natural gas in four CHP engines, three 3.2 MWth and

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**
			one 1.3 MWth, with an aggregated thermal input not exceeding 10.9 MWth. Combustion of biogas and natural gas in two boilers, 4.9 MWth each, with an aggregated thermal input not exceeding 9.8 MWth.
AR16	Gas upgrading	Upgrading of biogas to biomethane (including the removal of moisture and other substances such as carbon dioxide, hydrogen sulphide and Volatile organic compounds) for injection into the National Grid.	Undertaken in relation to Activity AR7. From the receipt of biogas produced at the on-site anaerobic digestion process to injection into the National Grid. This includes return of off-specification biogas for combustion to the on-site CHP engines, auxiliary boilers and emergency flare.
AR17	Raw material storage	Storage of raw materials including lubrication oil, antifreeze, propane, ferric chloride, activated carbon, gas oil.	From the receipt of raw materials to despatch for use within the facility.
AR18	Digestate storage	D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)	Undertaken in relation to Activity AR7. From the receipt of processed digestate produced from the on-site anaerobic digestion process to despatch for use off-site. Storage of processed liquid digestate in 4 storage tanks. Storage of processed solid digestate in one covered cake barn building and on an impermeable surface with sealed drainage system.
AR19	Surface water collection and storage	Collection and storage of uncontaminated roof and site surface water	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.
AR20	Air abatement	Collection and treatment of air from the buildings or plant using abatement system – biofilters,	From the collection of air from site processes to treatment and release of treated air to atmosphere.

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 filters - prior to release to atmosphere.	Collection and treatment of air from the buildings, tanks or plant using abatement system – 2x biofilters, 1x carbon filters.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Process Description	Section 5.1 of Application (document reference DOC 09762 AU3979 PPC Supplementary Technical Report for Bran Sands RSTC) (EPR/HP3937PN)	07/07/04
Control System	Section 5.3 of application document DOC 09762 AU3979. (EPR/HP3937PN)	07/07/04
Application	The response to section 2.1.7, 2.1.8, 2.1.9, 2.1.10, 2.1.12, 2.14, 2.17 to 2.1.24 and 2.2 in the Application and the relevant sections of the supplementary information referenced in the responses to the questions.	22/12/06
Receipt of additional information to the application	Sections 2.7 of the additional information, relating to the types and quantities of waste to be accepted.	26/04/06
Receipt of additional information to the application	Section 4.1 of the response to the request for information dated 12th May 2006 relating to the types and quantities of waste to be accepted.	30/05/06
Receipt of additional information to the application	E-mail providing clarification on the actual efflux velocity from the flares.	09/06/06
Receipt of additional information to the application	Details of waste types to be accepted at the installation.	24/08/06
Application for a variation	Operation of Treatment Train A.	20/10/06
Receipt of additional information to the application	Details of further waste types to be accepted at the installation.	20/10/06
Receipt of additional information to the application	Use of fully treated municipal effluent	17/11/06
Process Description and Control System	Section 2.1 of the Application for variation UP3032XG (EPR/HP3937PN)	30/07/08
Abatement of emissions to air	Section 2.2.1.1 – 2.2.1.3, 2.2.4 and 2.2.6.1 of the Application for variation UP3032XG (EPR/HP3937PN)	30/07/08
Abatement of emissions to water	Section 2.2.2.1, 2.2.2.2 and 2.2.5 of the Application for variation UP3032XG (EPR/HP3937PN)	30/07/08
Application for a variation	Sections 2 and 3 of the Supplementary Technical Information Report v1, ref PD/BS/LP3439LK/V4 dated Dec-08.	05/01/09

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application for variation EPR/LP3439LK/V005 & EPR/HP3937PN/V005	Accident risk assessment for industrial tanker discharges in response to section 6 - Environmental Risk Assessment, part C2 of the application form Liquid waste acceptance procedure reference 16007-000-DOC-SIN-B21-018-01 in response to section 3d - Information for specific sectors (Appendix 5)	17/10/12 23/10/12
Application for variation EPR/LP3439LK/V007	Operational plans for: • Train A COD Failure & Recovery • Train A TKN Failure & Recovery and PTA Plant Shutdown (TKN)	20/09/13
Application for variation EPR/LP3439LK/V009	Email response to request for further information	22/12/15
Application for variation EPR/LP3439LK/V010	Application supporting document: *Environmental Permit Variation Application for Biogas to Biomethane at Bran Sands Industrial Effluent Treatment Works (Ref: LP3439LK)*	17/10/19
Additional information received	Response to the Schedule 5 notice dated 11/12/19, including information on odour management techniques related to the gas upgrading process and confirmation of information related to the conversion of the CHP engines.	12/12/19
Additional information received	Response to request for information dated 16/12/19, including information related to odorant and propane receipt, handling and storage and the odour control unit serving the gas upgrading plant.	17/12/19 & 18/12/19
Additional information received	Response to request for information dated 19/12/19, including information related to odorant spillage procedures.	20/12/19
Response to Improvement Condition 22	Odour Management Plan	14/07/20
Response to Regulation 61 Notice dated 17/08/21 (EPR/LP3439LK/V012)	Compliance and operating techniques identified in response to BAT Conclusions 1 to 8, 10 to 24 and 33 to 38 in the Waste Treatment BREF published on 17 August 2018.	30/03/22
Response to request for additional information dated 23/07/24	Response to question 3 relating to BATc 14d Response to question 4 relating to BATc 14d and 53 Response to question 6 relating to BATc 14d and 53 Response to question 7 relating to BATc 3 Response to question 8 relating to BATc 3 Response to question 9 (a), (b) and (c) relating to BATc 14, 15 and 34 Response to question 13 relating to BATc 3 Response to question 14 relating to BATc 3 Response to question 16 relating to appropriate measures Response to question 17 relating to appropriate measures Response to question 19 relating to discharges during storm conditions Response to question 22 relating to BATc 19	12/09/24

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Response to request for additional information dated 18/02/25	Response to question 1 concerning the operation of the thermal hydrolysis plant	26/02/25

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1 – IC18		Completed
IC20	The operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the release of pollutants to air from the gas upgrading plant (emission point A28). The study shall include the monitoring of point source releases to air from the biogas upgrading plant during normal operation, having regard to the Environment Agency guidance, *Monitoring stack emissions: environmental permits* and to MCERTS standards. As a minimum, two separate monitoring campaigns in a year shall be completed as follows: • one initial monitoring survey six months following commissioning of the biogas upgrading plant and another monitoring survey six months thereafter The pollutants to be monitored shall include: • total volatile organic compounds; and hydrogen sulphide	Within 4 months of permit issue or such other date as agreed in writing with the Environment Agency
IC21	Following the completion of IC20, the operator shall undertake a quantitative emissions impact assessment of all point source releases to air, using the information obtained through the emissions monitoring. The emissions impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review. The emissions impact assessment shall, as a minimum, include: • reports showing 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 – Air emissions risk assessment for your environmental permit • a completed H1 assessment software tool If the H1 assessment shows potential long or short term impacts from the emissions, the operator shall propose an action plan to reduce the impacts of the substances identified.	Within 5 months of permit issue or such other date as agreed in writing with the Environment Agency
IC22	The operator shall submit an odour management plan to the Environment Agency for written agreement. The plan shall take into account the appropriate measures for odour control specified in Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and H4 - Odour Management.	31/07/20 Completed

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	Once the odour management plan has been agreed with the Environment Agency, the installation must be operated in accordance with this management plan.	
Improvement condition for secondary containment design		
IC23	The operator shall submit a written 'secondary containment implementation plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the finalised designs and an implementation schedule for a secondary containment system for all liquids that could cause pollution from tanks, sumps and containers. The finalised design(s) and specifications shall be produced by appropriate competent individuals (qualified civil or structural engineer), in accordance with BAT 19 of the Waste Treatment BREF and the risk assessment methodology detailed within CIRIA C736 (2014) guidance or an equivalent standard that will provide an equivalent level of environmental protection. The plan shall include but not be limited to the following components: • An assessment of the suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure. • Finalised designs and specifications of the proposed secondary containment proposal completed by appropriate competent individuals. • A program of works with timescales for the commissioning of the secondary containment systems to comply with CIRIA C736 (2014) guidance, or equivalent standard. • An updated site and infrastructure plan. • A preventative maintenance and inspection regime. The plan shall be implemented in accordance with the Environment Agency's prior written approval. (Note that approval of reports under this improvement condition does not preclude the need for permit variation applications to implement the improvements identified in the report. Any variation may include the insertion of necessary emission limit values).	31/03/2025 Implementation of all required and approved containment improvements must be completed by 31/03/2025.
Improvement conditions for primary containment tanks		
IC24	The operator shall submit a written 'primary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by an appropriately qualified engineer and shall assess the extent, design specification and condition of primary containment systems (including associated pipework) where polluting liquids and solids are being stored, treated, and/or handled. The plan shall include, but not be limited to: • An assessment of the physical condition of all primary containment systems (storage and treatment vessels and associated pipework) using a Written Scheme of Examination	12 months of permit issue or such other date as agreed in writing with the Environment Agency.

