

Permitting Decisions- Bespoke Permit

We have decided to grant the permit for Didcot North Data Centre Campus operated by Amazon Data Services UK Limited.

The permit number is EPR/GP3127LV

The permit was granted on 27/07/2026

The application is for the installation and operation of standby electricity generating combustion plant at a data centre. The data centre, known as Didcot North Data Centre Campus, is located on part of the former Didcot A Power Station in Didcot, Oxfordshire, centred at national grid reference SU 51443 91794.

The combustion plant comprise:

129 generators with a combined net thermal input of approximately 925 MWth, providing emergency backup power to four data centre buildings (DCA, DCB, DCC and DCD). This includes 122 main backup generators serving the four data centre buildings, four house generators serving non-critical loads in the data centre buildings, (one per building), and three smaller backup generators: one generator for the substation and two for the Central Industrial Water Building (CIWB) serving as ancillary backup units.

The generator arrangements will be as follows:

- Data centre building A – Is 3 storey and will have 38 x 7.5 MWth generators which will be double stacked, plus a smaller 1.9 MWth 'house' generator (total of 39).
- Data centre building B – Is 3 storey and will have 38 x 7.5 MWth generators which will be double stacked, plus a smaller 1.9 MWth 'house' generator (total of 39).
- Data centre building C – Is 3 storey and will have 38 x 7.5 MWth generators which will be double stacked, plus a smaller 1.9 MWth 'house' generator (total of 39).
- Data centre building D – Is single storey and will have 8 x 7.5 MWth standby generators plus a smaller 1.9 MWth 'house' generator (total of 9).
- Backup power to the CIWB will be provided by 2 x 1.3 MWth generators.
- A single 1.3 MWth generator will serve the onsite substation.

Either gas oil or Hydrotreated Vegetable Oil (HVO) will be used as fuel.

Operation of the data centre combustion plant will be regulated as a Section 1.1 Part A (1) (a) activity under the Environmental Permitting (England and Wales) Regulations (EPR) 2016 for the burning of any fuel in an appliance with a rated thermal input of 50 or more megawatts (MW). The aggregated thermal input of the data centre is 925 MWth.

The generators will supply emergency power to the data centre in the event of National Grid failure. In non-emergency scenarios, they will be operated only for testing and maintenance purposes to an agreed schedule. They will not provide any electricity themselves to the National Grid and all electricity generated will be used within the data centre.

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:

Best Available Techniques (BAT) Assessment – Emergency Power Provision on Site

Technology & Fuel

The Operator carried out a BAT assessment of the viable technologies and fuel capable of providing emergency power at the data centre.

As outlined in the Environment Agency's 'Data Centre FAQ' document, we accept that gas oil or equivalent fuel generators are presently a commonly used technology for standby generators. Currently gas oil or equivalent fuel generators are the preferred option for the supply of standby power for data centres and are a proven technology for providing reliable resilience of functionality which can be started from cold very quickly.

We have specified the fuel to be burned in the engines to consist of gas oil or equivalent substitute to be agreed in writing with the Environment Agency with a sulphur concentration of 0.001% w/w. We are in the process of developing our position on the use of gas oil substitute fuels, therefore we have required that if any of these fuels are proposed, written agreement is sought by the operator from the Environment Agency's regulatory officer. The Operator confirmed that the units can run on both gas oil and HVO. This fuel usage was agreed by us on 15/01/2026.

Managing Emissions

Point Source Emissions to Air

Emissions to air from the Installation will principally comprise combustion gases arising from the operation of the generation plant under emergency, testing and maintenance scenarios.

The primary pollutants of concern to air quality from the combustion processes at the installation are nitrogen dioxide (NO₂), carbon monoxide (CO), particulates (PM₁₀) and sulphur dioxide (SO₂).

The Operator has taken measures to minimise emissions from the gas oil or equivalent fuelled generators under emergency, testing and maintenance scenarios.

Both the Data Centre FAQ Headline Approach v21 and [Emergency backup diesel engines on installations: best available techniques \(BAT\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/emergency-backup-diesel-engines-on-installations-best-available-techniques-bat) specifies the BAT emissions specification for new gas oil fired reciprocating engines as emissions optimised to 2g-TA Luft or US EPA Tier 2 or an equivalent. These are the international standards that we have concluded that we will use to infer what BAT is for sites.

