# Permit with introductory note

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

Amazon Data Services UK Limited

Hemel Hempstead Data Centre
3A Blossom Way
Hemel Hempstead
Hertfordshire
HP2 4ZB

### Permit number

EPR/BP3546QP

# Hemel Hempstead Data Centre
# Permit number EPR/BP3546QP

## Introductory note

### This introductory note does not form a part of the permit

The main features of the permit are as follows.

This permit authorises the operation by Amazon Data Services UK Limited of:

- A number of medium combustion plant (MCP) with thermal input between 1 and 50MWth which aggregate to >50MWth.

This is regulated as a Schedule 1, Section 1.1 Part A(1)(a) activity under the Environmental Permitting (England and Wales) Regulations 2016 for the burning of any fuel in an appliance with a thermal input of 50 or more megawatts (MW).

The site is comprised of 33 containerised generators for emergency back-up energy purposes with a combined thermal input capacity of 222MWth. The generators can operate on gas oil or HVO (hydrotreated vegetable oil).

The details of the individual generator inputs and associated limits and monitoring requirements are specified in Tables S1.1 and S3.1.

Thirty of the back-up generators are double stacked, the remaining three have individual stacks. Two generators are included as secondary redundancy back-up. There is also a smaller “house” generator to cover non-critical operations during an emergency – such as office lights and the office fire system etc.

All stacks terminate at 25m above ground.

There will also be fuel storage facilities regulated under this permit:

- Each generator will have a “belly tank” capable of holding 16$m^3$ capacity.
- A storage tank of 40$m^3$ capacity will be used to fill the “belly tank”.

The storage tank is located within a bund capable of containing 110% of the capacity of the tank.

Each “belly tank” is containerised and self-bunded to contain 110% of the tank.

The generators will be used solely for the purpose for generating power for the facility. No electricity will be exported from the installation.

A testing regime is in place which requires the generators to be operated for a defined period at pre-arranged intervals to ensure the generators are available to operate in the event of an emergency.

There are two gas oil pumps that serve the sprinkler system for the data halls in the event of fire. They are rated at 104kw thermal output (approximately 300kW thermal input) and operate on gas oil not HVO. They are located within the sprinkler pump house which is not within the installation boundary for this permit. We have not included them within this permit at this stage.

The data centre is located within the Prologis Industrial Park located within a light industrial and commercial area towards the east of Hemel Hempstead.

The northern boundary of the site consists of a number of businesses and a multi-storey car park. There are warehouses to the east; to the west there is a self-storage facility; and to the southwest there is a hotel, car park and open space. Residential properties are located further to the west and south, approximately 100m from the site boundary. Several major roads are located in proximity to the site, including the A414 (Breakspear Way) to the south, the A4147 (Maylands Avenue) to the west. The M1 motorway is located 1.2km to the east.

There is planning permission for the construction of residential apartments on Maylands Avenue, directly opposite the data centre. When completed, these will be the closest residential receptors to the data centre.

Chiltern Beechwoods (Special Area of Conservation) is located approximately 8km north-west from the data centre. There are a number of Local Wildlife Sites, Local Nature Reserves and Ancient Woodlands within 2 km of the data centre.