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	and their suitability for providing primary containment when subjected to dynamic and static loads. • A program of works with timescales for the implementation of individual improvement measures necessary to demonstrate that the primary containment is fit for purpose or alternative appropriate measures to ensure all polluting materials will be contained on site. • A preventative maintenance and inspection regime. The plan shall be implemented in accordance with the Environment Agency's written approval.	
Improvement conditions for establishing an inventory of liquid waste water discharged from anaerobic digestion AR7 and directly associated activities		
IC25a	The operator shall submit a sampling programme in relation to waste water streams and shall obtain the Environment Agency's written approval to it. The sampling programme shall be designed to fully characterise the waste waters discharged to Bran Sands wastewater treatment works (WwTW) from emission point S1 in table S3.4 of this permit. The programme shall include but not be limited to a methodology for a minimum of one 24-hour flow proportional sample a month, for each emission point, for a period of 12 months. The programme shall detail the sampling methods/standards used. Sampling methods shall be in accordance with BAT conclusion 20 of the Waste Treatment BREF. The programme shall include the National Grid Reference (NGR) of the sampling point(s) location(s). The programme shall establish the characteristics of the liquid waste water streams and shall include as a minimum for each emission point: • Average values and variability of flow, pH, temperature and conductivity. • Average concentration and load values of all relevant substances and their variability. • Data on bioeliminability. The programme shall sample for all relevant substances and must include: • Hydrocarbon oil index (HOI) (mg/l) • Free cyanide (CN^-) (mg/l) • Adsorbable organically bound halogens (AOX) (mg/l) • Metals and metalloids; arsenic (expressed as As), cadmium (expressed as Cd), chromium (expressed as Cr), hexavalent chromium (expressed as Cr(VI)), copper (expressed as Cu), lead (expressed as Pb), nickel (expressed as Ni), mercury (expressed as Hg), zinc (expressed as Zn) (µg/l)	Within 2 months of issue of this permit or such other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	The operator shall submit the collected monitoring data in writing to the Environment Agency according to agreed reporting periods. The sampling programme shall be produced in accordance with Environment Agency guidance: • Specific substances and priority hazardous substances – *Surface water pollution risk for your environmental permit* Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk). • *Monitoring discharges to water: guidance on selecting a monitoring approach* Monitoring discharges to water: guidance on selecting a monitoring approach - GOV.UK (www.gov.uk) The monitoring programme shall be carried out and the monitoring data submitted in accordance with the Environment Agency's written approval.	
Improvement conditions for indirect discharges to water discharged from anaerobic digestion AR7 and associated activities		
IC25b	The operator shall submit a report for approval by the Environment Agency, following completion of the sampling programme approved under IC25a. The report shall include but not be limited to; a summary of the sample results, a completed H1 risk assessment(s) and modelling outputs where appropriate. The operator shall provide conclusions on whether the waste waters discharged from emission point S1 will have any adverse impact on the receiving waters once discharged from to Bran Sands wastewater treatment works. An assessment shall be made against the parameters specified in the relevant environmental standards as specified within Environment Agency guidance as follows: • Specific substances and priority hazardous substances – *Surface water pollution risk for your environmental permit* Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk). • Sanitary substances – *H1 annex D2: assessment of sanitary and other pollutants in surface water discharges* 1076_14 H1 Annex D2 - Assessment of sanitary and other pollutants within Surface Water Discharges (publishing.service.gov.uk) The report shall include any proposals and/or additional measures required to prevent or minimise any significant emissions from the installation along with timescales for implementation.	Within 15 months of the Environment Agency's written approval of the sampling programme submitted under IC25a or such other date as agreed in writing with the Environment Agency
IC25c	The operator shall implement any improvements identified within the report approved under IC25b in accordance with the Environment Agency's written approval and provide written confirmation to the Environment Agency that the improvements have been completed. (Note, approval of reports under this improvement condition does not preclude the need for permit variation application(s) to operate the	Within 6 months of the report in relation to IC25b being approved by the Environment Agency or such other date as

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	improvements identified in the report and/or include any necessary emission limit values).	agreed in writing with the Environment Agency
Improvement conditions for biogas upgrading plant		
IC26	The operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the releases of pollutants to air. The study shall include the monitoring of point source releases to air from the biogas upgrading plant emission point A28 during normal operation, having regard to the Environment Agency technical guidance, *Monitoring stack emissions: environmental permits* and to MCERTS standards. As a minimum, two separate monitoring campaigns in a year shall be completed (one monitoring survey six months following commissioning of the biogas upgrading plant). The pollutants to be monitored shall include: • Total volatile organic compounds. • Hydrogen sulphide.	Within 6 months of permit issue or such other date as agreed in writing with the Environment Agency
IC27	Following the completion of IP26, the operator shall undertake an emissions impact assessment of point source releases to air from emission point A28, using the information obtained through the emissions monitoring. The emissions impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review. The emissions impact assessment shall, as a minimum, include: • Reports showing 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 – Air emissions risk assessment for your environmental permit. • A completed H1 assessment software tool. If the H1 assessment shows potential long or short-term impacts from the emissions, the operator shall propose an action plan to reduce the impacts of the substances identified.	Within 6 months of permit issue or such other date as agreed in writing with the Environment Agency
Improvement condition to address methane slip emissions from gas engines burning biogas		
IC28	The operator shall submit a written plan for approval by the Environment Agency which establishes the methane emissions in the exhaust gas from engines burning biogas and or biomethane and compare these to the manufacturer's specification and benchmark levels. The plan shall develop proposals to assess the potential for methane slip and take corrective actions where emissions of methane above the manufacturer's specification are identified.	Within 6 months of permit issue or such other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	The operator shall establish methane emissions in the exhaust gas and methane slip using the following standards: • EN ISO 25139 • EN ISO 25140	
Improvement condition for establishing a Leak detection and repair programme		
IC29	The operator shall establish a site-specific leak detection and repair (LDAR) programme to detect and mitigate the release of volatile organic compounds, including methane from diffuse sources. The programme shall include, but not be limited to an LDAR survey, diffuse emissions source inventory and associated monitoring arrangements. The programme shall be submitted to the Environment Agency for approval. The programme shall take into account the appropriate measures for LDAR plans specified in Section 11.9 of *Environment Agency guidance, Biological waste treatment: appropriate measures for permitted facilities*. The operator shall also have regard to BS EN 17628 when designing the LDAR programme and consider the use of optical gas imaging cameras and/or application of 'sniffer' techniques according to BS EN 15446.	Within 6 months of permit issue or such other date as agreed in writing with the Environment Agency
Improvement condition to address the reinstatement of odour control units – emission point A18		
IC30	The operator shall submit written evidence to the environment agency to demonstrate that the odour control unit identified as emission point A18 has been reinstated, and that it is fully operational. This evidence shall include recommissioning and testing data, and a full explanation of works carried out.	Within 6 months of permit issue or such other date as agreed in writing with the Environment Agency
Improvement condition for review of effectiveness of abatement plant		
IC31	The operator shall carry out a review of the abatement plant A13 (Phase 1 Biofilter), A18 (Phase 2 Biofilter) and A28 (G2G gas stack carbon filter) on site, to determine whether the measures have been effective and adequate to prevent, or where this is not possible to minimise, emissions released to air (including but not limited to odour, ammonia, hydrogen chloride (HCl) and TVOC). The operator shall submit a written report to the Environment Agency following this review for assessment and approval. The report shall include but not be limited to the following aspects: • Full investigation and characterisation of the waste gas streams. • Evidence that the emission of pollutants in the waste gas stream is being prevented or where this is not possible minimised by the abatement plant.	Within 6 months of permit issue or such other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	• Abatement stack monitoring results (including but not limited to odour, ammonia, HCl and TVOC). • Abatement process monitoring results ((including but not limited to odour, ammonia, HCl and TVOC). • Details of air quality quantitative impact assessment including modelling and a proposal for site-specific "action levels" ((including but not limited to odour, ammonia, HCl and TVOC). • Odour monitoring results at the site boundary. • Records of odour complaints and odour related incidents. • Recommendations for improvement including the replacement or upgrading of the abatement plant. • Timescales for implementation of improvements to the abatement plant. The operator shall implement any improvements in line with the timescales as approved by the Environment Agency. (Note that approval of reports under this improvement condition does not preclude the need for permit variation applications to implement the improvements identified in the report. Any variation may include the insertion of necessary emission limit values).	
Improvement condition for monitoring digestate stability		
IC32	The operator shall submit a written report, with supporting evidence, on the stability of whole digestate, (i.e. prior to dewatering), stored within the three digested sludge storage tanks and the sludge balance tank and obtain the Environment Agency's written approval to it. The report shall assess whether biogas emissions from post digestion storage or treatment of digestate is likely to have been minimised. The report shall include but not be limited to: • An assessment of residual biogas potential in accordance with the OFW004-005 [N6] methodology specified by *BSI PAS 110: Producing Quality Anaerobic Digestate* or an equivalent methodology for assessing residual biogas potential of the digestate stored within the three digested sludge storage tanks and the sludge balance tank.	Within 6 months of permit issue or such other date as agreed in writing with the Environment Agency
Improvement condition for prevention of excessive flaring		
IC33	The operator shall undertake a review and submit a written report of their findings to the Environment Agency for approval, on the operation of the boilers, biogas upgrading plant and flares (gas burners). The report must: • Determine whether the boilers and biogas upgrading plant are appropriately sized for the volume of biogas generated at the site; • Identify necessary improvements in gas management infrastructure which maximise biogas energy recovery, rather than disposal by flaring;	Within 6 months of permit issue or such other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	• Identify any required improvements to the flares • Demonstrate how the identified improvements will satisfy BAT conclusions 15 and 16 of the Waste Treatment BREF/BAT conclusions. • Provide a timescale for implementing the identified improvements. The improvements proposed and their timescale for implementation must be agreed in writing with the Environment Agency and implemented in accordance with the approved timescale. (Note that approval of reports under this improvement condition does not preclude the need for permit variation applications to implement the improvements identified in the report. A variation is required where there are any changes to infrastructure (including combustion plant), emissions characteristics, emission point locations or any other emission requiring assessment).	

