



Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Wainstones Energy Limited

Trafford Power Station
132 Manchester Road
Carrington
Manchester
M31 4AY

Permit number

EPR/QP3630WH

Trafford Power Station

Permit number EPR/QP3630WH

Introductory note

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

The main features of the permit are as follows:

Trafford Power Station is located between the villages of Carrington and Partington approximately 14 kilometres south west of Manchester. The site is centred on National Grid Reference SJ 72651 93001 and covers an area within the former Carrington Coal Fired Power Station site.

Trafford Power Station generates electricity by combustion of natural gas as permitted under Section 1.1 Part A(1) (a) of the Environmental Permitting Regulations (EPR). The installation has a net electrical capacity of up to 1,931 megawatts (MW) generated by three 644 MWe combined cycle gas turbines (CCGT) (thermal input of 1,044 MWth each). The plant combusts natural gas only. There will be no standby fuel.

Each CCGT comprises a gas turbine (GT), heat recovery steam generator (HRSG) and steam turbine (ST) in a combined cycle configuration within a common turbine hall. The GT drives an electrical generator to generate electricity. The hot exhaust gases exiting the GT are passed to the HRSG which rotates the ST connected to another electrical generator to generate additional electricity. Spent steam is condensed and returned to the HRSG for reuse. The exhaust gases leave the HRSG via a dedicated 85 metre stack for each CCGT.

Two 25.5 MWth auxiliary boilers provide steam to enable the start up of the STs and have their own dedicated 15 metre stack. In addition, there are three 3 MWth emergency diesel generators which enable safe shut down of the plant, two 2.3 MWth dew point heaters and a 0.1 MWth diesel firefighting engine pump on site. All of the appliances have their own dedicated stacks.

Natural gas is supplied by a new gas pipeline linking into the National Transmission System to the south of the site. The pipeline connects into a gas compound adjacent to the southern site boundary. The compound contains filtering, metering, pressure reduction and heating equipment to supply gas at the correct temperature and pressure to the GTs. Electricity is exported via a 400 kilovolt overhead transmission network to the north of the site.

An onsite water treatment plant (WTP) treats canal water, from the Manchester Ship Canal, using reverse osmosis to produce high purity demineralised water. Boiler blow down water and effluent produced by the WTP is treated in an automatic effluent neutralising system and then discharged to cooling water outfall via the site effluent pit.

The cooling system (abstraction license reference NW/069/0015/008) comprises three banks of plume free (to an ambient temperature of 5°C) hybrid cooling towers. Water for the cooling system is abstracted from the Manchester Ship Canal, via two 100% duty pumps, and filtered prior to use. The water is treated with a biocide and a proprietary dispersant to control fouling and the growth of microorganisms. Used cooling water is returned to the canal, 9°C warmer, at discharge point W1.

Drainage from surface water run off via oil/water separators is routed to a waste water collection basin prior to disposal via the effluent sump. Foul sewage is treated and discharged to Manchester Ship Canal via the effluent sump.

The power plant will be combined heat and power ready (CHP-ready) and the plant layout has been arranged to allow space to be available for heat extraction to be undertaken in the future. At present no suitable heat customers have been identified from a detailed heat mapping exercise within a 15 kilometre radius of Trafford Power Plant. The site has a design life of 30 years.

The plant has an overall efficiency of over 60% and operates in one of three modes:

- base load – operating at full capacity;

- two shift mode – operation during the day with overnight shutdown; or
- reduced load – operation mainly during the night.

For operation in two shift mode Trafford Power Plant operates at full load to meet the hours of peak demand and at reduced load dropping to 47% of its maximum design capacity (base load) in order to operate as spinning reserve plant (SRP). SRP can rapidly increase load and supply additional power and is used when other power generating plants in operation cannot maintain the stability of the National Grid. Emissions of nitrogen oxides (NOx) and carbon monoxide (CO) will comply with the Industrial Emissions Directive (IED), 2010/75/EU, Annex V emissions limit values (ELVs).

The requirements of the IED are given force in England through the Environmental Permitting (England and Wales) Regulations 2010 (the EPR) (as amended). This permit, for the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the IED, implements the special provisions for LCP given in the IED, by the 01 January 2016 (Article 82(3)). The IED makes special provisions for LCP under Chapter III, introducing new ELVs applicable to LCP, referred to in Article 30(2) and set out in Annex V.