The Operator has confirmed that out of the 129 generators to be used at the data centre, the main backup generators to be used are emissions optimised to meet the 2gTA-Luft standard. In addition to the main backup generators, each data centre building will contain a smaller "house" generator. Based on the data sheet provided, these generators are considered to be compliant with US EPA Tier 2 standards.

Further supporting information was provided for the two backup generators proposed for the CIWB and the single backup generator at the onsite substation. These are also identified as BAT. The emissions data for these generators show a NO_x concentration of 3489.7 mg/Nm³ at 5% O₂ when operating at 100% load. While this value appears high relative to typical standby generator emission levels, we agree it is acceptable within the context of the proposed installation and operational regime.

We do not consider SO₂ emissions to be a risk from the operation of the Installation as we have included a condition in the permit restricting the fuel to ultra-low sulphur gas oil or equivalent fuel resulting in negligible emissions of sulphur. HVO has the same sulphur content restrictions set in the permit as gas oil.

Aqueous Releases from Site

The operator confirmed that there are no point source emissions to land or groundwater, and no process water will be discharged to sewer or surface waters. Surface water from locations W1 and W2 will pass through an attenuation pond and oil separator before discharging to Moor Ditch.

Point Source Emissions to Surface Water

The operator confirmed that no contaminated water will enter the surface water. Only uncontaminated surface water run off from generator areas, roofs, hardstanding, fuel storage and handling areas, and paved areas will enter the surface water drainage network. This water will be routed through the system and into the attenuation ponds before it is released to Moor Ditch via W1 and W2. Each generator compound includes an oil interceptor to remove oil and grease. Run off from deliveries will also pass through this interceptor. Rainwater collected within bunds will be checked before being released into the drainage system.

Penstock valves will be installed at the inlets to the attenuation ponds and can be manually closed if an incident occurs that could affect surface water quality.

Firewater

The applicant confirmed emergency preparedness and response plans will be developed for when the site becomes operational. The applicant confirmed that an Accident Management Plan will also be established before operations begin, covering responses to both minor and major incidents.

Generators will be equipped with weighted shut off valves triggered by fusible links, which automatically close the fuel supply in the event of a fire. These systems will alert the site security office so that staff can respond and contact emergency services where required.

If firewater is used, the drainage system has been designed to contain potentially contaminated run off. In such circumstances, penstock valves will be closed so firewater is held within the system until it can be removed and the drains flushed. Small spills will be managed by the interceptors, while larger incidents will rely on the containment provided by the drainage system. The operator confirmed containment of firewater and spillages will comply with CIRIA Guide C736 Containment systems for the prevention of pollution.

Interceptors

The operator confirms a full oil retention interceptor (class 1) with automated closure devices local to point source of pollution risks (fuel storage or delivery areas) will be provided. The oil interceptors are included within the surface water drainage system for each generator compound, and these will be regularly emptied and maintained.

Hydrocarbon detectors are installed within interceptors located in areas of concrete hardstanding. These detectors identify changes in water composition (e.g., conductivity) and generate a critical alarm. The system automatically closes the drainage outlet upstream of the attenuation pond, ensuring any fuel is retained in the interceptor. Specialist contractors will be engaged to remove contaminated water and reinstate the interceptor following an alarm event.

Air Quality

In line with the Environment Agency's guidance ([Air emissions risk assessment for your environmental permit - GOV.UK \(www.gov.uk\)](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 ([Specified generators: dispersion modelling assessment - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/specified-generators-dispersion-modelling-assessment)) the operator 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 [Air emissions risk assessment for your environmental permit - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit).

Applicant's Assessment of Potential Impact on Air Quality

The applicant submitted an Air Emissions Risk Assessment prepared by Hoare Lea (the consultant), which considered the potential impacts of the principal pollutants of concern with respect to emissions to air from low sulphur gas oil/ HVO generators. The consultant has assessed the potential long-term and short-term impacts of nitrogen oxides (NOx), particulate matter (PM), volatile organic compounds (VOCs) assessed as benzene, carbon monoxide (CO), and sulphur

dioxide (SO₂) at sensitive human and ecological receptors within the defined screening distances.