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

| **Status log of the permit** | | |
|---|---|---|
| **Description** | **Date** | **Comments** |
| Application EPR/BP3546QP/A001 | Duly made 17/03/2023 | Application for operation of 33 back-up generators with a total thermal input of 222MW within a data centre facility. |
| Additional information received.<br>Response to Schedule 5 Notice dated 03/05/2023. | 05/06/2023 | - BAT for generators on site.<br>- Use of uninterruptible power supplies (UPS) in event of National Grid failure.<br>- Management of underground pipework.<br>- Containment (road tankers, fuel storage, attenuation tanks and distribution).<br>- Site drainage and location of spill kits.<br>- Generator testing and maintenance.<br>- Flue gas monitoring.<br>- Generator operation.<br>- Accident/fire management.<br>- Waste generation.<br>- Air quality dispersion assessment. |
| Additional information received | 07/06/2023 | - Sulphur content of gas oil.<br>- Quantity of waste engine oil generated per year. |
| Additional information received | 21/07/2023 | Updated air dispersion modelling and noise impact assessment received to address planning permission granted for residential apartments directly opposite the data centre. |
| Additional information received | 04/08/2023 | Updated noise data files received. |
| Additional information received | 01/09/2023 | - Operation of gas oil top-up tank bund.<br>- Commissioning phases of data centre.<br>New site plans submitted containing installation boundary and emission points to air and water. |
| Additional information received | 15/09/2023 | Updated air dispersion modelling report submitted. |
| Additional information received | 20/10/2023 | Updated air dispersion modelling report submitted. |
| Additional information received | 06/12/2023 | - Use of HVO as fuel for generators.<br>- Scope of operation of two fire pumps in sprinkler pump house and means of refuelling. |
| Additional information received | 12/12/2023 | Thermal output of the two fire pumps. |
| Permit determined EPR/BP3546QP | 15/12/2023 | Permit issued to Amazon Data Services UK Limited. |

End of introductory note

# Permit

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

### Permit number

**EPR/BP3546QP**

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

**Amazon Data Services UK Limited** ("the operator"),

whose registered office is

**1 Principal Place**
**Worship Street**
**London**
**EC2A 2FA**

company registration number 09959151

to operate an installation at

**Hemel Hempstead Data Centre**
**3A Blossom Way**
**Hemel Hempstead**
**Hertfordshire**
**HP2 4ZB**

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

| Name | Date |
|---|---|
| **Vicky Patchett** | **15/12/2023** |

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

### 1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

### 1.2 Energy efficiency

1.2.1 The operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further appropriate measures identified by a review.

### 1.3 Efficient use of raw materials

1.3.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

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

1.4.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

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

# 2 Operations

## 2.1 Permitted activities

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

## 2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plans 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 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.

2.3.5 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.

2.3.6 For the following activities referenced in Schedule 1, Table S1.1 (AR1), the activities shall not operate for more than 500 hours in emergency use per annum.

## 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, S3.2 and S3.3.

3.1.2 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.

3.1.3 For the following activities referenced in schedule 1, table S1.1 (AR1), the first monitoring measurements shall be carried out within four months of the issue date of the permit or of the date when the MCP is first put into operation, whichever is later.

## 3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

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

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

## 3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

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

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

## 3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

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

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

## 3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

(a) point source emissions specified in tables S3.1, S3.2 and S3.3.

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 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

# 4 Information

## 4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

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; and

(b) the performance parameters set out in schedule 4 table S4.2 using the forms specified in table S4.3 of that schedule.

(c) where condition 2.3.6 applies, the hours of operation in any year.

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 S4.3; 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 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency

when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

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

Where the operator is a registered company:

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

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

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

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

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

In any other case:

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

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

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

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

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

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

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

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

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

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

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

## 4.4 Interpretation

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

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

# Schedule 1 – Operations

| Table S1.1 activities | | | |
|---|---|---|---|
| **Activity reference** | **Activity listed in Schedule 1 of the EP Regulations** | **Description of specified activity** | **Limits of specified activity** |
| AR1 | S1.1 A (1) (a):<br>Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts | Operation of 33 emergency standby generators with a total thermal input of approximately 222 MWth.<br>The generators will burn gas oil solely for the purpose of providing electricity to the installation in the event of a failure of supply from the National Grid and during maintenance testing.<br>30 x 6.86MWth = 205.8MWth (main back-up generators).<br>2 x 6.86MWth = 13.72MWth (redundancy generators).<br>1 x 2.57 MWth (“house” generator for office power).<br>Total = 222.09 MWth | From receipt of raw materials and generation of electricity to despatch of waste.<br>Electricity produced at the installation cannot be exported to the National Grid.<br>The emergency operational hours of the installation shall not exceed the specifications set out in condition 2.3.6. |
| | **Directly Associated Activity** | | |
| AR2 | Storage of raw materials | From receipt of raw materials to use within the facility. | |
| AR3 | Surface water drainage | Input to site drainage system until discharge to surface water drain (emission point W1 covering generator area).<br>Input to site drainage system until discharge to sewer drain (emission point S1 covering top-up gas oil storage area). | |