The net thermal input of the LCPs is as follows: LCP463 consists of one 1,044 MWth CCGT, LCP464 consists of one 1,044 MWth CCGT and LCP465 consists of one 1,044 MWth CCGT.

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 EPR/QP3630WH/A001	Duly made 14/03/2016	Application for a 1,931 MWe CCGT power station comprising three power units.
Additional information received	08/06/2016	Details regarding the discharge to the Manchester Ship Canal and properties of the noise barrier used in the noise impact assessment.
Additional information received	15/06/2016	CORMIX model files for the thermal plume discharge assessment.
Information received in response to Schedule 5 Notice dated 16/08/2016	05/09/2016	Details regarding the outfall location, chlorinated by products, hazardous pollutants and hydrogen sulphide within the discharge to water.
Permit determined EPR/QP3630WH (PAS Billing Ref: QP3630WH)	15/11/2016	Permit issued to Wainstones Energy Limited.

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/QP3630WH

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

Wainstones Energy Limited ("the operator"),

whose registered office is

**4 Ellerbeck Way
Stokesley Business Park
Stokesley
Middlesbrough
North Yorkshire
TS9 5JZ**

company registration number 06711448

to operate an installation at

**Trafford Power Station
132 Manchester Road
Carrington
Manchester
M31 4AY**

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

Name	Date
M Bischer	15/11/2016

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

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

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
 - (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (d) take any further appropriate measures identified by a review.
- 1.2.2 The operator shall review the viability of Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:
- (a) new plans for significant developments within 15 km of the installation;
 - (b) changes to the Local Plan;
 - (c) changes to the DECC UK CHP Development Map or similar; and
 - (d) new financial or fiscal incentives for CHP.

The results shall be reported to the Agency within 2 months of each review, including where there has been no change to the original assessment in respect of the above factors.

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;
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

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

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 For the following activities referenced in schedule 1, table S1.1: LCP463, LCP464 and LCP465. Without prejudice to condition 2.3.1, the activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” dated December 2015 or any later version unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 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.
- 2.3.4 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.5 For the following activities referenced in schedule 1, table S1.1: LCP463, LCP464 and LCP465. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.5.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

- 2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.4 have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

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

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

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

3.4 Noise and vibration

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

3.5 Monitoring

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

3.6 Monitoring for the purposes of the Industrial Emissions Directive Chapter III

- 3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.
- 3.6.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in condition 3.6.7, the operator shall:
- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and
 - (b) implement the approved proposals.
- 3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.
- 3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.5 below, the operator shall carry out the methods, including the reference measurement methods, to

use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.

- 3.6.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.
- 3.6.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.
- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1; the Continuous Emission Monitors shall be used such that:
- (a) for the continuous measurement systems fitted to the LCP release points defined in Table S3.1 the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval;
 - (b) the 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%;
 - (c) the 95% confidence interval for dust releases of a single measured result shall be taken to be 30%;
 - (d) the 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%;
 - (e) an invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing; and
 - (f) any day, in which more than three hourly average values are invalid shall be invalidated.

4 Information

4.1 Records

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

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the resource efficiency metrics 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.

4.3 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), 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (c) any change in the operator's name or address; and
 - (d) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (e) the death of any of the named operators (where the operator consists of more than one named individual);
 - (f) any change in the operator's name(s) or address(es); and
 - (g) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

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 listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	LCP463, LCP464 and LCP465: operation of a power plant made up of three combined cycle gas turbines (CCGT) each with a net rated thermal input of 1,044 MWth burning natural gas to produce electricity.	From receipt of natural gas to discharge of exhaust gases and the generation of electricity for export.
	Operation of two auxiliary boilers each with a net rated thermal input of 25.5 MWth fired on natural gas.	From receipt of natural gas to discharge of exhaust gases and the generation of steam.
	Operation of two dew point heaters each with a net rated thermal input of 2.3 MWth fired on natural gas.	From receipt of natural gas to discharge of exhaust gases.
	Operation of three diesel generators each with a net rated thermal input of 3 MWth.	From receipt, storage and handling diesel to discharge of exhaust gases.
Directly Associated Activity		
Directly associated activity	Operation of one 0.1 MWe diesel firefighting pump.	From receipt, storage and handling of diesel to discharge of exhaust gases.
Directly associated activity	Oil storage for fuel, lubricating oils, water treatment chemicals and other raw materials.	From receipt of raw materials to dispatch for use.
Directly associated activity	Sewage treatment plant.	Operation of a small sewage treatment plant for onsite foul sewage until discharge to the effluent sump.
Directly associated activity	Boiler water treatment plant used to treat incoming water to produce demineralised water.	From receipt of raw materials to dispatch to chemical effluent and dirty water system.
Directly associated activity	Surface water drainage.	Handling and storage of site drainage until discharge to the site surface water system.
Description of activities for water quality operations		
Discharge of secondary treated sewage effluent via W1.		N/A