Although the consultant assessed VOCs as benzene, they used an old benzene environmental standard (ES), applying the 1-hour ES rather than the new 24-hour ES for all scenarios, and an inappropriate statistical approach. We have therefore assessed the 100th percentile 24-hour PCs against the current standard. Though there are exceedances for VOCs as benzene, we consider that VOC as benzene, is likely to be low for modern, well-maintained and efficiently operated generators, where combustion is optimised in accordance with the manufacturer's specification. As such we don't consider VOCs to be an issue.

Human Receptors

The consultant has modelled predictions at 61 discrete receptor locations to represent human exposure.

Ecological Receptors

Using the Environment Agency guidance distance criteria, the consultant identified 27 SSSIs and 3 SACs (Oxford Meadows SAC, Little Wittenham SAC and Cothill Fen SAC) within the wider 15 km screening distance, and 1 Ancient Woodland within 2 km. No European sites are located within 10 km of the facility.

The 27 SSSIs are:

- Appleton Lower Common SSSI
- Ashridge Wood SSSI
- Aston Upthorpe Downs SSSI
- Barrow Farm Fen SSSI
- Brasenose Wood and Shotover Hill SSSI
- Cothill Fen SSSI
- Culham Brake SSSI
- Cumnor SSSI
- Dry Sandford Pit SSSI
- Frilford Heath Ponds and Fens SSSI
- Holies Down SSSI
- Hurst Hill SSSI
- Iffley Meadows SSSI
- Lamb and Flag Quarry SSSI
- Langley's Lane Meadow SSSI

- Lardon Chase SSSI
- Littlemore Railway Cutting SSSI
- Lye Valley SSSI
- Magdalen Grove SSSI
- Moulsoford Downs SSSI
- New Marston Meadows SSSI
- Port Meadow with Wolvercote Common & Green SSSI
- Rock Edge SSSI
- Streatley Warren SSSI
- Sugworth SSSI
- Warren Bank SSSI
- Wytham Woods SSSI

Testing

The consultant modelled three testing scenarios and one emergency scenario. The modelled scenarios are:

- Scenario 1 biweekly (fortnightly) service test – Each generator is tested individually at 10% load for up to 15 minutes every two weeks.
- Scenario 2 biannual (twice annually) service test – Each generator is tested individually at 100% load for up to four hours twice annually.
- Scenario 3 maintenance test – Each generator is tested individually at 100% load for a total of 10 hours throughout the year.
- Scenario 4 emergency outage scenario – All generators operate concurrently at 100% load for 72 hours.

The Applicant's results:

For the three testing scenarios, the consultant predicts insignificant process contributions (PCs) during testing for annual mean nitrogen dioxide (NO₂) and 1-hour mean nitrogen monoxide (NO) at all modelled receptors.

Emergency scenario

- The consultant predicts potentially significant impacts for 1-hour mean NO₂ PC. However, the predicted environmental concentration (PEC) for 1-hour mean NO₂ would have a not significant effect at all modelled receptors and an exceedance of the 1-hour mean NO₂ is considered unlikely.
- The consultant did not present acute exposure guideline levels (AEGLs) values or an AEGL-based assessment approach.
- The consultant's annual NO₂ and 1-hour NO PCs are 'not insignificant', but PECs are not expected to exceed the Environmental Standard (ES).

Impact on Human Receptors

Using NO_x-to-NO₂ conversion factors (70% long-term; 35% short-term) and modelling 61 human health receptor locations with site-specific background concentrations, the consultant concludes that:

- Long-term ES: The PCs for NO₂ are not insignificant when all scenarios are combined, but PECs do not exceed the ES. Therefore, no exceedances for any modelled scenario.
- Short-term ES (testing scenarios): PCs for NO₂ may be not insignificant, but PECs do not exceed the ES; therefore, no exceedances are predicted.
- Emergency scenario is predicted to exceed the ES, however the PECs at the 5% statistical risk percentile do not exceed the ES, indicating that exceedances are unlikely.

Impact on Ecological Receptors

Using Environment Agency distance screening (15 km European sites/SSSIs; 2 km local sites) the consultant identified 31 designated receptors and assessed against Air Quality Technical Advisory Guidance (AQTAG06) critical levels/loads from the Air Pollution Information System (APIS) website. The consultant concludes that:

- Testing scenarios: Daily mean NO_x process contributions are concluded to be insignificant at the designated sites.
- Emergency scenario: Daily mean NO_x process contributions could exceed the critical level only if a prolonged emergency outage coincides with worst-case meteorology; the consultant concludes this is highly unlikely due to expected high grid reliability and dual sub-station supply.
- Annual impacts (all scenarios combined): Annual NO_x, SO₂, nutrient nitrogen and acid deposition process contributions are concluded to be insignificant or that PECs do not exceed relevant critical levels/loads.

