

Decision document - new bespoke permit

We have decided to grant the permit for Swindon Data Centre Back-up Generation Facility operated by Amazon Data Services (UK) Limited.

The permit number is EPR/FP3000LY/A001.

The application is for 11 emergency standby diesel generators providing electricity to the associated data centre in the event of a failure of supply from the National Grid. The aggregated thermal input of the generators is 69.7MWth.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision-making process. It:

- summarises the decision making process in the decision considerations section to show how the main relevant factors have been taken into account
- highlights key issues in the determination
- shows how we have considered the consultation responses

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit.

Key issues of the decision

In reaching our decision to grant the permit we took into consideration the following matters:

Overview of the Installation

The site is part of a new electronic data storage centre which includes back-up generation capacity, a Schedule 1 S1.1 Part A(1) (a) activity under the Environmental Permitting Regulations (the burning of any fuel in an appliance with a rated thermal input of 50 or more megawatts). The site is located off the B4005 near Swindon. The National Grid Reference for the site is SU 16388 80498. The nearest residential receptor is 310 m to the south.

The combustion plant only operates under limited routine maintenance or in an emergency scenario if the National Grid power supply fails. The combustion activity comprises 10 diesel-fuelled standby generators, each with a thermal input of 6.8 MWth. There is also a single diesel-fuelled standby generator with a thermal input of 1.7 MW. The aggregated total combustion capacity on site is 69.7 MWth. Each generator has an exhaust, which is 15m above ground level.

Electrical power is provided to the data centre from the National Grid. In the event of a failure of this electrical supply, the operator will utilise the generators to maintain power to the data centre. The generators will be used solely for the purpose of providing a back-up power supply, with no electricity being exported from the installation. The data centre will be developed in four phases as dictated by customer demand for its services with each phase requiring two 6.8MWth emergency generators; a further pair are held in reserve. The generators are sized to match the electrical requirement of the site's eight main MV/LV transformers that supply the data centre. The 1.7MWth generator is dedicated to the data centre office accommodation.

The generators are subject to a maintenance testing schedule with fortnightly testing at 25% load and biannual testing at 100% load. This testing will be carried out sequentially to minimise air quality impact. In addition, there will also be an annual full-building test of the generators, load-transfer, load management and facility monitoring systems, which involves all engines running simultaneously for 2 hours per year. The testing scenarios total to 22 hours operation per generator per year.

The engines run on diesel fuel and the installation includes a single bunded storage tank of 40,000 litre capacity. In addition, the generators are containerised and each includes a 16,000 litre bunded diesel day tank (6,000 litre for the smaller generator).

The main emissions from the installation are to air in the form of nitrogen oxides, sulphur dioxide, particulate matter and carbon monoxide. The site is covered in hardstanding, and surface water drains into a balancing tank prior to discharge to

an external balancing pond and surface water drainage system. Potentially contaminated rainwater entering the exhaust stacks is discharged to sewer.

Operating Scenarios

The operational scenarios that have been considered for the installation are:

Testing Scenario 1 – each generator unit tested separately at 25% load for 0.5 hours every two weeks per year and 1 hour each quarter, i.e. 17 hours per generator;

Testing Scenario 2 - each generator unit tested separately at 100% load for 1.5 hours, twice a year, i.e. 3 hours per generator;

Full-building Test – all generators running simultaneously at 100% load for 2 hours, once per year; and

Emergency – all 11 generators operating at 100% load for 3 x 24 hours i.e. 72 hours per generator.

Air Quality

In line with the Environment Agency's guidance (<https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>) and the relevant parts of the guidance applicable to the assessment of air dispersion modelling of emissions from generators (<https://www.gov.uk/guidance/specified-generators-dispersion-modelling-assessment>) the Applicant submitted detailed air dispersion modelling and impact assessment to assess the predicted impacts on human receptors and ecological sites.

The methodology for risk assessment of point source emissions to air, and the associated definitions, are set out in our guidance <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>.

The Applicant's assessment of the impact of emissions to air is detailed in application document titled 'Proposed replacement data centre air quality assessment', dated March 2021, supplemented by the documents titled 'Daily-mean NO_x Concentrations – Environment Agency Request' requested at duly making of the Application and 'Response to Environment Agency Comments – Swindon Data Centre' providing additional information and risk assessment on the additional full building testing scenario (received by the Environment Agency on 17/12/2021) and the response to Schedule 5 Notice dated 08/12/2021 (received by the Environment Agency on 29/12/2021).