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application received EPR/QP3630WH/A001	Sections B2 and B3 and the supplementary information supplied with these parts.	10/12/2015
Receipt of additional information to the application EPR/QP3630WH/A001	Formal letter from Trafford Council Planning and Development Services confirming discharge of Condition 29 of the Section 36 Consent regarding Carrington Power Station Site of Biological Importance.	09/02/2016
Receipt of additional information to the application EPR/QP3630WH/A001	Revised Air Quality Assessment.	12/02/2016
Receipt of additional information to the application EPR/QP3630WH/A001	Revised Air Quality Assessment modelling files.	24/02/2016
Receipt of additional information to the application EPR/QP3630WH/A001	Details regarding the discharge to the Manchester Ship Canal and properties of the noise barrier used in the noise impact assessment.	08/06/2016
Information received in response to Schedule 5 Notice dated 16/08/2016	Details regarding the outfall location, chlorinated by products, hazardous pollutants and hydrogen sulphide within the water discharge.	05/09/2016

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>The Operator shall submit a report in writing to the Environment Agency for acceptance. The report shall define and provide a written justification of the “minimum start up load” and “minimum shut-down load”, for each unit within the LCP as required by the Implementing Decision 2012/249/EU in terms of:</p> <ul style="list-style-type: none"> i. The output load (i.e. electricity, heat or power generated) (MW); and ii. This output load as a percentage of the rated thermal output of the combustion plant (%). <p>And / Or</p> <ul style="list-style-type: none"> iii. At least three criteria (operational parameters and / or discrete processes as detailed in the Annex) or equivalent operational parameters that suit the technical characteristics of the plant, which can be met at the end of start up or start of shut down as detailed in Article (9) 2012/249/EU. 	Within 12 months of the date on which fuel is first burnt

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC2	<p>The Operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP463, LCP464 and LCP465.</p> <p>Evidence to support this figure, in order of preference, shall be in the form of:-</p> <ul style="list-style-type: none"> a) Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes); b) Manufacturer's contractual guarantee value; c) Published reference data, e.g. Gas Turbine World Performance Specifications (published annually); d) Design data, e.g. nameplate rating of a boiler or design documentation for a burner system; e) Operational efficiency data as verified and used for heat accountancy purposes; f) Data provided as part of Due Diligence during acquisition. <p>* Performance test results shall be used if these are available.</p>	Within 12 months of the date on which fuel is first burnt
IC3	The Operator shall submit a written report to the Environment Agency on the implementation of its Environmental Management System (EMS) and the progress made in the certification of the system by an external body or if appropriate submit a schedule by which the EMS will be certified.	Within 12 months of the date on which fuel is first burnt
IC4	The Operator shall submit a written report to the Environment Agency on the commissioning of the installation. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the facility against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions.	Within 4 months of the completion of commissioning

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC5	<p>The Operator shall undertake an emissions monitoring study to determine the levels of cadmium and mercury (present as trace contaminants in bulk raw materials) discharged from the installation to the Manchester Ship Canal. The study shall be based on a 12 month sampling campaign with a minimum of 12 monthly samples being obtained to form a valid dataset.</p> <p>Following completion of the emissions monitoring study the operator shall undertake a risk assessment using the information obtained during the emissions monitoring. The risk assessment report and all associated monitoring reports shall be submitted in writing to the Environment Agency for review.</p> <p>The risk assessment shall, as a minimum, include:</p> <ul style="list-style-type: none"> • 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 on undertaking risk assessments for environmental permitting • a completed H1 assessment software tool. <p>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.</p>	Within 15 months of the date on which fuel is first burnt