| Table S1.2 Operating techniques | | |
|---|---|---|
| **Description** | **Parts** | **Date Received** |
| Application, EPR/BP3546QP/A001 | Section 5 of the application document, 284474-EP-STR provided in response to section 3a (technical standards) of Part B3 of the application form.<br>Technical standards as described in Data Centre FAQ Headline Approach (v11.0, 11/05/2020), Release to Industry. | Duly Made<br>17/03/2023 |
| Response to Schedule 5 Notice dated 03/05/2023. | Operating techniques described in the responses to the Notice (including accompanying information):<br>- question 2 on use of uninterruptible power supply in the event of National Grid failure.<br>- question 3d on the management of underground pipework including operation of a vacuum leak detection connected to the central database and monitored 24 hours per day. | 05/06/2023 |

| Table S1.2 Operating techniques | | |
|---|---|---|
| **Description** | **Parts** | **Date Received** |
| | - question 4 on the containment of the contents of a road tanker of gas oil.<br>- question 6e on the testing and removal of rainwater in the fuel storage tank bund.<br>- question 6f on the use of alarms and overfill protection on the fuel storage tank.<br>- question 7b on the leak detection system operated on the “belly tanks”.<br>- question 8a on the maintenance of spill kits.<br>- question 9 on the maintenance of drainage pipes, geo-cellular attenuation tanks and proprietary treatment systems.<br>- question 10a on discharges to foul water and surface water from the fuel loading area and “belly tanks” area.<br>- question 13 on the scheduling of maintenance and testing scenarios to minimise potential air quality and noise impacts on off-site receptors.<br>- question 15a on generator operation after National Grid failure.<br>- question 16 outlining the operation of National Grid resilience systems during commissioning and operation of the data centre.<br>- question 17a on fire detection within generator container units. | |
| Additional information received | Operating techniques described in the information received (including accompanying information):<br>- Response to question on operation of gas oil top-up tank bund to prevent jetting outside of the bund.<br>- Response to question on commissioning phasing of generator operation. | 01/09/2023 |
| Additional information received | Testing and maintenance regime on back-up generators: Table 4, Additional Air Quality and Noise Assessment, Rev3 | 24/10/2023 |

| Table S1.3 Improvement programme requirements | | |
|---|---|---|
| **Reference** | **Requirement** | **Date** |
| IC1 | The operator shall produce an Air Quality Management Plan in conjunction with the Local Authority outlining response measures to be taken in the event of a grid failure. This should include but not be limited to the following considerations:<br>• The response should be tailored to reflect the predicted potential impact indicated by the air dispersion modelling at individual receptors.<br>• Preventative and reactive actions to be implemented to limit the duration of an outage event to less than 50 hours as far as possible.<br>• Specific timescales for response measures.<br>• How local conditions during a grid failure might influence the response required, for example meteorological conditions or time of day.<br>• The potential for an indicative continuous air quality monitoring system to operate in the event of grid failure. | 01/08/2024 |