Environment Agency review of operator assessment of potential impact on air quality

Human health assessment

For the testing scenarios, no exceedances of the short-term NO₂ environmental standard (ES) are predicted. For the emergency scenario, our modelling indicates that exceedances may occur under worst-case meteorological conditions coinciding with emergency operation. In particular, the 99.79th percentile 1-hour NO₂ process contributions (PCs) are predicted to exceed the ES, with a greater than 5% likelihood of exceedance if 72 hours of emergency operation occurs.

At the 100th percentile, 1-hour NO₂ PCs are predicted to exceed the AEGL-1 for NO₂, 1-hour NO PCs are predicted to exceed the ES where 90% of NO_x is assumed to be NO, and 24-hour benzene PCs are predicted to exceed the ES where all VOCs are assumed to be benzene, although this is considered unlikely.

These exceedances are only predicted for a 72-hour outage under worst-case meteorological conditions and are therefore considered unlikely because such emergency operation is expected to be rare, provided grid reliability remains high. Annual PCs, based on the cumulative operational hours from all testing scenarios plus 72 hours of emergency operation, are either insignificant or the predicted environmental concentrations (PECs) do not exceed the relevant ES.

We therefore agree with the applicant's overall conclusion that significant impacts on human health are unlikely during normal testing and routine operation. We also agree that the emergency scenario represents a highly unlikely operating condition because it assumes a 72-hour national emergency blackout event coinciding with worst-case meteorological conditions. On that basis, we conclude that significant impacts on human health are unlikely, although short-term

exceedances cannot be ruled out if prolonged emergency operation occurs at the same time as worst-case meteorological conditions. This conclusion is based on emergency operation remaining rare and grid reliability remaining high.

Habitats Assessment

For the testing scenarios, the 100th percentile daily mean NO_x PCs are insignificant, assuming testing could occur for up to 24 hours. For the emergency scenario, the 100th percentile daily mean NO_x PCs are predicted to exceed the higher critical level if a prolonged emergency coincides with worst-case meteorological conditions. However, for the reasons set out above, this exceedance is considered unlikely.

Annual NO₂, SO₂, nutrient nitrogen and acid deposition PCs, based on the cumulative operational hours from all testing scenarios plus 72 hours of emergency operation, are either insignificant or PECs do not exceed the relevant critical levels and critical loads.

We therefore agree with the applicant's overall conclusion that significant effects on protected conservation designations are unlikely from routine testing and normal operation. We also conclude that, while a short-term daily mean NO_x exceedance cannot be ruled out during a prolonged emergency outage, this impact is unlikely to occur in practice provided emergency operation remains rare and grid reliability remains high.

Protection Against Power Outage and Minimisation of Generator Operation

The site's power distribution system has been designed to be safe, reliable, redundant, and robust. The primary electrical supply comes from the grid, with two fully independent supply circuits. Each circuit can support the entire site load if required, providing resilience during an outage on one source.

The on-site infrastructure is designed on N+1 reliability standards and concurrently maintainable design, meaning any single component can be taken out of service without affecting operational capability. The likelihood of needing to run the back up generators is therefore low.

Operational hours

In order to minimise generator operation, we set operational hour limits for data centres at 500 hours as they are permitted for emergency use only. The limit on the emergency use of 500 hours is for the Installation as a whole i.e. as soon as one generator starts operating the hours count towards the 500 hours.

The operational hours on the site will be monitored and reported as follows:

- Emergency operation limited to 500 hours for the Installation via permit condition 2.3.3.
- Maintenance and testing regime limited to <50 hours per stack, linked to operating techniques table S1.2.

Containment and Prevention of Pollution to Ground, Surface water and Groundwater

Fuel Storage, Distribution and Containment

Fuel Storage – Belly Tanks

Each of the four data centre generator compounds contains a top up tank of approximately 40,000 litres. Generators also include belly tanks within their containers. All tanks have secondary containment, leak detection, and high level alarms. Containment follows CIRIA guidance and all tanks comply with the Oil Storage Regulations.

Any leakage would be contained within the bund or generator container and managed in accordance with the Spill Response Plan. Belly tanks remain within enclosed containers and cannot discharge to the surface water system. Bunds will be inspected routinely.