The primary pollutants of concern to air quality from the combustion processes at the installation are nitrogen oxides (NO_x) and Particulate Matter (PM₁₀, PM_{2.5}). The Applicant also included modelling for emissions of sulphur dioxide (SO₂), but we don't consider SO₂ emissions to be a risk from the operation of the proposed

installation as we have included a condition in the permit restricting the fuel to ultra-low sulphur diesel, resulting in negligible emissions of sulphur. Carbon monoxide and unburnt hydrocarbons emissions were also included but we consider that these will also be negligible for modern and well maintained efficient generators which allow for the complete combustion of the fuel with the appropriate combustion conditions in line with the equipment manufacturer's specification.

The applicant submitted an air dispersion modelling report which assesses the potential impact of emissions of NO_x, particulates (PM10 and PM2.5), SO₂ and hydrocarbons from the generators on local air quality. The ADMS 5 software dispersion model was used to predict atmospheric concentrations of the identified pollutants; we accept that the use of this model is appropriate for these circumstances.

The following parameters were used for input data into the model:

- Meteorological Data from Lyneham meteorological station 2015 – 2019
- A complex terrain map of the local area
- Surface roughness length of 0.5m (representative of suburban areas)
- Building wake effects from the adjacent data-hall (136m x 67m footprint, 12.4m high)
- Four different operating scenarios were modelled:
 - Testing scenario 1 – each generator individually tested at 25% load for 0.5 hours twice a year.
 - Testing scenario 2 – each generator tested at 100% load twice a year.
 - Full-building test – all generators operating at 100% load for up to two hours once per year.
 - Emergency operation – all 11 generators operating at 100% load for 72 hours.
- Emissions are from 15m high stacks of 0.6m diameter
- Pollutant emission rates of NO_x, particulates and hydrocarbons for generators typical of those likely to be installed at the installation (TA Luft 2g).
- Ambient (background) air quality for NO₂, particulates, hydrocarbons, SO₂ and CO obtained from DEFRA-mapped background concentration estimates.
- Where relevant, background concentrations at each designated site have been derived from the UK Air Pollution Information System (APIS) database.

The Environment Agency Air Quality Modelling and Assessment Unit (AQMAU) has audited the air dispersion modelling report and addenda submitted with the permit application and carried out check modelling and sensitivity analysis. The audit has reviewed the selection of modelling inputs, modelling methodology and assumptions, selection and distribution of receptors, the outputs of the modelling

exercise, statistical interpretation of modelling outputs and conclusions of the assessment.

The conclusions of the Applicant's assessment are summarised in the following:

- No exceedances of the air quality standards (AQS) or environmental standards (ES) for CO, SO₂, particulates (PM₁₀ and PM_{2.5}), NO and hydrocarbons (as benzene) are predicted under any of the modelled scenarios;
- No exceedances of the long-term AQS for NO₂ are predicted under any of the modelled scenarios;
- The Applicant did not assess against the 24 hour ES for Benzene nor the short term or long term ES for nitric oxide. We checked these and predicted no exceedances of the ES for any scenario.
- The 99.79th percentile NO₂ hourly air modelling predictions potentially exceed the concentration corresponding to the short-term AQS (i.e. 200 µg/m³) at human receptors locations in proximity of the installation, when all the emergency diesel generators are operated simultaneously for testing purposes (full-building test) and during an emergency black-out.

Therefore further investigation was required to look at the actual likelihood of these scenarios resulting in a breach of short-term NO₂ AQS.

The Applicant referred to a statistical analysis methodology to determine the likelihood of the worst predicted emissions from the operations of the standby emergency plant coinciding with the worst meteorological hours over the modelled operating envelope, and subsequently causing a breach of the short-term air quality standard for NO₂ for more than 18 hours in a year, corresponding to the 99.79th percentile specification for the short-term NO₂ AQS. The statistical analysis was based on the hypergeometric probability distribution and followed the methodology set out in our [web guidance on dispersion modelling assessment for generators](#).

The results of the Applicant's analysis show that, given the small number of operating hours, it is extremely unlikely (less than 1%) that any of these scenarios result in an exceedance of the short-term NO₂ AQS for more than 18 hours per year.