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
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Table S2.2 Permitted waste types and quantities for Storage of Waste in 2 No PTA Storage Tanks and Treatment in Train A or Train B	
Maximum quantity	**Total quantity stored – 7,360 m^3** **Total quantity accepted for treatment - 12,480 m^3 per day**
Waste code	**Description**
07	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 02	**Wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 99	Waste not otherwise specified from the manufacture of thermoplastic polymers, (PTA effluent).

Table S2.3 Permitted waste types and quantities for Storage of Waste in 2 No SBCO Tanks	
Maximum quantity	**Total quantity stored 3,600 m^3** **Total quantity accepted for treatment – 1,200 m^3/day**
Waste code	**Description**
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 10	**Aqueous liquid wastes destined for off-site treatment**
16 10 02	Aqueous liquid wastes other than those mentioned in 16 10 01 (SBCO cokeworks liquor)

Table S2.4A Permitted waste types and quantities for Storage of Waste in Road Tanker storage and transfer tank and No 1 Waste Tank	
Maximum quantity	**Total quantity stored 1,800 m^3** **Total quantity accepted for treatment 1,250 m^3/day**
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	aqueous waste from animal and fish processing including animal rendering.
06	**WASTES FROM INORGANIC CHEMICAL PROCESSES**
06 03	**Wastes from the MFSU of salts and their solutions and metallic oxides**
06 03 99	wastes not otherwise specified including Sump water for electronic component manufacturer.
07	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 01	**Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 99	aqueous waste from biodiesel production.
07 02	**Wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 99	waste not otherwise specified from the manufacture of thermoplastic polymers including PTA effluent.
07 07	**Wastes from the MFSU of fine chemicals and chemical products not otherwise specified**

Table S2.4A Permitted waste types and quantities for Storage of Waste in Road Tanker storage and transfer tank and No 1 Waste Tank	
Maximum quantity	**Total quantity stored 1,800 m^3** **Total quantity accepted for treatment 1,250 m^3/day**
Waste code	**Description**
07 07 99	waste not otherwise specified from manufacture of fine chemicals including IBC wash water containing trace vegetable oil, aqueous mixture of caustic, ethanol and drained effluent from pipeline.
08	**WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS**
08 03	**Wastes from MFSU of printing inks**
08 03 08	aqueous liquid waste containing ink.
08 04	**Wastes from MFSU of adhesives and sealants (including waterproofing products)**
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15.
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	aqueous effluent form paper and cardboard packaging, including cardboard Dryer Effluent.
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 07	**Wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)**
16 07 99	wastes not otherwise specified from transport and stock tank cleaning including Pipeline condensate residues, Line washings and pipeline condensate.
16 10	**Aqueous liquid wastes destined for off-site treatment**
16 10 02	aqueous liquid waste destined for off site treatment including Dryer effluent and any other than those mentioned in 16 10 01.
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)**
18 02	**Wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
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 01	**Wastes from incineration or pyrolysis of waste**
19 01 99	waste not otherwise specified in the category for waste from incineration or pyrolysis of waste.
19 07	**Landfill leachate**
19 07 03	landfill leachate other than those mentioned in 19 07 02.
19 08	**Wastes from waste water treatment plants not otherwise specified**
19 08 99	waste from waste water treatment plants not otherwise specified including bund water.
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 03	**Other municipal wastes**
20 03 99	municipal wastes not otherwise specified including lagoon water and recycled pit washings.

Table S2.4B Permitted waste types and quantities for Storage of Waste in Road Tanker storage and transfer tank and No 1 Waste Tank	
Maximum quantity	**Total quantity stored 1,800 m^3** **Total quantity accepted for treatment 1,250 m^3/day**
Waste code	**Description**
06	**WASTES FROM INORGANIC CHEMICAL PROCESSES**
06 01	**Wastes from the manufacture, formulation, supply and use (MFSU) of acids**
06 01 01*	sulphuric acid and sulphurous acid
06 01 02*	hydrochloric acid
06 02	**Wastes from the MFSU of bases**
06 02 01*	calcium hydroxide
06 02 04*	waste from inorganic chemical manufacture including bases.
07	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 01	**Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 01*	aqueous washings and mother liquors from organic chemicals processes.
07 01 04*	other organic solvents, washing liquids and mother liquors from organic chemicals processes.
07 02	**Wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 08*	other still bottoms and reaction residues – washings from a reactor vessel in polyester production.
07 03	**Wastes from the MFSU of organic dyes and pigments (except 06 11)**
07 03 01*	aqueous washing liquids and mother liquors
07 04	**Wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**
07 04 01*	aqueous washing liquids and mother liquors
07 05	**Wastes from the MFSU of pharmaceuticals**
07 05 01*	aqueous washing liquids and mother liquors from the manufacture and use of pharmaceuticals.
07 06	**Wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics**
07 06 01*	aqueous washing liquids and mother liquors
07 07	**Wastes from the MFSU of fine chemicals and chemical products not otherwise specified**
07 07 01*	aqueous washing liquids and mother liquors from the manufacture and use of fine chemicals and chemical products.
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 07	**Wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)**
16 07 09*	wastes containing Dangerous Substances resulting from transport and stock tank cleaning including Condensate from storage tanks and pipeline condensate containing trace hydrocarbons.
16 10	**Aqueous liquid wastes destined for off-site treatment**
16 10 01*	aqueous liquid wastes containing dangerous substances
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 07	**Landfill leachate**
19 07 02*	landfill leachate containing hazardous substances

Table S2.5 Permitted waste types and quantities for Storage of Waste in 2 No Invista Storage Tank	
Maximum quantity	**Total quantity stored - 190 m^3** **Total quantity accepted for treatment – 9,000 m^3/day**
Waste code	**Description**
07	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 01	**Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 01*	aqueous washing liquids and mother liquors.