Fuel Delivery – Unloading Area

Fuel deliveries will be carried out and supervised by trained personnel. The area has impermeable surface. To capture any potential leaks or spillages, drip trays will be used for all connections during delivery and between the top up tank and the individual fuel tanks for each engine, spill kits will also be readily available. Deliveries take place at contained unloading areas, and connections to individual generator tanks include fixed pipework to reduce spill risk. High level alarms will be in place to prevent overfilling.

Containment Protection - Pipework

All fuel pipework on the installation is located above ground. The containment specification varies depending on the area beneath the pipe route and the associated environmental risk.

Where fuel pipework is routed at high level above areas served by a fuel interceptor, single-walled pipework is proposed. These sections are positioned over concrete hardstanding that drains to the site-wide drainage system.

Any fuel entering the drainage system is directed to the interceptor, where alarms are integrated with the control system. Upon detection of a leak, pumps automatically shut down to prevent further release.

Where pipework passes above surfaces not connected to an interceptor, double-walled containment with integrated vacuum leak detection is installed. Leak detection within these pipelines is achieved through pressure monitoring: a loss of integrity triggers an alarm at the fuel control panel. Fuel is contained within the outer wall and removed during repair works.

Fuel pipes located within plant rooms (situated adjacent to the storage tanks and housing associated equipment) are single-walled. Plant rooms have no drainage connections, ensuring that any leakage is fully contained within the room. A floor-mounted leak detection probe will raise an alarm if oil is detected.

Integrated vacuum/pressure monitoring systems provide early detection of leaks within double-contained pipework. Alarms trigger operator intervention and enable controlled removal of any product held within the secondary containment.

Leak detection probes within plant rooms raise an alarm if oil is detected on the floor. Operators will initiate spill response procedures and engage a specialist contractor to remove fuel and undertake repairs.

The operator confirmed they maintain a formal Spill Response Plan, which sets out procedures for managing any leak or spill identified during operations. Key elements include:

- Internal and external notifications
- Spill containment actions
- Clean-up procedures
- Disposal of contaminated materials
- Inspection and cleaning of affected drainage infrastructure
- Post-incident review to assess response effectiveness

Relevant staff will receive training in the implementation of this plan.

Raw Material Storage, and Distribution

The main materials used are gas oil or hydrotreated vegetable oil (HVO), lubrication oil, and small quantities of glycol and corrosion inhibitors within the closed circuit cooling systems. These systems are contained within each generator unit and do not require routine refilling.

Inspection and Maintenance

Comprehensive management systems will be used to control all activities with potential environmental impact. Planned maintenance will follow manufacturer recommendations and be supported by operational experience. Inspections will range from daily checks to scheduled specialist assessments. The operator also replaces equipment at the end of warranty to maintain reliability.

A Building Management System and an Electrical Power Monitoring System provide real time monitoring and alert staff to any operational issues. Bunds and surfaces will be inspected regularly, and bund water will be checked and emptied when necessary.

Site Security

A staffed security gate controls all entry to the site around the clock. The outer perimeter has high security fencing with razor wire. An inner fence provides a second secure boundary. The substation, cooling plant and generator compounds each have their own fenced and locked enclosure.

Noise

Noise is not considered a significant aspect of data centre permitting. The permitted activities comprise the standby generators and associated gas oil or equivalent fuel supply systems, rather than the operation of the data centre itself. The generators will operate routinely only as part of the testing regimes described earlier, which will take place during daytime hours. Overnight operation will occur only in emergency situations. As this is a new Installation, the likelihood of overnight operation cannot be assessed using historical outage data; however, the potential for prolonged power outages in the area is considered to be low.

The operator has submitted a Noise Impact Assessment for the operation of the generators at the data centre.

Environment Agency review of operator's assessment of potential noise impacts

Although the applicant did submit a noise impact assessment (NIA), our screening suggests a NIA will only be required if there were night-time operations. Night-time operation would occur only in emergency situations, such as a full power failure. Emergency situations are not considered part of normal site operations and are not expected to occur regularly.

The Noise Impact Assessment submitted by the applicant indicates that sound from generator testing would be below the typical background sound level, consistent with a low impact under BS 4142.