| Table S1.3 Improvement programme requirements | | |
|---|---|---|
| **Reference** | **Requirement** | **Date** |
| | • Contingency for how the response will be carried out in the event scenario i.e., loss of power; and<br>• Timescales for continued review of the management plan.<br>The agreed Air Quality Management Plan shall be submitted to the Environment Agency for technical assessment and written approval. | |
| IC2 | The operator shall submit a one-off written report to the Environment Agency for technical assessment and written approval verifying the predicted short-term concentrations of nitrogen oxides and sulphur dioxide at the boundary of the site following construction of the apartments on Maylands Avenue. The report shall include but is not limited to:<br>• Monitoring of ambient air quality at the boundary of the site during the all the testing scenarios using monitoring methods agreed in advance with the Environment Agency.<br>• A comparison of modelled against monitored concentrations of nitrogen dioxide, nitrogen monoxide and sulphur dioxide.<br>• A demonstration that appropriate monitoring location(s) were selected at the boundary of the site, taking into account the modelled predictions and the weather conditions prevalent at the time of the monitoring<br>• Evidence to demonstrate that the monitoring team holds appropriate qualifications.<br>The output of the verification exercise should be used to inform / revise the air quality management plan if necessary. | 01/01/2025 |
| IC3 | The operator shall submit a plan to reduce the predicted short term impact from emissions of nitrogen oxides (nitrogen dioxide and nitrogen monoxide) and sulphur dioxide during the maintenance, testing and emergency operations of the standby generators. This shall include but is not limited to:<br>• Considerations of the conclusions of the validation exercise specified in improvement condition IC2 to inform, if required, a feasibility study including cost benefit analysis for upgrades or other changes to infrastructure or operational regimes on site that could reduce emissions of nitrogen oxides and sulphur dioxide and increase dispersion.<br>• Use of the above information to propose appropriate changes, if required, including but not limited to an assessment of the following options: changes to stack configuration to enhance dispersion (e.g., increased stack heights); amending the testing schedule to reduce the daily emissions from the testing operations; upgrading the standby engines to reduce emissions or installing newer ones with lower emissions of NOx; installing NOx abatement. If changes in the height of the stacks are demonstrated to be effective but are not deemed feasible due to local planning restrictions, the Operator shall provide evidence of the engagement carried out with the Local Authority planning department, in support of this conclusion, and propose other emission reduction options.<br>• The Operator shall submit, if required, an updated air dispersion modelling study demonstrating how the proposed option(s), selected among those assessed, result in reduced levels of nitrogen oxides and sulphur dioxide at the sensitive human health receptors in proximity of the installation.<br>• Proposal, if required, of the shortest practical timescale for the implementation of the selected improvements. | 01/07/2025 |

| Table S1.3 Improvement programme requirements | | |
|---|---|---|
| **Reference** | **Requirement** | **Date** |
| | The review and timescale for improvement shall be submitted to the Environment Agency in writing for technical assessment and written approval. | |
| IC4 | The operator shall submit a monitoring plan for approval by the Environment Agency detailing their proposal for the implementation of the flue gas monitoring requirements specified in Table S3.1, in line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5).<br><br>The plan shall include, but not limited to:<br>• When the generators are not fitted with sampling ports, a proposal to install them within the shortest practical timeline;<br>• Details of any relevant safety, cost and operational constraints affecting the monitoring regime, in support of any proposed deviation from the testing regime specified in table S3.1. | 01/04/2024 |

| Table S1.4 Pre-operational measures | |
|---|---|
| **Reference** | **Pre-operational measures** |
| PO1 | At least 1 month before operation, the operator shall submit a commissioning plan to the Environment Agency for technical assessment and written approval. The plan will provide timescales for the commissioning of the gas oil generators and shall demonstrate that the commissioning of the gas oil generators is covered within the site's permitted regular testing regime, thereby minimising durations and impacts. When the commissioning is not covered within the site's permitted regular testing regime, the operator shall submit an environmental risk assessment for approval by the Environment Agency, demonstrating that the environmental risks during the commissioning are minimised and remain not significant. The commissioning of the engines shall not begin prior to receiving written approval to the plan and associated environmental risk assessment by the Environment Agency.<br><br>The plan shall be implemented in accordance with the Environment Agency's written approval. |

# Schedule 2 – Waste types, raw materials and fuels

| Table S2.1 Raw materials and fuels | |
|---|---|
| **Raw materials and fuel description** | **Specification** |
| Gas oil or equivalent substitute to be agreed in writing with the Environment Agency. | Sulphur content 0.001% (w/w) max. |