- Our assessment considered the magnitude of the worst case NO₂ predictions against acute exposure risk criteria, during the simultaneous operation of all 11 standby generators. The US EPA Acute Exposure Guidelines (AEGL) were used for this part of the assessment. The assessment showed that offsite exceedances of the 10-min AEGL-1 for NO₂ (corresponding to 940 µg/m³) are unlikely.
- The Applicant assessed that the maximum annual-mean process contributions are less than 1% of the relevant critical levels (for NO_x and SO₂) and critical loads (for nutrient nitrogen deposition and acidification) at all ecological receptors for all the testing scenarios.

- The Applicant assessed that the maximum annual-mean process contributions are less than 1% of the relevant critical levels (for long term NO_x and SO₂) and critical load for acidification at all ecological receptors for the emergency scenario.
- The Applicant proposed to use a short-term NO_x critical level of 200 µg/m³ and provided reasonably adequate justification for this proposal based on the background concentrations of SO₂ and ozone in the area. The Applicant's assessment showed that the maximum 24-hours mean predicted environmental concentrations will not exceed the proposed short-term critical level under any testing scenarios.
- The Applicant assessed that, in the emergency scenario, the predicted environmental concentrations of NO_x may exceed the 24-hours average NO_x critical level and nitrogen deposition critical load at several habitat sites close to the installation, including Burderop Wood SSSI, under the conservative modelling assumptions, entailing 11 engines running at the same time for a period of 72 hours. However, they concluded that these exceedances are considered unlikely since, in the rare event of a loss of utility power to the site, an outage is expected to be significantly less than 24 hours. Furthermore, the probability of the daily NO_x critical level PCs coinciding with the worst meteorological conditions is likely to be low. In addition, we modelled additional receptor locations to those that the Applicant had considered within Burderop Wood SSSI to assess the extent of the potential exceedance which confirmed only a small area surrounding ER3 and ER22 would experience an exceedance in the unlikely event of a loss of utility power.

We are satisfied that the Applicant's air dispersion modelling assessment is conservative and we agree with the Applicant's conclusions regarding human health and ecological impacts for all testing and the emergency scenarios. Based on the information reviewed, we consider that the aerial emission associated with operations of the proposed installation will not cause exceedances of the applicable human health environmental standards and will not affect any site of nature conservation and protected species or habitats identified.

The application used generic generator emissions data because at the time of the application, the operator has not confirmed which make/models will be installed. We have accepted the use of this generic data, however we have included a pre-operational condition (PO1) requiring the operator to submit details of the make, type and emissions profile of the installed generators and to re-submit the air quality assessment should emissions be higher than those submitted in the application. Similarly we have included a pre-operational condition (PO3) requiring that the operator confirms that the maintenance scenarios used in the application remain appropriate for the make and model of the generators installed, and revises the air quality impact assessment should the generator manufacturer recommend an increase in the maintenance operation compared to that risk assessed in the application.

Noise

The applicant has provided a detailed noise assessment using the guidance within our Horizontal Guidance Note H3 Part 2 – Noise Assessment & Control. This uses SoundPlan V8 sound-modelling software to predict the sound levels at down-wind receptors. In addition to the generators, the modelling includes the impact of Air Handling Units, LEV exhausts and heat-exchangers on the roof of the data centre building, but outside of the Installation. The model also includes topography, screening from buildings and the ground type, together with 'background' noise levels obtained by baseline sound monitoring.

The closest residential receptors to the installation have been identified and sound rating levels at each receptor calculated for both day-time and night-time events. These were then compared against the World Health Organisation Guideline for Community Noise (WHO CGN) criteria.

The site will only run the generators regularly as part of the testing regimes described earlier, occurring during daytime hours. The modelling indicates that these will not cause an increase in overall ambient sound levels in the area.

Overnight operation of the generators will only occur in an emergency situation. The modelling indicates that there is the potential for their noise to be sufficiently high that it would be noticeable above existing sources of sound in the area, in this scenario. However more detailed assessment indicates that with house windows closed, internal noise levels will be below the WHO GCN for sleep disturbance. As this is a new installation it is not possible to consider the likelihood of overnight operation by examining the frequency of historical outages, but the potential for prolonged power outages in the area is considered to be low.