Table S2.6 Permitted waste types and quantities for Treatment of Waste in Train A	
Maximum quantity	**Treatment capacity 14,280 m^3/day**
Waste code	**Description**
02	**WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING**
02 02	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing**
02 02 99	aqueous waste from animal and fish processing including animal rendering.
06	**WASTES FROM INORGANIC CHEMICAL PROCESSES**
06 01	**Wastes from the manufacture, formulation, supply and use (MFSU) of acids**
06 01 01*	sulphuric acid and sulphurous acid
06 01 02*	hydrochloric acid
06 02	**Wastes from the MFSU of bases**
06 02 01*	calcium hydroxide
06 02 04*	waste from inorganic chemical manufacture including bases.
06 03	**Wastes from the MFSU of salts and their solutions and metallic oxides**
06 03 99	wastes not otherwise specified including sump water for electronic component manufacturer.
07	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 01	**Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 01*	aqueous washings and mother liquors from organic chemicals processes
07 01 04*	other organic solvents, washing liquids and mother liquors from organic chemicals processes.
07 01 99	aqueous waste from biodiesel production.
07 02	**Wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 08*	other still bottoms and reaction residues – washings from a reactor vessel in polyester production.
07 02 99	PTA effluent and anaerobically treated PTA effluent.
07 02 99	waste not otherwise specified from the manufacture of thermoplastic polymers including PTA effluent.
07 03	**Wastes from the MFSU of organic dyes and pigments (except 06 11)**
07 03 01*	aqueous washing liquids and mother liquors
07 04	**Wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**
07 04 01*	aqueous washing liquids and mother liquors
07 05	**Wastes from the MFSU of pharmaceuticals**

Table S2.6 Permitted waste types and quantities for Treatment of Waste in Train A	
Maximum quantity	**Treatment capacity 14,280 m^3/day**
Waste code	**Description**
07 05 01*	aqueous washing liquids and mother liquors from the manufacture and use of pharmaceuticals
07 06	**Wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics**
07 06 01*	aqueous washing liquids and mother liquors
07 07	**Wastes from the MFSU of fine chemicals and chemical products not otherwise specified**
07 07 01*	aqueous washing liquids and mother liquors from the manufacture and use of fine chemicals and chemical products
07 07 99	waste not otherwise specified from manufacture of fine chemicals including IBC wash water containing trace vegetable oil, aqueous mixtures of caustic/ethanol and drained effluent from pipelines
08	**WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS**
08 03	**Wastes from MFSU of printing inks**
08 03 08	aqueous liquid waste containing ink
08 04	**Wastes from MFSU of adhesives and sealants (including waterproofing products)**
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15
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	aqueous effluent from paper and cardboard packaging, including cardboard Drier Effluent
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 07	**Wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)**
16 07 09*	wastes containing Dangerous Substances resulting from transport and stock tank cleaning including Condensate from storage tanks and pipeline condensate containing trace hydrocarbons
16 07 99	wastes not otherwise specified from transport and stock tank cleaning including Pipeline condensate residues, Line washings and pipeline condensate
16 10	**Aqueous liquid wastes destined for off-site treatment**
16 10 01*	aqueous liquid wastes containing dangerous substances
16 10 02	aqueous liquid waste destined for off site treatment including Dryer effluent and SBCO cokeworks liquor
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)**
18 02	**Wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
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 01	**Wastes from incineration or pyrolysis of waste**
19 01 06*	aqueous liquid wastes from gas treatment and other aqueous liquid wastes
19 01 99	waste not otherwise specified in the category for waste from incineration or pyrolysis of waste

Table S2.6 Permitted waste types and quantities for Treatment of Waste in Train A	
Maximum quantity	**Treatment capacity 14,280 m^3/day**
Waste code	**Description**
19 06	**Wastes from anaerobic treatment of waste**
19 06 03	liquor from anaerobic treatment of municipal waste
19 06 99	wastes not otherwise specified including from the anaerobic treatment of waste
19 07	**Landfill leachate**
19 07 02*	landfill leachate containing hazardous substances
19 07 03	landfill leachate other than those mentioned in 19 07 02
19 08	**Wastes from waste water treatment plants not otherwise specified**
19 08 05	sludges from treatment of urban waste water - municipal mixed liquor
19 08 99	waste from waste water treatment plants not otherwise specified including bund water
19 08 99	wastes not otherwise specified – settled domestic sewage as a feed of last resort in IETP in compliance with conditions 2.3.7 and 2.3.8.
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 03	**Other municipal wastes**
20 03 99	municipal wastes not otherwise specified including Lagoon water and recycled pit washings

Table S2.7 Permitted waste types and quantities for Treatment of Waste in Train B Cells B1 to B9	
Maximum quantity	**Treatment capacity 9,600 m^3/day**
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	aqueous waste from animal and fish processing including animal rendering.
06	**WASTES FROM INORGANIC CHEMICAL PROCESSES**
06 01	**Wastes from the manufacture, formulation, supply and use (MFSU) of acids**
06 01 01*	sulphuric acid and sulphurous acid
06 01 02*	hydrochloric acid
06 02	**Wastes from the MFSU of bases**
06 02 01*	calcium hydroxide
06 02 04*	waste from inorganic chemical manufacture including bases.
06 03	**Wastes from the MFSU of salts and their solutions and metallic oxides**
06 03 99	wastes not otherwise specified including sump water for electronic component manufacturer.
07	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 01	**Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 01*	aqueous washings and mother liquors from organic chemicals processes.
07 01 04*	other organic solvents, washing liquids and mother liquors.
07 01 99	aqueous waste from biodiesel production.

Table S2.7 Permitted waste types and quantities for Treatment of Waste in Train B Cells B1 to B9	
Maximum quantity	**Treatment capacity 9,600 m^3/day**
Waste code	**Description**
07 02	**Wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 08*	other still bottoms and reaction residues – washings from a reactor vessel in polyester production.
07 02 99	waste not otherwise specified from the manufacture of thermoplastic polymers including PTA effluent.
07 03	**Wastes from the MFSU of organic dyes and pigments (except 06 11)**
07 03 01*	aqueous washing liquids and mother liquors
07 04	**Wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**
07 04 01*	aqueous washing liquids and mother liquors
07 05	**Wastes from the MFSU of pharmaceuticals**
07 05 01*	aqueous washing liquids and mother liquors from the manufacture and use of pharmaceuticals.
07 06	**Wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics**
07 06 01*	aqueous washing liquids and mother liquors
07 07	**Wastes from the MFSU of fine chemicals and chemical products not otherwise specified**
07 07 01*	aqueous washing liquids and mother liquors from the manufacture and use of fine chemicals and chemical products.
07 07 99	waste not otherwise specified from manufacture of fine chemicals including IBC wash water containing trace vegetable oil, aqueous mixtures of caustic/ethanol and drained effluent from pipelines.
08	**WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS**
08 03	**Wastes from MFSU of printing inks**
08 03 08	aqueous liquid waste containing ink.
08 04	**Wastes from MFSU of adhesives and sealants (including waterproofing products)**
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15.
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	aqueous effluent from paper and cardboard packaging, including cardboard Dryer Effluent
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 07	**Wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)**
16 07 09*	wastes containing Dangerous Substances resulting from transport and stock tank cleaning including Condensate from storage tanks, line washings and pipeline condensate containing trace hydrocarbons.
16 07 99	wastes not otherwise specified from transport and stock tank cleaning including Pipeline condensate residues, Line washings and pipeline condensate
16 10	**Aqueous liquid wastes destined for off-site treatment**
16 10 01*	aqueous liquid wastes containing dangerous substances
16 10 02	aqueous liquid waste destined for off site treatment including Dryer effluent and any other than those mentioned in 16 10 01

Table S2.7 Permitted waste types and quantities for Treatment of Waste in Train B Cells B1 to B9	
Maximum quantity	**Treatment capacity 9,600 m^3/day**
Waste code	**Description**
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)**
18 02	**Wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
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 01	**Wastes from incineration or pyrolysis of waste**
19 01 99	waste not otherwise specified in the category for waste from incineration or pyrolysis of waste
19 06	**Wastes from anaerobic treatment of waste**
19 06 03	liquor from anaerobic treatment of municipal waste
19 06 99	wastes not otherwise specified including from the anaerobic treatment of waste.
19 07	**Landfill leachate**
19 07 02*	landfill leachate containing hazardous substances
19 07 03	landfill leachate other than those mentioned in 19 07 02
19 08	**Wastes from waste water treatment plants not otherwise specified**
19 08 05	sludges from treatment of urban waste water – municipal mixed liquor
19 08 99	waste from waste water treatment plants not otherwise specified including bund water
19 08 99	wastes not otherwise specified – settled domestic sewage as a feed of last resort in IETP in compliance with conditions 2.3.7 and 2.3.8.
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 03	**Other municipal wastes**
20 03 99	municipal wastes not otherwise specified including lagoon water and recycled pit washings

Table S2.8 Permitted waste types and quantities for Advanced Anaerobic Digestion (AR7, AR8 and all directly associated activities)	
Maximum quantity	**Annual throughput shall not exceed 2,325,780 tonnes**
Exclusions	**Wastes having any of the following characteristics shall not be accepted:** • Biodegradable wastes that is significantly contaminated with non-compostable or digestible contaminants, in particular plastic and litter shall be no more than 5% w/w and shall be as low as reasonably practicable by 31 December 2025. • Wastes containing wood-preserving agents or other biocides and post-consumer wood. • Wastes containing persistent organic pollutants. • Wastes containing Japanese Knotweed or other invasive plant species listed in the Invasive Species (Amendment etc.) (EU Exit) Regulations 2019. • Manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2013. • Pest infested waste.
Waste code	**Description**
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 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05 (sewage sludge only)
19 08	**Wastes from waste water treatment plants not otherwise specified**
19 08 05	Sludges from treatment of urban waste water