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
PO1	Prior to the commencement of commissioning, the Operator shall submit a report on the baseline conditions of soil and groundwater at the installation. The report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for in Article 22(3) of the IED. The report shall contain information, supplementary to that already provided in application Site Condition Report, needed to meet the information requirements of Article 22(2) of the IED.
PO2	The Operator is required to confirm if timber will be used within the cooling towers. If timber is to be used within the cooling towers then the operator is required to provide a specification of the pre installation timber washing regime to the Environment Agency.
PO3	Prior to the commencement of operations the Operator shall further assess the environmental impact of chlorine in the cooling water discharge on the aquatic environment of the Manchester Ship Canal (MSC). The assessment shall draw upon investigative work undertaken by the Operator and shall include but not be limited to (a) the use of laboratory testing to investigate potential impacts when MSC water is subjected to different biocide dosing regimes, including the use of sodium bisulphite post-chlorination; and (b) the fate of chlorine, both free chlorine and chlorination by-products, in the discharge, when the discharge is made to the MSC. A written report on the above assessment shall be submitted to the Environment Agency for approval.

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
PO4	<p>At least 4 weeks (or such other date as agreed in writing by the Environment Agency) before any fuel is burnt at the installation, the Operator shall provide confirmation to the Environment Agency that a written Environment Management System (EMS) has been produced, which shall be available for inspection.</p> <p>The EMS shall:</p> <ul style="list-style-type: none"> • demonstrate that staff have received the necessary training; and • provide the procedures for the closure and decommissioning of the site.
PO5	<p>The Operator shall submit detailed plans following completion of final design which sets out the location and design of the cooling water outlet to the Manchester Ship Canal. The plans shall be accompanied by a report which confirms the predicted mixing zone and extent of the thermal plume based on dispersion modelling of the final outlet design. The report shall include an interpretation of the model results with respect to potential impacts, in comparison with the assessment submitted with the environmental permit application. Construction of the cooling water outlet shall not commence prior to the written approval of the submitted plans by the Environment Agency.</p>
PO6	<p>Prior to the commencement of commissioning, the Operator shall provide a written commissioning plan, including timelines for completion, for approval by the Environment Agency. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.</p>

Table S1.5 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	“Minimum Start-Up Load” Load in MW and as percent of rated power output (%)	“Minimum Shut-Down Load” Load in MW and as percent of rated power output (%)
Emission points A1, A2 and A3 from LCP463, LCP464 and LCP465	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC1.	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC1.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Natural gas	---

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air from Gas Turbines >100 MWth						
Emission point ref. & location	Source	Parameter	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
HRSG Stack 1 (A1), HRSG Stack 2 (A2) and HRSG Stack 3 (A3) on the site plan in Schedule 7	LCP463, LCP464 and LCP465 Gas turbines fired on natural gas	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
			55 mg/m ³ 70% to base load ¹	Daily mean of validated hourly averages		
			55 mg/m ³ MSUL/MSDL to base load ²			
			100 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year		
		Carbon monoxide	100 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
			110 mg/m ³ 70% to base load ¹	Daily mean of validated hourly averages		
			110 mg/m ³ MSUL/MSDL to base load ²			
			200 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year		
		Sulphur dioxide	No limit set	---	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency

Table S3.1 Point source emissions to air from Gas Turbines >100 MWth						
Emission point ref. & location	Source	Parameter	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
		Oxygen	---	---	Continuous as appropriate to reference	BS EN 14181
		Water vapour	---	---	Continuous as appropriate to reference	BS EN 14181
		Stack gas temperature	---	---	Continuous as appropriate to reference	Traceable to national standards
		Stack gas pressure	---	---	Continuous as appropriate to reference	Traceable to national standards
		As required by the Method Implementation Document for BS EN 15259	---	---	Pre-operation and when there is a significant operational change	BS EN 15259
Stacks A4 and A5 on the site plan in Schedule 7	Two 25.5 MWth auxiliary boilers fired on natural gas	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	No limit set	---	---	---
		Carbon monoxide				
Stacks A6, A7 and A8 on the site plan in Schedule 7	Three 3 MWth emergency diesel generators	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	No limit set	---	---	---
		Carbon monoxide				
		Sulphur dioxide				
		Dust				

Table S3.1 Point source emissions to air from Gas Turbines >100 MWth						
Emission point ref. & location	Source	Parameter	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
Stacks A9 and A10 on the site plan in Schedule 7	Two 2.3 MWth dew point heaters	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	No limit set	---	---	---
		Carbon monoxide				
Note 1: This ELV applies when the load is > 70% throughout the reference period.						
Note 2: This ELV applied when the load varies between MSUL/MSDL and base load during the daily reference period. MSUL and MSDL are defined in Table S1.5.						