# 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** |
| A1 – A33 from generators as shown on site plan in Schedule 7 | Back-up gas oil fuelled generator exhausts | Oxides of Nitrogen (NO and $NO_2$ expressed as $NO_2$) | No limit set | In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5). | Every 1500 hours of operation or once every five years (whichever comes first). [Note 1] | In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5). |
| | | Carbon monoxide | No limit set | In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5). | Every 1500 hours of operation or once every five years (whichever comes first). [Note 1] | In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5). |
| | | Sulphur dioxide | No limit set | -- | -- | -- |
| | | Particulates | No limit set | -- | -- | -- |
| Vents associated with gas oil storage belly tanks (1 – 33) and bulk gas oil storage tank. | Storage tank vents | No parameters set | No limit set | -- | -- | -- |
| Note 1: Unless otherwise agreed in writing with the Environment Agency as a result of approval of Improvement Condition, IC4. | | | | | | |

| 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** |
| W1 on site plan in schedule 7 | Uncontaminated site surface water via oil interceptor. | No parameter set | No limit set | - | - | - |

| Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements | | | | | | |
|---|---|---|---|---|---|---|
| **Emission point ref. & location** | **Source** | **Parameter** | **Limit (incl. Unit)** | **Reference period** | **Monitoring frequency** | **Monitoring standard or method** |
| S1 on site plan in schedule 7. | Uncontaminated site surface water via oil interceptor. | No parameter set | No limit set | - | - | - |

# 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** |
| Point source emissions to air<br>Parameters as required by condition 3.5.1 | A1 to A33 | Every 1500 hours of operation once or every five years (whichever comes first). | Within 4 months of the issue date of the permit or the date when the engine is first put into operation, whichever is later.<br>[Note 1] |
| Note 1: Unless otherwise agreed in writing with the Environment Agency as a result of approval of Improvement Condition IC4. | | | |

| **Table S4.2 Performance parameters** | | |
|---|---|---|
| **Parameter** | **Frequency of assessment** | **Units** |
| Gas oil (or equivalent) usage | Annually | Tonnes |
| Generator operation for testing and maintenance | Report to be submitted annually | Total hours for the site (hours).<br>Total hours per generator (hours).<br>Total number of runs per generator (quantity and dates).<br>Number of minutes per run (minutes). |
| Generator operation during emergency scenario | Within 24 hours if operation commences | Date and time of grid failure.<br>Number of generators operating immediately after the failure.<br>Number of generators operating two hours after failure.<br>Anticipated duration of the mains supply failure (hours). |
| Generator operation during<br>emergency scenario | Annually | Total number of runs (quantity), duration of runs (hours). |

| **Table S4.3 Reporting forms** | | |
|---|---|---|
| **Parameter** | **Reporting form** | **Form version number and date** |
| Point source emissions to air | Emissions to Air Reporting Form, or other form as agreed in writing by the Environment Agency | Version 1, 08/03/2021 |

| Table S4.3 Reporting forms | | |
|---|---|---|
| **Parameter** | **Reporting form** | **Form version number and date** |
| Other performance parameters | Other Performance Parameters Reporting Form, or other form as agreed in writing by the Environment Agency | Version 1, 08/03/2021 |
| Generator operation during emergency scenario | Generator Emergency Scenario Reporting Form or other form as agreed in writing by the Environment Agency | Version 1, 08/03/2021 |

# Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

## Part A

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

| **(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 breach of permit conditions not related to limits | |
|---|---|
| To be notified within 24 hours of detection | |
| Condition breached | |
| Date, time and duration of breach | |
| Details of the permit breach i.e. what happened including impacts observed. | |
| Measures taken, or intended to be taken, to restore permit compliance. | |

| (d) Notification requirements for the detection of any 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.

“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.

“emissions to land” includes emissions to groundwater.

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

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

‘gas oil’ means: (a) any petroleum-derived liquid fuel falling within CN codes 2710 19 25, 2710 19 29, 2710 19 47, 2710 19 48, 2710 20 17 or 2710 20 19; or (b) any petroleum-derived liquid fuel of which less than 65 % by volume (including losses) distils at 250 °C and of which at least 85 % by volume (including losses) distils at 350 °C by the ASTM D86 method.

“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, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“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 MCP” means an MCP first put into operation on or after 20/12/2018.

“operating hours” means the time, expressed in hours, during which a combustion plant is operating and discharging emissions into the air, excluding start-up and shut-down periods.

“shut-down” is any period where the plant is being returned to a non-operational state.

“start-up” is any period, where the plant has been non-operational, until fuel has been fed to the plant to initiate steady-state conditions.