The operator considers that, bearing in mind the infrequency of these events and that affected receptors can counter the effects simply by closing windows, the effects are not significant. Nevertheless, they have taken measures to minimise noise emissions, housing generators in acoustic enclosures to reduce acoustic emissions by over 33%.

We have reviewed the requirement for a Noise Impact Assessment using our qualitative noise screening criteria. These indicate that noise is unlikely to become an issue because of the nature of the installation and its location. The limited hours of operation combined with the proposed noise mitigation measures are considered to be sufficient to control noise arising from the installation. The local council have been consulted in this matter and raised no objection.

We have applied standard noise conditions within the permit which we consider impose sufficient control should any issues arise.

The application uses generic generator noise emissions data because at the time of the application, the operator has not confirmed exactly which make/models of generator is to be installed. We have accepted the use of this generic data, however we have included a pre-operational condition (PO2) requiring the operator to submit details of the make, type and noise profile of the installed generators and to re-submit the noise assessment report should noise from the generators be significantly higher than those submitted in the application.

Permit conditions

The permit will include a maximum 500 hours per annum 'emergency/standby operational limit' for any or all the plant producing on-site power under the limits of the combustion activity. Therefore, emission limit values (to air) are not required within the permit. Emergency hours operation includes those unplanned hours required to come off grid to make emergency repair of electrical infrastructure. The limit on the emergency use of 500 hours is for the installation as a whole, meaning that as soon as one generator starts operating the hours count towards the 500 hours.

In addition, the permit allows each individual generator unit to be tested for maintenance. The BAT expectation is that individual generator testing is below 50 hours/annum. In this instance the operator proposes to limit maintaining testing to 22 hours a year per generator; this is in line with BAT and below the level at which ELVs would be needed. We expect the number of and duration of planned testing and generator operations to be minimised as much as possible. The planned testing operations of the generators shall be limited to the maximum testing hours described in the testing schedule outlined in the application documents and included by reference in the Operating Techniques Table S1.2 of the permit.

The permit does not allow voluntary / elective power generation such as for demand side response (i.e. on-site use), grid short term operating reserve (STOR) (i.e. off-site export of electricity) or Frequency Control by Demand Management (FCDM) for grid support or elective onsite use of electric power, when this can be supplied from the grid. This is primarily to differentiate data centres from 'diesel arrays' that voluntarily operate within the balancing market and importantly provide a clear way to demonstrate minimisation of emissions to air as 'emergency plant'.

Operational and management procedures should reflect the outcomes of the air quality modelling by minimising the duration of testing, phasing generators into subgroups, avoiding whole site tests and planning off-grid maintenance days and most importantly times/days to avoid adding to "at risk" high ambient pollutant background levels.

The permit application has assessed and provided evidence of the actual reliability of the local electricity grid distribution allowing the Environment Agency to judge that the realistic likelihood of the plant needing to operate for prolonged periods in an emergency mode is low.

Reporting of standby generator maintenance run hours is required annually and any electrical outages (planned or grid failures regardless of duration) require both annual reporting and immediate notification of the Environment Agency.

It is anticipated that the timescale of operation is likely to be short. They will only operate in this mode when the National Grid is off-line. The Operator has put multiple measures in place to minimise the risk of National Grid supply failure including dual substation connection and management systems for preventing data centre failure.

We consider that the commissioning of new generators may pose risks to the environment which have not been addressed in the application documents. We have therefore included a pre-operational condition (PO4) requiring the submission of a commissioning plan, which gives details of how the potential impact on the environment will be managed.

The permit includes requirement to carry out on-going monitoring of the emissions from the generators (see Monitoring section of this document). As the Applicant has not planned the installation of suitable monitoring ports at the present, on the assumption that no monitoring would be required, we have included an improvement condition (IC2) requiring the operator to demonstrate that appropriate sample locations are included in the design of the generators.

Best Available Techniques

As outlined in the Environment Agency's '*Data Centre FAQ*' document, we accept that oil fired diesel generators are presently a commonly used technology for standby generators. However we requested a BAT assessment detailing the choice of generator, the particular configuration and plant sizing to meet the standby arrangement (N+1).

The default generator specification as a minimum for new plant to minimise the impacts of emissions to air of NO_x is 2g TA-Luft (or equivalent standard) or an equivalent NO_x emission concentration of 2000mg/m³ at 5% reference oxygen and normal conditions. The operator proposed to install generators meeting the 2g TA-Luft standard but at the time of the application did not know the exact make/model of generator. We have included a pre-operational condition requiring the operator to submit details of the exact generator make/model they will install before operation and to submit a commissioning plan for each new generator.