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
Combined cooling water, boiler blow down and secondary treated effluent via W1 on the site plan in Schedule 7, emission to Manchester Ship Canal	Combined cooling water, boiler blow down and secondary treated effluent via the site effluent sump	Maximum daily flow	11,249 m ³ / day	24 hour period beginning 00.01	Continuous	---
		pH	6-9	Instantaneous	Continuous	BS EN ISO 10523
		Temperature	35°C	Instantaneous	Continuous	MCERTS compliant method as agreed with the Environment Agency
		Temperature increase ^{Note 1}	+ 9°C	Instantaneous	Continuous	BS EN ISO 10523
		Free chlorine	0.2 mg/l	Instantaneous	Weekly	BS EN ISO 7393 SCA Blue Book 218

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

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
		Visual appearance	The discharge must, so far as is reasonably practicable, have no significant adverse visible effect on the receiving water, watercourse bed or any plants or animals within the watercourse	Instantaneous (visual examination)	Weekly	Visual examination
		Visible oil and grease	No significant trace present in surface water so far as is reasonably practicable	Instantaneous (fortnightly visual examination)	---	Visual examination

Note 1 Temperature increase means the difference in temperature between the canal water at the abstraction point and at the cooling water discharge point (W1).

Table S3.3 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Combined cooling water, boiler blow down and secondary treated effluent via W1 on the site plan in Schedule 7, emission to Manchester Ship Canal (392910,372420)	Residual chlorine	Continuous	---	≤ 0.2 mg/l
Effluent treatment plant	Maximum daily flow	Continuous	---	< 329 m ³ / day

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
Oxides of nitrogen	A1, A2, A3	Every 3 months	1 January, 1 April, 1 July, 1 October
Carbon monoxide	A1, A2, A3	Every 3 months	1 January, 1 April, 1 July, 1 October
Sulphur dioxide	A1, A2, A3	Every 6 months	1 January, 1 July
Emissions to Water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July

Table S4.2: Resource Efficiency Metrics	
Parameter	Units
Electricity Exported	GWhr
Heat Exported	GWhr
Mechanical Power Provided	GWhr
Fossil Fuel Energy Consumption	GWhr
Non-Fossil Fuel Energy Consumption	GWhr
Annual Operating Hours	hr
Water Abstracted from Fresh Water Source	m ³
Water Abstracted from Borehole Source	m ³
Water Abstracted from Estuarine Water Source	m ³
Water Abstracted from Sea Water Source	m ³
Water Abstracted from Mains Water Source	m ³
Gross Total Water Used	m ³
Net Water Used	m ³
Hazardous Waste Transferred for Disposal at another installation	t
Hazardous Waste Transferred for Recovery at another installation	t
Non-Hazardous Waste Transferred for Disposal at another installation	t
Non-Hazardous Waste Transferred for Recovery at another installation	t
Waste recovered to Quality Protocol Specification and transferred off-site	t
Waste transferred directly off-site for use under an exemption / position statement	t

Table S4.3 Chapter III Performance parameters for reporting to DEFRA		
Parameter	Frequency of assessment	Units
Thermal input capacity for each LCP	Annually	MW
Annual fuel usage for each LCP	Annually	TJ
Total emissions to air of NO _x for each LCP	Annually	t
Total emissions to air of SO ₂ for each LCP	Annually	t
Total emissions to air of dust for each LCP	Annually	t
Operating hours for each LCP	Annually	hr

Table S4.4 Reporting forms				
Media/ parameter	Reporting format	Starting Point	Agency recipient	Date of form
Air & Energy	Form IED AR1 – SO ₂ , NO _x and dust mass emission and energy	01/01/16	National	31/12/15
LCP	Form IED HR1 – operating hours	01/01/16	National	31/12/15
Air	Form IED CON 2 – continuous monitoring	01/01/16	Area Office	31/12/15
CEMs	Form IED CEM1 – Invalidation Log	01/01/16	Area Office	31/12/15
Resource Efficiency	Form REM1 – resource efficiency annual report	01/01/16	National	31/12/15
Water	Form Water 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	31/12/15

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.

“Air Quality Risk Assessment” has the meaning given in Annex D of IED Compliance Protocol for Utility Boilers and Gas Turbines.