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**
Existing medium combustion plant which are engines fuelled on biogas (1 MW to 5 MW)						
Point A19 on site plan in Schedule 7 NGR NZ 56624 24412	CHP engine 1 stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m^3 [note 2]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
		Sulphur dioxide	162 mg/m^3 [note 3]			
		Carbon monoxide	1400 mg/m^3			BS EN 15058
		Total VOCs	No limit set	--	--	BS EN 12619
Point A20 on site plan in Schedule 7 NGR NZ 56635 24405	CHP engine 2 stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m^3 [note 2]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
		Sulphur dioxide	162 mg/m^3 [note 3]			
		Carbon monoxide	1400 mg/m^3			BS EN 15058
		Total VOCs	No limit set	--	--	BS EN 12619
Point A21 on site plan in Schedule 7 NGR NZ 56619 24405	CHP engine 3 stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m^3 [note 2]			BS EN 14791 or

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**
		Sulphur dioxide	162 mg/m^3 [note 3]			CEN TS 17021 or by calculation based on fuel sulphur
		Carbon monoxide	1400 mg/m^3			BS EN 15058
		Total VOCs	No limit set	--	--	BS EN 12619
Point A22 on site plan in Schedule 7 NGR NZ 56631 24397	CHP engine 4 stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m^3 [note 2]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
		Sulphur dioxide	162 mg/m^3 [note 3]			
		Carbon monoxide	1400 mg/m^3			BS EN 15058
		Total VOCs	No limit set	--	--	BS EN 12619
Existing medium combustion plant which are engines fuelled on natural gas (1 MW to 5 MW)						
Point A19 on site plan in Schedule 7 NGR NZ 56624 24412	CHP engine 1 stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	250 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Carbon monoxide	No limit set			BS EN 15058
Point A20 on site plan in Schedule 7 NGR NZ 56635 24405	CHP engine 2 stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	250 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Carbon monoxide	No limit set			BS EN 15058
Point A21 on site plan in Schedule 7 NGR NZ 56619 24405	CHP engine 3 stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792

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**
		Carbon monoxide	No limit set			BS EN 15058
Existing medium combustion plant other than engines fuelled on biogas (1 MW to 5 MW)						
Point A23 on site plan in Schedule 7 NGR NZ 56601 24393	Boiler 1 stack [burning biogas] [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	250 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	200 mg/m^3 [note 3]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
Point A24 on site plan in Schedule 7 NGR NZ 56613 24385	Boiler 2 stack [burning biogas] [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	250 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	200 mg/m^3 [note 3]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
Existing medium combustion plant other than engines and gas turbines fuelled on natural gas (1 MW to 5 MW)						
Point A23 on site plan in Schedule 7 NGR NZ 56601 24393	Boiler 1 stack [burning natural gas] [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	250 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792
		Carbon monoxide	No limit set			BS EN 15058
Point A24 on site plan in Schedule 7 NGR NZ 56613 24385	Boiler 2 stack [burning natural gas] [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	250 mg/m^3 [note 3]	Average over sample period	Annual	BS EN 14792

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**
		Carbon monoxide	No limit set			BS EN 15058
Other point source emissions						
Point A1 on site plan in schedule 7 NGR NZ 56459 24007	PTA Emergency flare stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Average over sample period	[note 4]	BS EN 14792
		Carbon monoxide	50 mg/m^3			BS EN 15058
		Total VOCs	10 mg/m^3			BS EN 12619
Point A2 on site plan in schedule 7 NGR NZ 56448 23989	PTA Emergency flare stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Average over sample period	[note 4]	BS EN 14792
		Carbon monoxide	50 mg/m^3			BS EN 15058
		Total VOCs	10 mg/m^3			BS EN 12619
Point A25 on site plan in schedule 7 NGR NZ 56552 24432	Emergency flare stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Average over sample period	[note 4]	BS EN 14792
		Carbon monoxide	50 mg/m^3			BS EN 15058
		Total VOCs	10 mg/m^3			BS EN 12619
Point A27 on site plan in schedule 7 NGR SO 81088 15760	Gas upgrading plant emergency flare stack [note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Average over sample period	[note 4]	BS EN 14792
		Carbon monoxide	50 mg/m^3			BS EN 15058
		Total VOCs	10 mg/m^3			BS EN 12619
Point A13 on site plan in schedule 7 NGR NZ 56712 24242	Channelled emissions such as odour abatement stack or vents – Phase 1 Biofilter [note 6]	Hydrogen sulphide	No limit set	Average over sample period	Once every 6 months	CEN TS 13649 for sampling NIOSH 6013 for analysis
		Ammonia	20 mg/m^3	Average over sample period	Once every 6 months	EN ISO 21877
		Odour concentration	No limit set	--	Once every 6 months	BS EN 13725

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**
	Channelled emissions to air from treatment of water-based liquid waste – Phase 1 Biofilter	Hydrogen chloride (HCl)	5 mg/m^3 [note 5]	Average over sample period	Once every 6 months	EN 1911
		TVOC	20 mg/m^3 [note 5]	Average over sample period	Once every 6 months	EN 12619
Point A18 on site plan in schedule 7 NGR NZ 56694 24375	Channelled emissions such as odour abatement stack or vents – Phase 2 Biofilter [note 6]	Hydrogen sulphide	No limit set	Average over sample period	Once every 6 months	CEN TS 13649 for sampling NIOSH 6013 for analysis
		Ammonia	20 mg/m^3	Average over sample period	Once every 6 months	EN ISO 21877
		Odour concentration	No limit set	--	Once every 6 months	BS EN 13725
	Channelled emissions to air from treatment of water-based liquid waste – Phase 2 Biofilter	Hydrogen chloride (HCl)	5 mg/m^3 [note 5]	Average over sample period	Once every 6 months	EN 1911
		TVOC	20 mg/m^3 [note 5]	Average over sample period	Once every 6 months	EN 12619
Point A28 on site plan in schedule 7 NGR NZ 56766 24229	Biogas upgrading plant stack	VOCs including methane	No limit set	Average over sample period	Annual	BS EN 12619 or EN ISO 13199
		Vent gas flow rate	No limit set	Average over sample period	Annual	By measurement or calculation. Method to be agreed in writing with the Environment Agency.
Points A29, A30 & A31 on site plan in schedule 7	Primary digesters pressure relief valves	Biogas release and operational events	No limit set	Recorded duration and frequency	Daily inspection	--
Points A32 & A33 on site plan in schedule 7	Gas holders pressure release valves	Biogas release and operational events	No limit set	Recorded duration and frequency	Daily inspection	--
Points A34, A35, A36, A37, A38, A39, A40, A41, A42,	Thermal hydrolysis plant pressure relief valves	Foul gas/steam release and operational events	No limit set	Recorded duration and frequency	Daily inspection	--

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**
A43, A44 & A45 on site plan in schedule 7						
Vents from tanks 3, 4, 5, 6, 7, 8, 11, 12 and 13 [as shown on drawing No CC0952A, submitted as part of the application]	Vents from Chemical storage tanks 3, 4, 5, 6, 7, 8, 11, 12, 13	No parameter set	No limit set	-	-	-
Vents from balancing tanks 2, 9 and 10 [as shown on drawing No CC0952 A, submitted as part of the application]	Covered wastewater balancing tanks 2, 9 and 10	No parameter set	No limit set	-	-	-
Note 1 – These emission limits are based on normal operating conditions and load - temperature 0°C (273 K); pressure 101.3 kPa and oxygen 5% (for gas engines burning biogas) and oxygen 3% (for emergency flares and medium combustion plants other than engines and gas turbines burning biogas such as boilers). Note 2 – This emission limit applies until 31 December 2029, unless the gas engine is replaced. Note 3 – This emission limit applies from 1 January 2030, unless otherwise advised by the Environment Agency. Note 4 – Monitoring to be undertaken in the event the emergency flares have 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. Note 5 – Monitoring and limits only apply where the substance concerned is identified as relevant in the waste gas inventory IC31. Note 6 – The monitoring of NH_3 and H_2S can be used as an alternative to the monitoring of the odour concentration subject to the outcome of IC31.						