The operator has provided a stack height determination, identifying what height is required to provide adequate dispersion of the exhaust gas. The ADMS 5 model as above was used to simulate the effect of different stack heights, aiming to determine if there is a height above which no further benefit is gained. We

required the operator to provide a detailed justification of the selected stack height and we have accepted their justification.

We required the operator to demonstrate that the number and size of the generators matches the requirements of the data centre. Each of the eight site MV/LV mains transformers is matched to a back-up generator of similar capacity, with two additional generators in reserve. This ensures that there is redundancy built into the design.

In order to minimise the need for emergency operation, the data centre has two separate substation feeds, each capable of supporting 100% of the load. To address short term fluctuations, brown-outs or black-outs, the site has an uninterruptable power supply which can supply power until the generators operate.

We are satisfied that the installation meets BAT relevant to the permitted operation.

Protection of Land, Surface Water & Groundwater

There are no intentional emissions to land or groundwater from the data centre. The generators are located in containers over hard-standing or concrete flooring. Externally, the site will consist of new hard standing. Diesel, hazardous waste and hazardous materials storage is bunded and/or indoors, such that any source of potential contamination is prevented from discharge to land.

The bulk fuel tank is fully bunded to 110% of its volume and includes a leak detection system. The Applicant confirmed that the fuel oil tank bund has been designed to meet the relevant requirements for containment structures as set out in CIRIA report C736 – ‘Containment systems for the prevention of pollution’, including the following:

- The fuel oil tank bund will be a concrete structure that will be suitable for containment of fuel oil in the event of a leak/spill;
- All joints will be sealed;
- The bund is sized to hold in excess of 110% of the 40,000 litre storage tanks. Additional wall height above that required to satisfy 110% capacity is provided to avoid diesel jetting over the wall in the event of a rupture;
- There are no penetrations in the bund wall sections required to provide 110% containment of the fuel tank.
- Allowance for rainwater build-up within the bund in addition to capacity to accommodate a loss of containment: there are 2 sump pumps which dewater the bund. The pumps are linked to hydrocarbon sensors which stop the pumps in the event that hydrocarbons are detected. On detection of hydrocarbons an alarm would be raised on the fuel control panel to alert the operator and permit action to be taken.

Individual day tanks are integrally-bunded (double skinned) and provided with leak detection sensors consisting of floating switches that rise if fuel is detected within the space between inner and outer tank.

The fuel unloading area will comprise an impermeable dished portion of concrete area. The design has been specified to provide suitable containment of accidentally spilled oil from refuelling operations. The refuelling area is served by a full-retention interceptor connected into the site surface water drainage system.

An accident management plan will be established prior to commencing operation of the installation. It will detail those actions required in the event of an emergency or accident/incident. This will include small incidents such as minor spills and leaks and complaints, as well as major incidents such as fire and major spills. In particular, a system for recording and allocating appropriate follow-up for accidents, incidents and non-conformances will be established prior to operation.

Rainwater is kept separate from any areas in which there may be any potential contaminants. Surface water from exterior hardstanding areas is passed through an interceptor before entering the site drainage system where it joins rainwater from the roof areas. The surface water system discharges into an attenuation tank (included in the installation boundary) and attenuation pond outside of the installation boundary as primarily serving non-regulated activities. There is a penstock valve at the outlet of the attenuation tank, prior to the attenuation pond, that would be closed to prevent any contaminated discharge from entering the pond in the case of loss of containment from the secondary containment features.

Drainage drawings are provided in the application. Details of the existing condition of the Site can be found in the Site Condition Report supplied with the application, which we have reviewed and consider satisfactory.

Decision considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential.

The decision was taken in accordance with our guidance on confidentiality.

Consultation

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The application was publicised on the GOV.UK website.

We consulted the following organisations:

- Local Authority - Environmental Health – Swindon Borough Council
- Director of Public Health
- Public Health England (now UK Health Security Agency)

Operator

We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with our guidance on legal operator for environmental permits.

The regulated facility

We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN2 'Defining the scope of the installation' and Appendix 1 of RGN2 'Interpretation of Schedule 1'.