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

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

“background concentration” means such concentration of that substance as is present in:

for emissions to surface water, the surface water quality up-gradient of the site; or

for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“base load” means: (i) as a mode of operation, operating for >4000hrs pa; and (ii) as a load, the maximum load under ISO conditions that can be sustained continuously, i.e. maximum continuous rating.

“calendar monthly mean” means the value across a calendar month of all validated hourly means.

“CEN” means Comité Européen de Normalisation.

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

“DLN” means dry, low NO_x burners.

“emissions to land” includes emissions to groundwater.

“Energy efficiency” the annual net plant energy efficiency means the value calculated from the operational data collected over the year.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

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

“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.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions.

“large combustion plant” or “LCP” is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MW or more, based on net calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

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

“MCR” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU.

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU.

“Natural gas” means naturally occurring methane with no more than 20% by volume of inert or other constituents.

“ncv” means net calorific value.

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

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

“SI” means site inspector.

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

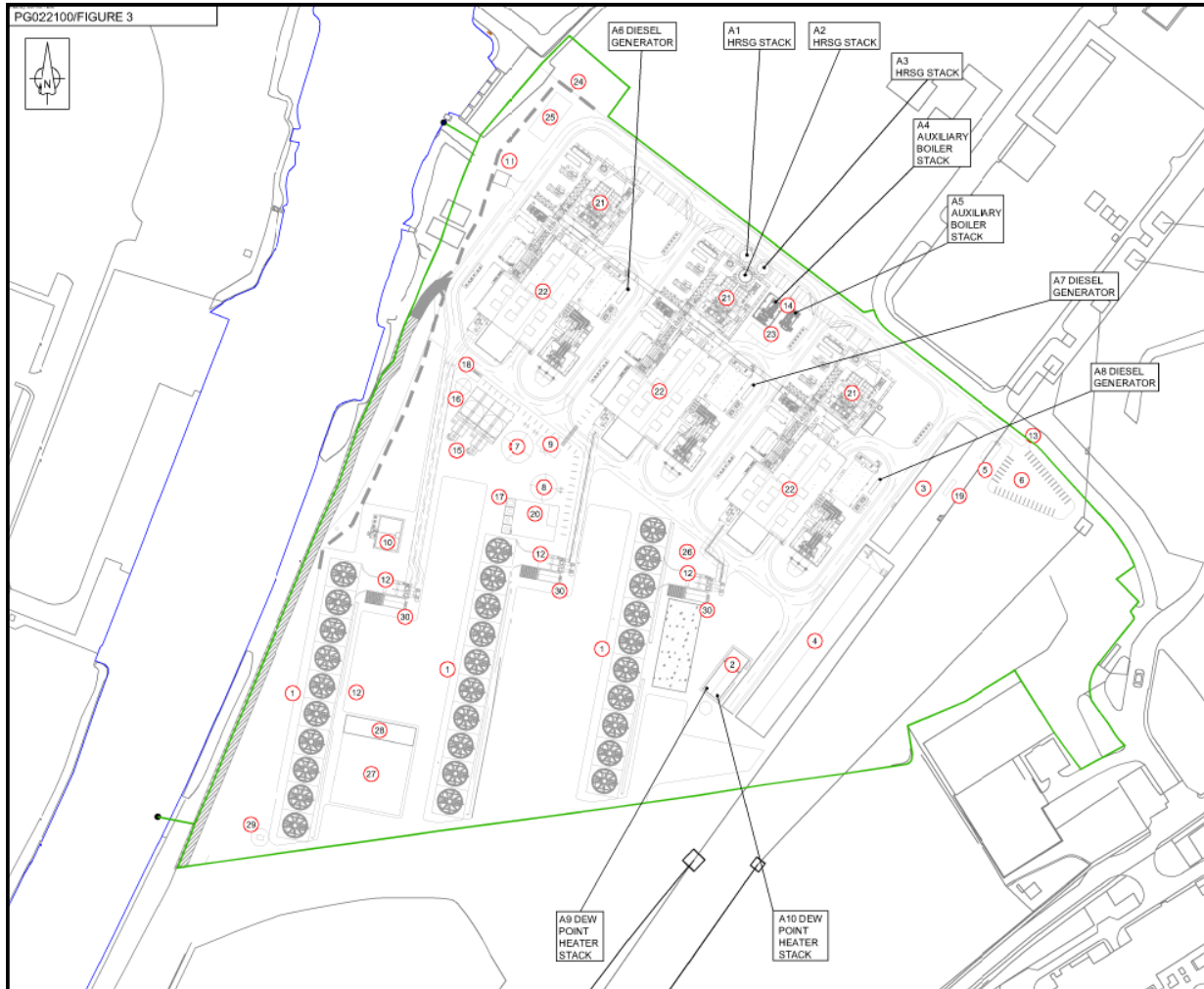
Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous 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.