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**
D2 (emission from Train A to Dabholme Gut via Bran Sands WwTW as shown on site plan in schedule 7)	Effluent Treatment works	Total suspended solids	400 mg/l	24-hour time proportional composite sample	Daily	Note 1
	Effluent Treatment works	TSS	200 mg/l	5-day rolling Average	Daily	Note 1
	Effluent Treatment Works	pH	Min 6 Max 10	Hourly average	Continuous	Note 1

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**
	Effluent Treatment Works	Temperature	No greater than 37°C	Hourly average	Continuous	Temperature probe
	Effluent Treatment Works	Flow	563 l/second	Hourly average	Continuous	SCA estimation of Flow and Load, ISBN 011752364X
	Effluent Treatment Works	Copper	0.5 mg/l	24-hour time proportional composite sample	Daily	Note 1
	Effluent Treatment Works	Biological Oxygen Demand	90 mg/l	24-hour time proportional composite sample	Daily	Note 1
	Effluent Treatment Works	Biological Oxygen Demand	30 mg/l	5-day rolling Average	Daily	Note 1
	Effluent Treatment Works	Ammoniacal Nitrogen	30 mg/l	24-hour time proportional composite sample	Daily	Note 1
	Effluent Treatment Works	Ammoniacal Nitrogen	10 mg/l	5-day rolling Average	Daily	Note 1
	Effluent Treatment Works	Daily Volume	48,600 m^3/ day	24 hours starting 06:00 hrs every day.	Continuous	SCA estimation of Flow and Load, ISBN 011752364X
	Effluent Treatment Works	Mercury and its compounds, expressed as mercury (Total Hg)	0.5 µg/l	24-hour time proportional composite sample	Monthly	Note 1
	Effluent Treatment Works	Cadmium and its compounds, expressed as cadmium (Total Cd)	5.0 µg/l	24-hour time proportional composite sample	Monthly	Note 1
	Effluent Treatment Works	Visible oil and grease	No visible oil or grease	Instantaneous	Daily	Visual check
	Effluent Treatment Works	Chemical Oxygen Demand	No limit set	24-hour time proportional composite sample	Daily	Note 1
	Effluent Treatment Works	E.coli. Note 2	50,000/100ml	Note 2	Note 2	Note 1

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**
Regional Sludge Treatment Centre						
Location R1 as shown on site plan in schedule 7	-	Site stormwater runoff Note 3	-	-	-	-
Location R2 as shown on site plan in schedule 7	-	Site stormwater runoff Note 3	-	-	-	-
Location R3 as shown on site plan in schedule 7	-	Site stormwater runoff Note 3	-	-	-	-
Note 1 – As per standards found in TGN M18 or otherwise agreed in writing with the Environment Agency. **Note 2** – The analysis of E.coli should only be done following the use of domestic settled sewage in the industrial effluent treatment plant. Monitoring shall be carried out in accordance with condition 2.3.8. **Note 3** – Receiving water: River Tees, via Dabholme Gut and the Bran Sands site stormwater system.						

Table S3.3 Annual limits		
Substance	**Medium**	**Limit (including limit)**
Mercury	Water (Dabholme Gut)	2.45 kg/year
Cadmium	Water (Dabholme Gut)	12.25 kg/year

Table S3.4 Point source emissions to sewer, effluent treatment plant or other transfers off-site – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter [Note 1]**	**Limit (incl. unit) [Note 1]**	**Reference Period**	**Monitoring frequency [Note 2]**	**Monitoring standard or method**
S1 on site plan in schedule 7 emission to Dabholme Gut via Bran Sands Industrial Effluent Treatment Works	Site surface water, water from bunded areas, centrate, filtrate, condensate and boiler blowdown waters	Oil and grease	No visible oil or grease	--	Weekly	Visual assessment
		Benzene, toluene, ethylbenzene, xylene (BTEX)	--	Spot sample or flow-proportional composite sample	Once every month	EN ISO 15680
		Hydrocarbon oil index (HOI)	10 mg/l		Once every day	EN ISO 9377-2
		Free cyanide (CN^-)	0.1 mg/l			EN ISO 14403-1 or EN ISO 14403-2

Table S3.4 Point source emissions to sewer, effluent treatment plant or other transfers off-site – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter [Note 1]**	**Limit (incl. unit) [Note 1]**	**Reference Period**	**Monitoring frequency [Note 2]**	**Monitoring standard or method**
		Adsorbable organically bound halogens (AOX)	1 mg/l			EN ISO 9562
		Arsenic (As)	0.1 mg/l	Spot sample or flow-proportional composite sample	Once every day	EN ISO 11885, EN ISO 17294-2 or EN ISO 15586
		Cadmium (Cd)	0.1 mg/l			
		Chromium (Cr)	0.3 mg/l			
		Copper (Cu)	0.5 mg/l			
		Lead (Pb)	0.3 mg/l			
		Nickel (Ni)	1 mg/l			
		Zinc (Zn)	2 mg/l			
		Mercury (Hg)	10 µg/l	Spot sample or flow-proportional composite sample	Once every day	EN ISO 17852 or EN ISO 12846
		Manganese (Mn)	--			EN ISO 11885, EN ISO 17294-2 or EN ISO 15586
		Hexavalent chromium (Cr(VI))	0.1 mg/l			EN ISO 10304-3 or EN ISO 23913
		PFOA and PFOS	--		Once every six months	--
Note 1 – Monitoring and limits only apply where the substance concerned is identified as relevant in the waste water inventory as determined by improvement condition IC25a and IC25b. Note 2 – Monitoring frequency as specified unless the Environment Agency has agreed in writing other alternative appropriate monitoring frequencies.						

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**
Digester feed (digestion process)	pH	As described in site operating techniques	As described in site operating techniques	Process monitoring to be recorded using a
	Alkalinity			
	Temperature			

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**
	Hydraulic loading rate			SCADA system where relevant.
	Organic loading rate			
	Volatile fatty acids concentration			
	Ammonia			
	Liquid /foam level			
Biogas in digester & biogas storage holders	Flow	Continuous	In accordance with EU weights and measures Regulations	Process monitoring to be recorded using a SCADA system where relevant. Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations.
	Methane	Continuous	None specified	
	CO_2	Continuous	None specified	
	O_2	Continuous	None specified	
	Hydrogen sulphide	Daily	None specified	
	Pressure	Continuous	None specified	
Digestate batch	Volatile fatty acids concentration	One sample at the end of each batch (hydraulic retention time) cycle.	As described in site operating techniques	--
	Ammonia			
Digesters and storage tanks	Integrity checks	Weekly	Visual assessment	In accordance with design specification and tank integrity checks.
Digesters	Agitation /mixing	Continuous	Systems controls	Records maintained in daily operational records.
	Tank capacity and sediment assessment	Once every 5 years from date of commission	Non-destructive pressure testing integrity assessment every 5 years or as specified by manufacturers technical specification.	In accordance with design specification and tank integrity checks.

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**
Waste reception building or area; Digesters and storage tanks	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.
Diffuse emissions from all sources identified in the Leak Detection and Repair (LDAR) programme	VOCs including methane	Every 6 months or otherwise agreed in accordance with the LDAR programme	'Sniffing' and/or Optical Gas Imaging techniques in accordance with BS EN 15446 & BS EN 17628	Monitoring points as specified in a DSEAR risk assessment and LDAR programme. Limit as agreed with the Environment Agency as a percentage of the overall gas production.
CHP engine stacks	VOCs including methane	Annually	BS EN 12619	Total annual VOCs emissions from the CHP engine(s) to be calculated and submitted to the Environment Agency.
	Exhaust gas temperature		Traceable to National Standards	--
	Exhaust gas pressure		Traceable to National Standards	--
	Exhaust gas water vapour content		BS EN 14790-1	Unless gas is dried before analysis of emissions.
	Exhaust gas oxygen		BS EN 14789	--
	Exhaust gas flow		BS EN 16911-1	--
Meteorological conditions	Wind speed, air temperature, wind direction	Continuous	Method as specified in management system	Conditions to be recorded in operational diary and records. Equipment shall be calibrated on a 4 monthly basis, in accordance with manufacturer's recommendations or as agreed in

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**
				writing by the Environment Agency.
Emergency flares	Operating hours	Continuous	Recorded duration and frequency. Recording using a SCADA system or similar system	Date, time and duration of use of auxiliary flare shall be recorded.
	Quantity of gas sent to emergency flare			Quantity can be estimated from gas flow composition, heat content, ratio of assistance, velocity, purge gas flow rate, pollutant emissions.
Pressure relief valves and vacuum systems	Gas pressure	Continuous	Recording using a SCADA system	Continuous gas pressure shall be monitored.
	Re-seating	Weekly inspection	Visual	Operator must ensure that valves are re-seated after release in accordance with the manufacturer's design.
	Inspection, maintenance, calibration, repair and validation	Following foaming or overtopping or at 3 yearly intervals whichever is sooner	Written scheme of examination in accordance with condition 1.1.1	After a foaming event or sticking, build-up of debris, obstructions or damage, operator must ensure that pressure relief valve function remains within designed gas pressure in accordance with the manufacturer's design by suitably trained and qualified personnel.