The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided a plan which we consider to be satisfactory.

These show the extent of the site of the facility.

The plan is included in the permit.

Site condition report

The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

The application is within relevant screening distance from the following statutorily protected conservation sites:

- Burderop Wood SSSI (approximate distance from the site: 100m)
- Coate Water SSSI (approximate distance from the site: 1.3km)
- Coate Water LNR (approximate distance from the site: 1.8km)

There are 17 Local Wildlife Sites and sites of Ancient Woodland within 2km, the closest of which is Burderop Wood at approximately 100m from the site.

There are no European Habitats sites within 10km of the installation.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We have consulted Natural England on the potential impacts of the operations of the installation on the Burderop Wood SSSI and Coate Water SSSI. Based on the results of our audit of the air quality risk assessment submitted by the Applicant and the review of the proposed operating techniques, including the high reliability of the connection to the grid and limited operating hours, we consider that the proposed installation is not likely to damage any of the flora, fauna or

geological or physiological features which are of special interest. Natural England concurred with our conclusion.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

The decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility.

The operator's risk assessment is satisfactory.

General operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

Use of conditions other than those from the template

Based on the information in the application, we consider that we do not need to include conditions other than those in our permit template.

National Air Pollution Control Programme

We have considered the National Air Pollution Control Programme as required by the National Emissions Ceilings Regulations 2018. By setting emission limit values in line with technical guidance, or by imposing a limit to the operational hours through the permit conditions, we are minimising emissions to air. This will aid the delivery of national air quality targets. We do not consider that we need to include any additional conditions in this permit.

Raw materials

We have specified limits and controls on the use of raw materials and fuels.

Pre-operational conditions

Based on the information in the application, we consider that we need to include pre-operational conditions.

We have included pre-operational conditions PO1 to PO4.

Refer to the key issue session for further details.

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme.

We have included an improvement programme (IC1) requiring the operator to develop an air quality management plan in conjunction with the Local Authority.

We have included an improvement programme (IC2) on monitoring of emissions (see 'Monitoring' section below).

Emission Limits

We have decided that emission limits are not required in the permit.

Monitoring

We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified. In particular:

We have specified monitoring of emissions of carbon monoxide from emission points A1 to A11 (new medium combustion plant), with a minimum frequency of once every 1500 hours of operation or every five years (whichever comes first). This monitoring has been included in the permit in order to comply with the requirements of Medium Combustion Plant Directive, which specifies the minimum requirements for monitoring of carbon monoxide emissions, regardless of the reduced operating hours of the plant.

We have also specified monitoring of emissions of nitrogen oxides from emission points A1 to A11 (new medium combustion plant), with the same frequency specified for the monitoring of carbon monoxide emissions. In setting out this requirement, we have applied our regulatory discretion, as we consider that this limited monitoring, to happen in concurrence with the carbon monoxide monitoring, is proportionate to the risk associated with the emissions of NO_x from the installation.

Taking into account the limited hours of operation of the engines operating at the installation, and the fact that we are not setting emission limits for NO_x and carbon monoxide, we consider this monitoring can be carried out in line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5).

As the Applicant has not planned the installation of suitable monitoring ports at the present, on the assumption that no monitoring would be required by the permit, we have included an improvement condition (IC2) requiring the operator to submit for approval an emissions monitoring plan demonstrating that appropriate sample locations are included in the design of the generators.

We have set a requirement for the first monitoring to happen within 4 months of the issue date of the permit or the date when each new medium combustion plant is first put into operation, whichever is later.

Reporting

We have specified reporting in the permit to ensure that the installation is being operated in line with that specified in the operating techniques and to ensure that we are notified immediately in the instance that the site ever operates in emergency scenario mode.

Management System

We are not aware of any reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.

The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.

Previous performance

No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.

Financial competence

There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.

Growth duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators,

these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Consultation Responses

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section:

Response received from: Public Health England (PHE) (now UK Health Security Agency) – received 09/11/2021

Public Health England advised that they had no significant concerns regarding the risk to the health of the local population from the installation, provided that the permit holder take all appropriate measures to prevent or control pollution, in accordance with the relevant sector guidance and industry best practice.

Summary of actions taken:

We are satisfied that the installation meets BAT relevant to the permitted operation. Refer to the key issues section.

No responses were received from the other organisations listed in the consultation section.