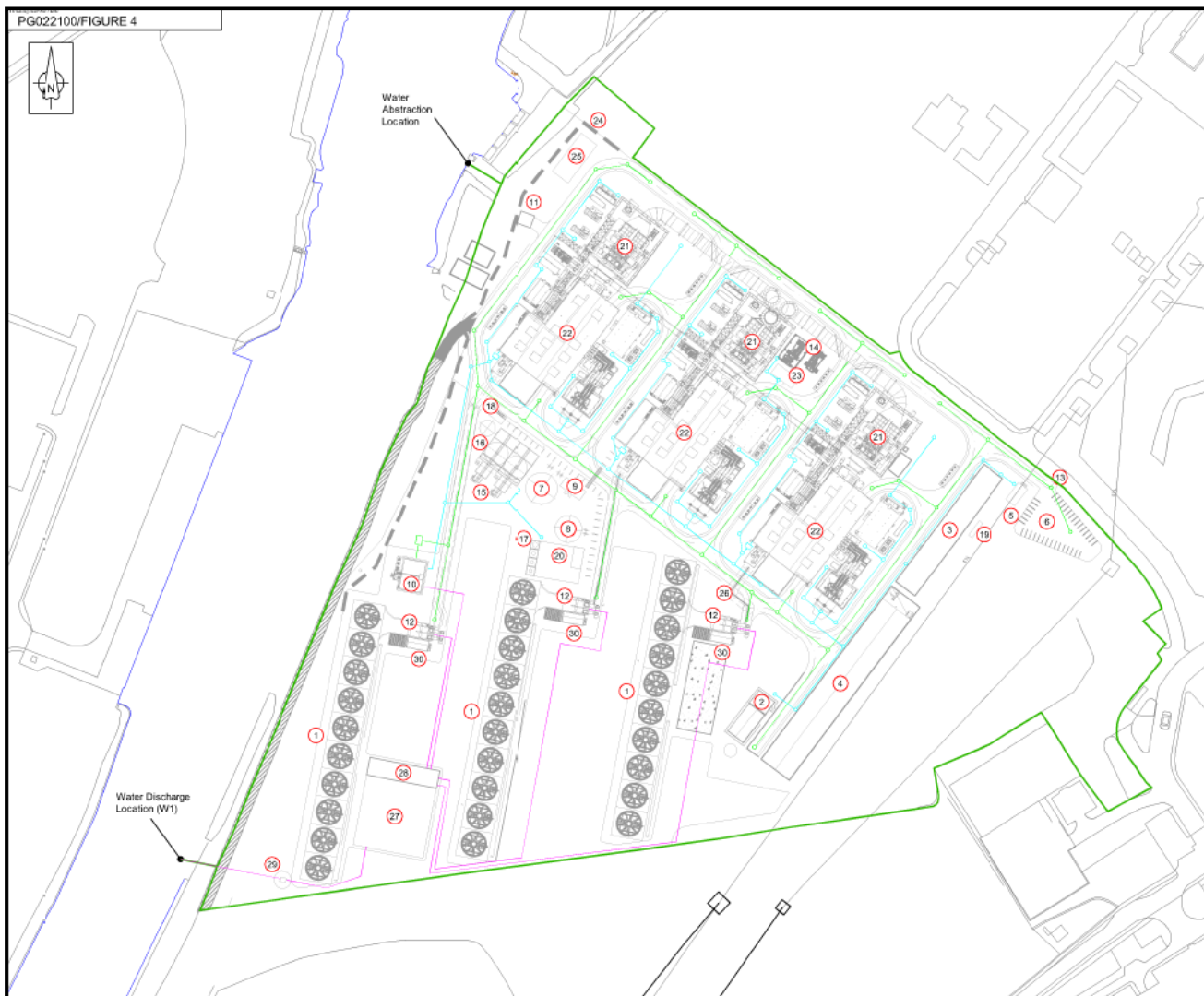
“year” means calendar year ending 31 December.

Schedule 7 – Site plan

Installation boundary and emissions to air site plan



Installations boundary, discharge and abstraction points site plan



END OF PERMIT