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**
	Inspection, calibration and validation report	In accordance with design and construction specifications or after over topping or foaming event	Written scheme of examination in accordance with condition 1.1.1	Operator must ensure that valves are re-seated after release, after a foaming event or sticking, build-up of debris, obstructions or damage. Operator must ensure that PRV function remains within designed operation gas pressure in accordance with the manufacturer's design by suitably trained/qualified personnel. Inspection, calibration and validation report. In accordance with industry Approved Code of Practice
Storage tanks	Volume	Daily	Visual or flow meter measurement	750 mm freeboard must be maintained for storage lagoons. Records of volume must be maintained.
Odour abatement plant				
Closed biofilters				
Phase 1 Biofilter and Phase 2 Biofilter at emissions points A13 and A18 on the site plan in schedule 7	Gas temperature – inlet and outlet	Daily	Temperature probe / Traceable to national standards	Odour abatement plant shall be regularly checked and maintained to ensure appropriate temperature and moisture content. Odour abatement plant shall be managed in
	Biofilter media moisture	Daily	Moisture meter, Grab test, oven drying or recognised industry method	

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**
	Thatching /compaction	Weekly	Back pressure	accordance with permit condition 3.3, the odour management plan and manufacturer's recommendations. Equipment shall be calibrated on a 4 monthly basis, or as agreed in writing by the Environment Agency.
	Gas flow rate – inlet and outlet	Continuous	Gas flow meter	
	pH (biofilter drainage effluent)	Daily	pH metre or litmus paper	
	Efficiency assessment	Annual	Media health, air-flow distribution and emission removal efficiency (BS EN 13725 for odour removal)	
	Hydrogen sulphide – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	CEN TS 13649 for sampling NIOSH 6013 for analysis	Action levels to be agreed on completion of IC31 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.
	Ammonia – inlet	Every 6 months or as agreed in writing by the Environment Agency.	EN ISO 21877	Action levels to be agreed on completion of IC31 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.
	Odour concentration – inlet and outlet gas stream	Every 6 months or as agreed in writing by the	BS EN 13725	Action levels to be agreed on completion of IC31 as approved in

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**
		Environment Agency.		writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.
Carbon filters				
Carbon filter 1 at emissions point A28 on the site plan in schedule 7	Carbon bed temperature – inlet and outlet	Continuous	Temperature probe	Odour abatement plant shall be managed in accordance with permit condition 3.3, the odour management plan and manufacturer's recommendations. Carbon filter(s) to be replaced in accordance with manufacturer's recommendations. Equipment shall be calibrated on a 4 monthly basis, or as agreed in writing by the Environment Agency.
	Gas flow rate – inlet and outlet	Continuous	Gas flow meter	
	Moisture or humidity	Daily	Moisture meter	
	Back pressure	Weekly	Recognised industry method	
	Efficiency assessment	Annual	Emission removal efficiency (BS EN 13725 for odour removal)	
	Hydrogen sulphide – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	CEN TS 13649 for sampling NIOSH 6013 for analysis	Action levels to be agreed on completion of IC31 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.

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**
	Ammonia – inlet	Every 6 months or as agreed in writing by the Environment Agency.	EN ISO 21877	Action levels to be agreed on completion of IC31 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.
	Odour concentration – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	BS EN 13725	Action levels to be agreed on completion of IC31 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.2 and the odour management plan.

Table S3.6 Emissions to sewer, effluent treatment plant or other transfers off-site – Monitoring points			
Effluent(s) and discharge point(s)	**Monitoring type**	**Monitoring point NGR**	**Monitoring point reference**
S1 on site plan in schedule 7 emission to Dabholme Gut via Bran Sands Industrial Effluent Treatment Works	Effluent monitoring	NZ 56795 24304	Point S1 on site plan in Schedule 7
D2 on site plan in schedule 7 emission to Dabholme Gut via Bran Sands Industrial Effluent Treatment Works	Effluent monitoring	NZ 56358 23999	Point D2 on site plan in Schedule 7

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 from CHP engines and boilers Parameters as required by condition 3.5.1.	A19, A20, A21, A22, A23 & A24	Every 12 months	1 January
Emissions to air from odour abatement plant Parameters as required by condition 3.5.1.	A13 & A18	Every 6 months	1 January, 1 July
Emissions to air from abatement systems for waste gas treatment plant Reporting only applies where the substance concerned is identified as relevant in the waste gas inventory IC6 Parameters as required by condition 3.5.1.	A13 & A18	Every 6 months	1 January, 1 July
Emissions to water and land Parameters as required by condition 3.5.1	D2	Every month	1 January
Emissions to sewer Parameters as required by condition 3.5.1	S1	Upon completion of IC25a and IC25b	Upon completion of IC25a and IC25b,
Process monitoring – digester tank integrity Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.5	Every 5 years from the date of commissioning or as per the manufacturer's recommendation, whichever is sooner	1 January
Process monitoring – under and over pressure relief systems Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.5	Every 12 months Yearly summary report of over-pressure and under-pressure events detailing mass balance release	1 January
Process monitoring – pressure relief systems - leak detection and repair (inspection, calibration and maintenance) Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.5	Every 3 years	1 January

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Process monitoring – leak detection and repair surveys Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.5	Every 12 months LDAR report to be submitted annually	1 January
Process monitoring – use of emergency flares Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.5	Every 12 months	1 January
Total annual VOCs emissions from gas engines (calculated)	As specified in schedule 3 table S3.5	Every 12 months	1 January

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

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
Electricity exported	Annually	MWh
Biomethane exported	Annually	tonnes or m^3
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	Hours
Waste disposal and/or recovery	Annually	tonnes
Effluent discharged	Annually	m^3
Use of Settled Sewage in IETP	Frequency appropriate to UWWTD	tonnes
UWWTD Compliance Reporting (BOD, COD, Ammonia etc.)	In accordance with the requirement of UWWTD	
E.coli	The analysis of E.coli should only be done following the use of domestic settled sewage in the industrial effluent treatment plant. Sampling should be done in accordance with condition 2.3.8.	

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Air	Form air 1 or other form as agreed in writing by the Environment Agency	26/03/2025
Process monitoring	Form process 1 or other form as agreed in writing by the Environment Agency	26/03/2025
Water	Form water 1 or other form as agreed in writing by the Environment Agency	26/03/2025
General performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	01/02/2013
Effluent to the IETP	Form as agreed in writing by the Environment Agency	01/02/2013
Effluent to the UWWTP	Sewer1 or other form as agreed in writing by the Environment Agency	01/02/2013
Sewer	Form sewer 1 or other form as agreed in writing by the Environment Agency	26/03/2025
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	26/03/2025
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	26/03/2025
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	26/03/2025
Waste returns	E-waste Return Form or other form as agreed in writing by the Environment Agency	--
Settled Sewage	Sewage1 or other form as agreed in writing by the Environment Agency	01/02/2013
UWWTD Compliance Reporting (BOD, COD, Ammonia etc.)	UWWTD1 or other form as agreed in writing by the Environment Agency	01/02/2013
Presumptive E.coli	BWD1 or other form as agreed in writing by the Environment Agency	01/02/2013

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.

“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.

“appropriate abatement system” means the appropriate treatment technique for channelled emissions to air defined in 6.6.1 ‘Channelled emissions to air’ from the ‘Best Available Techniques (BAT) Reference Document for Waste Treatment’.

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

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

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

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

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

“Biodegradable” means a material is capable of undergoing biological anaerobic or aerobic degradation leading to the production of CO_2, H_2O, methane, biomass, and mineral salts, depending on the environmental conditions of the process.

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

“BREF” means Best Available Techniques (BAT) Reference Document.

“Capacity” means the potential capacity and not historical or actual production levels or throughput. This means that the designed capacity is the maximum rate at which the site can operate. Biological treatment of waste usually takes place over more than one day, so the physical daily capacity can be calculated by dividing the maximum quantity of waste that could be subject to biological treatment at any one time by the minimum residence time. For in-vessel composting, the residence time for sanitisation should be calculated separately and then aggregated to the complete composting time. Further guidance ‘RGN2: Understanding the meaning of regulated facility Definition of regulated facility’ is available.

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

“combined heat and power” (CHP) or Cogeneration means the simultaneous generation in one process of thermal energy and electrical or mechanical energy.

“competent persons and resources” means that a technically competent person accredited to a relevant scheme must attend site and record their attendance, and that all roles and responsibilities are clearly stated in the management systems along with records of operatives’ training. See the guidance on the level of competence and duration of attendance

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

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

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

“direct discharge” means discharge to a receiving water body.

