# Decision document - new bespoke permit

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

The permit number is EPR/PP3309MK/A001.

The application is for 20 emergency standby gas oil fuelled generators providing electricity to the associated data centre in the event of a failure of supply from the National Grid. Of these 20 SBGs, 2 will be 'house' generators which will provide emergency power to non-IT infrastructure at the data centre in the event of disruption in the grid power supply. The aggregated thermal input of the generators is 151.34 MWth.

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 on Buckingham Avenue in Slough. The National Grid Reference for the site is SU 95697 81097. The nearest residential receptors are approximately 400 m to the north east and 500m to the east.

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 20 gas oil fuelled standby generators (SBGs), 18 of the SBGs have a thermal input of 8.13 MWth each, the remaining two SBGs will have a thermal input of 2.5 MWth each. The aggregated total combustion capacity on site is 151.34 MWth. The Operator is intending to install 19 SBGs but an additional SBG may be installed in the future in order to future proof the site. Each generator has an exhaust, which is 23m 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 datacentre will be developed in three phases; the first phase is for the installation of 9 SBGs, phase two (approximately 60 weeks after phase 1) is for the installation of 5 SBGs and the final phase, phase 3 is for the installation of the final 5/6 SBGs.

The generators are subject to a routine maintenance testing schedule at 45% load, with fortnightly testing for 30 minutes and quarterly testing for 1 hour. Every six months the generators will also be tested at 100% load for 1.5 hours. During this routine testing, each generator will be tested separately to minimise air quality impact. In addition there will also be an annual emergency test of all generators operating simultaneously and continuously for 4 hours. The testing scenarios total 24 hours operation per generator per year.

Each of the SBGs runs on gas oil fuel, each generator has a ‘belly tank’ with a capacity of 40,000 litres, the two-house generators each have a belly tank with a capacity of 14,000 litres. In addition, the site has two receiver tanks each with a capacity of 1,200 litres. The receiver tanks will be used to top up the belly tanks. The maximum volume of 750,400 litres of gas oil can be stored at the installation. The belly tanks are bunded to provide 110% containment, fitted with high-and low-level alarms, leak detection and tank level gauges.

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, uncontaminated surface water from the generator compounds is discharged via the surface water drainage system. Surface water run-off from the generator compounds will drain via an oil interceptor (17,000 litre capacity Class 1 full retention interceptor). Following the interceptor, the surface water runoff will drain into an on-site soakaway

## 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 'Amazon Data Services UK Limited, LON2 Data Centre, Slough, Air Emissions Risk Assessment', ref: 410.11808.00001 version V1.3, dated October 2021, supplemented by the applicant's response to Schedule 5 notice dated 17/08/2022, which was received by the Environment Agency on 28/09/2022 and which includes a 'Technical Note' ref: 410.11808.00001.

The primary pollutants of concern that have been assessed by the applicant are nitrogen dioxide ($NO_2$), nitrogen oxides (NOx) and particulate matter (PM).

The applicant screened out the impacts of sulphur dioxide ($SO_2$) as negligible due to the use of low-sulphur gas oil and so this pollutant was not specifically modelled. We have included a condition in the permit restricting the fuel to ultra-low sulphur gas oil.

Carbon monoxide (CO) was also assessed but we consider that this 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 Lakes Aermod-view 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.

Four different operating scenarios were modelled. Two scenarios, MSM1 and MSM2, represent routine testing operations. Two further scenarios, OM1 and OM2, represent emergency situations where there is a loss of electrical power. The operating scenarios are summarised below:

Maintenance Schedule Model MSM1 – each generator unit is tested separately at 45% load for 30 minutes every two weeks and one hour every three months. Additionally, each generator is tested separately at 100% load for 1.5 hours every six months. i.e. 20 hours of operation per generator each year in total.