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

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 engines or gas turbines, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 15% 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, Air Emission Points

## Installation Boundary, Aqueous Emission Points



END OF PERMIT

# Emissions to Air Reporting Form

**Permit number:** *[EPR/AB1234CB]*

**Operator:** *[A Company Name Limited]*

**Facility name:** *[Unit A, Anytown]*

**Emissions to Air Reporting Form: version 1, 08/03/2021**

Reporting of emissions to air for the period from *[DD/MM/YY]* to *[DD/MM/YY]*

| Emission point | Substance / parameter | Emission Limit Value | Reference period | Test method [1] | Result [2] | Sample dates and times [3] | Uncertainty [4] |
|---|---|---|---|---|---|---|---|
| *[e.g. A1]* | *[e.g. Oxides of nitrogen (NO and $NO_2$ expressed as $NO_2$)]* | *[e.g. 200 $mg/m^3$]* | *[e.g. daily average]* | *[e.g. BS EN 14181]* | *[State result]* | *[State relevant dates and time periods]* | *[State uncertainty if not 95% confidence interval]* |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

**Signed:** *[Name]*

**Date:** *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

**Guidance for use:** Use this form to report your monitoring results.
Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Complete columns 1 to 5 using the information from schedule 3 of your permit. Complete columns 6 to 8 with your monitoring data. Add additional rows as necessary.

[1] Where an internationally recognised standard test method is used, give the reference number. Where another method that has been formally agreed with the Environment Agency, give the appropriate identifier. In other cases state the principal technique, for example gas chromatography.
[2] Give the result as the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, give the result as the 'minimum to maximum' of the measured values.
[3] For non-continuous measurements give the date and time of the sample that produced the result. For continuous measurements give the percentage of the process operating time covered by the result.
[4] Complete if the uncertainty associated with the result is not a 95% confidence interval. Leave blank for 95% confidence intervals.

# Other Performance Parameters Reporting Form

**Permit number:** *[EPR/AB1234CB]* **Operator:** *[A Company Name Limited]*

**Facility name:** *[Unit A, Anytown]* **Other Performance Parameters Reporting Form: version 1, 08/03/2021**

Reporting of other performance parameters for the period from *[DD/MM/YY]* to *[DD/MM/YY]*

<table>
<tr><td>Parameter</td><td colspan="2">Value</td><td>Units</td></tr>
<tr><td>Gas oil usage</td><td colspan="2"></td><td>Tonnes</td></tr>
<tr><td rowspan="6">Generator annual operation in emergency scenario</td><td colspan="2"></td><td>Number of runs</td></tr>
<tr><td>Run</td><td>Duration of run</td><td></td></tr>
<tr><td>1</td><td></td><td></td></tr>
<tr><td>2</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Generator annual operation for maintenance (Total hours for the site)</td><td colspan="2"></td><td>(hours)</td></tr>
</table>

| **Operator's comments** |
| --- |
| |

**Signed:** *[Name]* **Date:** *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

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**Guidance for use:** Use this form to report the performance parameters (other than water and energy) required by your permit.
Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. The parameters to report and units to be used can be found in the 'Performance parameters' table in schedule 4 of your permit. Add additional rows as necessary.

# Generator Emergency Scenario Reporting Form – to be provided within 24 hours of grid failure.

**Permit number:** *[EPR/AB1234CB]* **Operator:** *[A Company Name Limited]*

**Facility name:** *[Unit A, Anytown]* **Emergency Scenario Reporting Form: version 1, 08/03/2021**

Reporting of generator emergency scenarios for the period from *[DD/MM/YY]* to *[DD/MM/YY]*

| **Parameter** | |
|---|---|
| Date of grid failure | DD/MM/YY |
| Time of grid failure | XX:XX |
| Number of generators operating immediately after the failure | |
| Number of generators operating 2 hours after failure | |
| Anticipated duration of the mains supply failure | (hours) |

| Operator's comments: |
|---|
| |

**Signed:** *[Name]* **Date:** *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

**Guidance for use:** Use this form to report the performance parameters (other than water and energy) required by your permit.
Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. The parameters to report and units to be used can be found in the 'Performance parameters' table in schedule 4 of your permit. Add additional rows as necessary.