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

“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.

“DSEAR” means the Dangerous Substances and Explosive Atmospheres Regulations 2002.

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

“emissions to land” includes emissions to groundwater.

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

“existing medium combustion plant” means an MCP which was put into operation before 20 December 2018.

“generator” means any combustion plant which is used to generate electricity, excluding mobile, unless it is connected to the national grid.

“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.

“head of works” means the discharge location where imported wastes are discharged into the WwTW. The waste operations associated with the head of works is either via the direct discharge of tankered waste into the WwTW or the temporary storage of waste in a storage tank before discharge of waste into the WwTW. The waste water treatment works are operated under the requirements of the Urban Waste Water Treatment Directive.

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

“Indirect discharge” means a discharge to a sewer or off-site waste water treatment plant.

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

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

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

“medium combustion plant” or ”MCP” means a combustion plant with a rated thermal input equal to or greater than 1 MW but less than 50 MW.

“Medium Combustion Plant Directive” or “MCPD” means Directive 2015/2193/EU of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from medium combustion plants, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“new medium combustion plant” means an MCP which was put into operation after 20 December 2018. This includes replacement MCP and Generators.

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

“operator” means in relation to a regulated facility:

(a) the person who has control over the operation of the regulated facility,

(b) if the regulated facility has not yet been put into operation, the person who will have control over the regulated facility when it is put into operation, or

(c) if a regulated facility authorised by an environmental permit ceases to be in operation, the person who holds the environmental permit

“pests” means Birds, Vermin and Insects.

“PFOA” means Perfluorooctanoic acid.

“PFOS” means Perfluorooctanesulphonic acid.

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

(a) be harmful to human health or the quality of the environment,

(b) cause offence to a human sense,

(c) result in damage to material property, or

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

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

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

“sanitisation” means the actively managed and intensive stage of composting, lasting for at least 5 days, characterised by high oxygen demand and temperatures of over 55^0C, during which biological processes, together with conditions in the composting mass, eradicate human and animal pathogens or reduce them to acceptably low levels. The operator also needs to meet ABPR requirements.

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

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

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

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

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

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

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

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

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

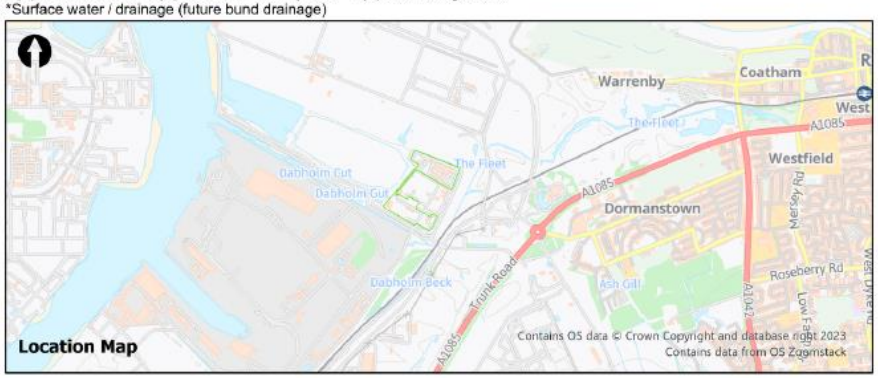
- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid fuels and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means a calendar year ending on 31 December.

Schedule 7 – Site plan

Emissions Ref	Emissions Points	Assets Ref	Assets	X	Y	Type
A13	Phase 1 Biofilter	13	OCU 1	456712	524242	Installation point
A18	Phase 2 Biofilter	18	OCU 2 (not in use)	456694	524375	Installation point
A19	Gas Engine	19	CHP 1	456603	524387	Installation point
A20	Gas Engine	20	CHP 2	456601	524381	Installation point
A21	Gas Engine	21	CHP 3	456599	524376	Installation point
A22	Gas Engine	22	CHP 4	456597	524370	Installation point
A23	Boiler			456601	524393	Installation point
A24	Boiler			456613	524385	Installation point
A25	Emergency Flare	25	Emergency Flare	456552	524432	Installation point
A27	G2G Emergency Flare	27	G2G Emergency Flare	456808	524187	Installation point
A28	G2G Gas Stack	28	G2G Gas Facility	456766	524229	Installation point
A29	Whessoe valve	29	Digester 1	456571	524445	Installation point
A30	Whessoe valve	30	Digester 2	456598	524434	Installation point
A31	Whessoe valve	31	Digester 3	456578	524412	Installation point
A32	Whessoe valve	32	Gasholder 1	456566	524392	Installation point
A33	Whessoe valve	33	Gasholder 2	456548	524399	Installation point
A34	Pulper 1	34	Pulper 1	456638	524417	Installation point
A35	Pulper 2	35	Pulper 2	456636	524410	Installation point
A36	Reactor 1	36	Reactor 1	456632	524420	Installation point
A37	Reactor 1a	37	Reactor 1a	456629	524414	Installation point
A38	Reactor 2	38	Reactor 2	456629	524421	Installation point
A39	Reactor 2a	39	Reactor 2a	456627	524415	Installation point
A40	Reactor 3	40	Reactor 3	456626	524421	Installation point
A41	Reactor 3a	41	Reactor 3a	456624	524415	Installation point
A42	Reactor 4	42	Reactor 4	456623	524423	Installation point
A43	Reactor 4a	43	Reactor 4a	456622	524416	Installation point
A44	Flashtank 1	44	Flashtank 1	456618	524424	Installation point
A45	Flashtank 2	45	Flashtank 2	456616	524420	Installation point
		46	Raw sludge storage 1	456624	524304	Installation point
		47	Raw sludge storage 2	456634	524321	Installation point
		48	Raw sludge storage 3	456651	524311	Installation point
		49	Raw sludge storage 4	456643	524296	Installation point
		50	Digested sludge storage 1	456646	524337	Installation point
		51	Digested sludge storage 2	456652	524350	Installation point
		52	Digested sludge storage 3	456666	524340	Installation point
		53	Sludge balance tank	456658	524326	Installation point
		54	Liquid sludge reception	456666	524315	Installation point
		55	Raw centrifuge	456656	524421	Installation point
		56	Digested centrifuge	456836	524309	Installation point
		57	Digested cake barn	456843	524320	Installation point
		58	Raw cake import facility	456623	524376	Installation point
R1	Surface Water (Discontinued)			456854	524151	Installation point
R2	Surface Water (Discontinued)			456766	524207	Installation point
R3	Surface Water (Discontinued)			456630	524292	Installation point
S1	Return Liquor Sample Point			456795	524304	Installation point

A(X): Air emissions S(X): Sewer emission points M(X): Monitoring Points
*Surface water / drainage (future bund drainage)



Title
Bran Sands WwTW
Site Layout Plan
Page Number: 1

MOTT MACDONALD
Mott MacDonald House
8-10 Sydenham Road
Croydon
T +44 (0)20 8774 2000
W mottmac.com

Date	Drawn	Checked	Approved	Scale at A4	Drawing Number	Status	Rev
11/03/25	D Evans	A Manns	A Manns	1:2,500	16481-000-DOC-SIN-B06-008	INF	01

Annex 1 of MCP

1. Rated thermal input (MW) of the medium combustion plant.	**CHP 1 – 3.216 MWth** **CHP 2 – 3.216 MWth** **CHP 3 – 3.216 MWth** **CHP 4 – 1.301 MWth** **Boiler 1 – 4.86 MWth** **Boiler 2 – 4.86 MWth**
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	CHP engines 1-3 fuelled on biogas and natural gas CHP 4 fuelled on biogas Boilers fuelled on biogas and natural gas
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Gaseous fuels other than natural gas Natural gas
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	CHPs 1, 2, 3 & 4 – November 2009 Boilers 1 & 2 – July 2009
5. Sector of activity of the medium combustion plant or the facility in which it is applied (NACE code.	37.00
6. Expected number of annual operating hours of the medium combustion plant and average load in use.	CHPs 1, 2, 3 & 4 - 8,760 hours per year Boilers 1 & 2 – 4,000 hours per year
7. Where the option of exemption under Article 6(3) or Article 6(8) is used, a declaration signed by the operator that the medium combustion plant will not be operated more than the number of hours referred to in those paragraphs.	N/Ax
8. Name and registered office of the operator and, in the case of stationary medium combustion plants, the address where the plant is located.	**Company name and registered office:** Northumbrian Water Limited Abbey Road, Durham, County Durham DH1 5FJ **Address where the plant is located:** Industrial Effluent Treatment Works, Bran Sands, Tees Dock Road, Middlesborough TS6 6UE

END OF PERMIT