The modelling assumes that all the testing is carried out at 100% load even though the majority of the testing is undertaken at 45% load. This is likely to be a conservative approach as modelled mass emissions are likely to be less than emissions at 100% load.

Maintenance Schedule Model MSM2 - all 20 generators are tested simultaneously for 4 hours once per year at 100% load, i.e. 4 hours of operation per generator in total.

Outage Model OM1 (worst-case) - all 20 generators operate simultaneously and continuously for 72 hours at 100% load, i.e. 72 hours of operation per generator in total.

Outage Model OM2 (realistic) - all 20 generators operate simultaneously and continuously for 1 hour at 100% load, i.e. 1 hour of operation per generator in total.

Emissions are from 22.69m high stacks of 0.35m diameter (2 house generators) and 0.6m diameter (18 main generators). Pollutant emission rates are typical of those likely to be installed at the installation (US EPA Tier 2 standard).

Background concentrations of PM and CO were obtained from DEFRA-mapped background concentration estimates. Background concentrations of $NO_2$ used in the assessment are based on suburban measurement 0.9 km to the northeast of the site location.

Where relevant, background concentrations at ecological receptors have been derived from the UK Air Pollution Information System (APIS) database.

The operator's response to our Schedule 5 notice, amended the 4-hour Emergency Test (MSM2) operating envelope for the site to the hours between 8am and 6pm. The Technical Note also presented an assessment for the MSM2 scenario against $NO_2$ US EPA Acute Exposure Guideline Level 1 (AEGL-1), including additional receptors for 10-minute exposure and considered nominal test value NOx emission concentrations in addition to the previously assessed 'Not to Exceed' (NTE) emission concentrations.

The Environment Agency Air Quality Modelling and Assessment Unit (AQMAU) has audited the air dispersion modelling assessment report and supplementary Technical Note 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.

We agree with the conclusions of the applicant's assessment, which are based on the process contributions (PCs) and predicted environmental concentrations (PECs) at human receptors given in section 6 of the air quality report and the supplementary Technical Note for $NO_2$ and Appendix B of the air quality report for CO, $PM_{10}$ and $PM_{2.5}$, and can be summarised as follows:

1. MSM1 – no exceedances of relevant environmental standards (ESs) are predicted for any pollutant.

2. MSM2 – no exceedances of the ESs are predicted for any pollutant, except for the 1-hour $NO_2$ ES (200 µg/$m^3$) where exceedances are predicted at all human receptors.

   The applicant used 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 ES for $NO_2$ for more than 18 hours in a year, corresponding to the 99.79$^{th}$ percentile specification for the short-term $NO_2$ 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 'highly unlikely' (reported as 0%) that any of these scenarios result in an exceedance of the short-term $NO_2$ ES for more than 18 hours per year.

   Table 3-1 of the Technical Note presents the 100th percentile of 1-hour $NO_2$ PCs at human receptors for the MSM2 scenario with the amended 4-hour test operating envelope (8am - 6pm only) for both the NTE Emissions Scenario and the Tier-2 Test Data Emissions Scenario. No exceedances of the 10-minute AEGL-1 are predicted at any of the receptor locations.

3. OM1 – for the 'hypothetical worst-case' 72-hour emergency power outage event, exceedances of the 1-hour $NO_2$ ES are predicted at all human receptors should the event coincide with the worst-case meteorological conditions. Statistical analysis is presented to determine the likelihood of

exceedances of the ES; the probability is reported as less than 1%, and therefore 'highly unlikely.'

No other exceedances of relevant ESs are predicted for any other pollutant or averaging period.

4. OM2 – for the 'realistic' 1-hour emergency power outage event, exceedances of the 1-hour $NO_2$ ES are predicted should the event coincide with the worst-case meteorological conditions. However, the probability of exceedance is reported as 0% as the duration of the OM2 scenario is only 1 hour per year, and less than the 18 exceedance hours permitted by the 1-hour $NO_2$ ES.

   No other exceedances of relevant ESs are predicted for any other pollutant or averaging period.

We agree with the conclusions of the applicant's ecological assessment, which are based on the results presented in section 6 of the air quality report, and can be summarised as follows:

1. MSM1 and MSM2 - PCs for NOx (annual and daily mean concentrations), nitrogen deposition and acid deposition are not likely lead to a significant effect.

2. OM1 and OM2 - for the 'hypothetical worst-case' 72-hour emergency power outage event, PCs for annual mean NOx, nitrogen deposition and acid deposition are not likely lead to a significant effect.

   Exceedances of the daily mean NOx critical level ($C_{LE}$) of 75 µg/m$^3$ are predicted at all six ecological receptors. The OM1 scenario is presented as a theoretical worst-case and is not permitted as a normal operation. It is representative of an emergency operation allowed to happen only in the unlikely event of failure of electrical supply from the grid. Measures are in place at the site to prevent and manage/mitigate the occurrence of this emergency operation. The primary prevention measure relied upon to avoid this emergency scenario occurring is the highly reliable design of the electrical grid and of the site connections to it (described in the BAT section below). The requirement to run the back-up generators in an emergency is therefore minimised as far as possible and a 72-hour outage scenario is considered highly unlikely.

   For the more realistic power outage duration of 1 hour (OM2), there would be no exceedances of NOx $C_{LE}$ or the relevant critical loads for nitrogen

deposition and acid deposition. Emissions are therefore not likely to lead to a significant effect.

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 aerial emissions 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.

## Noise

The site will only run the generators regularly as part of the testing regimes described earlier, occurring during daytime hours. Overnight operation of the generators will only occur in an emergency situation. 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 has confirmed that the following measures will be in place to reduce the potential for noise impacts outside of the site boundary:

- The generators will be housed within bespoke container units fitted with noise attenuation.
- All equipment will be maintained and operated in accordance with the manufacturer's guidance and maintained in good working order.
- Any noise complaint received will be logged, with action taken to identify the source of the noise and remedial measures implemented where appropriate.

We have reviewed the requirement for a Noise Impact Assessment using our qualitative noise screening criteria. The tool indicates 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 the standard noise conditions within the permit which we consider impose sufficient control should any issues arise.

## 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 20 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. Short term fluctuations (brown-outs and black-outs) in power supply are prevented by an array of batteries which can provide power in the short term under the generators are operational.

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 (PO1) 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 confirmed the installation of suitable monitoring ports at present, 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 gas oil fired generators are presently a commonly used technology for standby generators. However, we require a BAT assessment detailing the choice of generator, the particular configuration and plant sizing to meet the standby arrangement (e.g. 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 Tier II US EPA, or an equivalent NOx emission concentration of 2000mg/$m^3$ at 5% reference oxygen and normal conditions. The operator confirmed that the manufacturer specification for all the proposed generators states that the engine models are optimised to be Tier II US EPA compliant. We consider that this represents BAT. The operator confirms that all 18 main SBGs will be MTU20VDS4000G94LF engines and the 2 house SBGs will be MTU12V2000G86F engines.

The stacks will be vertical and located on the roofs of the SBG container units. The vertical stacks will terminate at building roof height (circa 23m above ground level). This is the maximum height allowed under the planning zone.

The operator was required to demonstrate that the number and size of the generators matches the requirements of the data centre. They confirmed that each data centre suite will have its own dedicated generators required to meet the electrical load of that suite and to provide the required level of redundancy. The initial configuration for the 18 main SBGs serving critical power infrastructure will comprise of a 15:2 catcher system (i.e. N+2C) meaning that all units run in

power failure, however 2 catcher SBGs will run only partially loaded. The catcher system is designed to be an oversubscribed system to provide redundancy for up to 15 primary power streams, but only 1 primary power stream at a time. The two house SBGs, which will supply a mixture of critical and non-critical power systems, will have a 2N resilience configuration for the power infrastructure they will serve (i.e. twice as many SBGs for the required load) and will run part load.

In order to minimise the need for emergency operation, the data centre has two separate substation feeds. These two 33KV supplies are fed direct from the National Grid; in the event of failure of one feed the remaining feed can provide the required electrical power for the data centre. To address short term fluctuations, brown-outs or black-outs, the site has an uninterruptable power supply (arrays of batteries) 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

The generators are located in containers over hard-standing or concrete flooring. Externally, the site will consist of new hard standing. Gas-oil, hazardous waste and hazardous materials storage is bunded and/or indoors, such that any source of potential contamination is prevented from discharge to land.

Each generator is located above a belly tank which automatically supplies diesel to the generators. The belly tanks for all generator container units will be bunded (110% capacity). The belly tanks will have the following protection measures:

- Tank level gauge.
- High and low level alarms connected to the building management system (BMS) and the generator container units.
- A pressure delivery over-fill prevention valve.
- Leak detection alarms connected to the BMS.
- The generator sets have pressure relief valves to prevent over pressurisation of diesel supplied from the belly tanks.
- An Engine ECU which will provide instantaneous fuel consumption data which will be automatically collated to calculate total fuel consumption over time.
- To minimise the risk of corrosion all pipework is either painted or constructed of corrosion resistant material.

Gas oil is delivered to the site by refuelling vehicles. Gas oil is pumped to a receiver station, which contains multiple fill points for the delivery of fuel to the belly tanks. For the standby generators (SBGs) located on gantry level 2, gas oil is automatically pumped via 2 small secondary contained (110% capacity) above ground receiver tanks (each with a capacity of $1.2m^3$). The gas oil will automatically be pumped from the receiver tanks directly to these belly tanks. For the SBG located on the ground and $1^{st}$ gantry levels will be filled directly from the refuelling vehicles via the receiver station.

The receiver station will be located in two lockable cabinets provided with a drip tray to capture any minor spillages during the delivery of fuel. When not in use the cabinet will remain locked.

The receiver tanks will be designed to have same protection measures as the belly tanks, as mentioned above.

Surface run off from the generator compounds drains via a Class 1 oil interceptor with a capacity of 17,000 litres prior to discharging to the site's soakaway. The interceptor will be fitted with an automatic closure device which will activate on the detection of fuel oil. The interceptor can also be closed via the BMS in the event of a fire, in order to contain fire water and in the event of an unplanned release of gas oil. The external area where the SBG and associated gas oil storage is located is designed to contain 621,000 litres. This volume has been calculated as the volume provided by the hardstanding, the capacity of the interceptor, the surface water drainage in the diesel storage area, the raised perimeter wall along the western site boundary and the entrance ramp. The surface water drainage system will also accept rainwater from the roof area and other hard surfaces areas across the wider site.

# 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 – Slough Borough Council
- Food Standards Agency
- Health and Safety Executive
- Director of Public Health
- Public Health England (now UK Health Security Agency)

No responses were received.

## 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:

- Burnham Beeches Special Area of Conservation (SAC) (approximate distance from the site: 3.2km)
- Windsor Forest & Great Park SAC (approximate distance from the site: 5.7km)
- South West London Waterbodies Special Protection Area (SPA) and Ramsar (approximate distance from the site: 7.2km)

The following local conservation sites are within screening distances, the closest of which is Haymill Valley local wildlife site (LWS) and local nature reserve (LNR) at approximately 1.4km from the site:

- Haymill Valley LWS and LNR
- Cocksherd Wood LWS and LNR
- Railway Triangle (off Stranraer Gardens) LWS

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 not consulted Natural England.

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 condition PO1.

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 A20 (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 form 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 A20 (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 NOx 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 NOx 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).

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 confirmed the installation of suitable monitoring ports at present, we have included an improvement condition (IC2) requiring the operator to demonstrate 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.