We conclude that noise from the permitted activities at Didcot North Data Centre (EPR/GP3127LV/A001) is low risk and does not require further assessment. A full audit of the Noise Impact Assessment and noise modelling is not required, provided the site is not, and does not become, High Public Interest (HPI). If the site is, or becomes, HPI, the operator will need to resubmit the assessment for a more detailed review.

Permit Conditions

The Permit condition 2.3.3 limits emergency operation to 500 hours/ annum.

Table S1.2 incorporates the maintenance and testing regime, which is less than 50 hours/ generator.

Emission limit values (ELVs) to air are not applicable to MCPs operating less than 500 hours per year.

Emergency operation includes those unplanned hours required to come off grid to make emergency repair of electrical infrastructure associated but occurring only within the data centre itself. The Environment Agency expects planned testing and generator operations to be organised to minimise occasions and durations (subject to client requirements).

Each individual standby generator that is a new Medium Combustion Plant (MCP) is required to have stack monitoring for carbon monoxide (CO) and NO_x, refer to monitoring section below.

Table S1.1 of the permit prevents any electricity produced at the Installation from being exported to the National Grid.

Table S1.2 incorporates operational and management procedures reflecting the outcomes of the air quality modelling by minimising the duration of testing, the duration and frequency of whole site tests and planning off-grid maintenance days and most importantly times/ days to avoid adding to any high ambient pollutant background levels.

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

Tables S4.2 and S4.3 require annual reporting of standby engine maintenance run and any electrical outages (planned or grid failures regardless of duration) require both immediate notification to the Environment Agency and annual reporting.

Table S2.1 restricts the fuel to ultra-low sulphur gas oil or equivalent substitute as agreed in writing with the Environment Agency.

Decision considerations

Confidential information

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

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 Protection Department (Air Quality Specialist) White Horse and South Oxfordshire District Councils
- Health and Safety Executive
- Director of Public Health & UK Health Security Agency (UKHSA) (formerly Public Health England (PHE))
- Local sewerage undertaker and/or local water undertaker
- Food Standards Agency
- Local Authority – Planning

The comments and our responses are summarised in the [consultation responses](#) section.

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', Appendix 1 of RGN 2 '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.

See key issues for more discussion on the nature of the site.

The site

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

This shows the extent of the site of the facility including the discharge points.

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. However, we have set a pre -operational condition, PO2, regarding the baseline. 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.

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

We have not consulted Natural England.

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.

Operating techniques for emissions that screen out as insignificant

Some emissions as specified in the key issues section screen out as insignificant and so we agree that the applicant's proposed techniques are Best Available Techniques (BAT) for the installation.

Operating techniques for emissions that do not screen out as insignificant

Some emissions as specified in the key issues section cannot be screened out as insignificant. We have assessed whether the proposed techniques are Best Available Techniques (BAT).

The proposed techniques/ emission levels for emissions that do not screen out as insignificant are in line with the techniques and benchmark levels contained in the technical guidance and we consider them to represent appropriate techniques for the facility.

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 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. The following pre-operational conditions have been included in the permit:

1 - Commissioning

At least one month before operation the operator shall submit a commissioning plan to the Environment Agency for approval. The plan shall 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.

We have included this pre-operational condition as the risk assessment submitted with the application does not cover the commissioning phase.

2 – Pre-operational measures for site condition

This pre-operational condition is added to ensures that, before permitted activities commence, the operator submits sufficient baseline information to establish the condition of land and groundwater within the permitted installation boundary. Where remediation has been completed, this must include the initial verification report, with any later relevant monitoring or addendum reports submitted when available and reflected in the Site Condition Report as appropriate.

Any update to the Site Condition Report will be subject to Environment Agency review and approval. Later information will be considered to determine whether it updates the baseline position or indicates a change in site condition after commencement of permitted activities. Information indicating deterioration after commencement would not normally be treated as a revision to the baseline condition.

Improvement programme

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

We consider that IC2 and IC3 are appropriate because, in the prolonged 72-hour emergency scenario, our assessment indicates that 100th percentile 1-hour NO₂ process contributions are predicted to exceed the AEGL-1 for NO₂ at a number of receptors. However, we agree that any such exceedance is unlikely overall because it would require a national emergency blackout event coinciding with worst-case meteorological conditions, and this scenario is considered unlikely provided grid reliability remains high. Therefore, these two improvement

conditions are to be actioned only on the request of the Environment Agency if we deem it necessary.

The following improvement conditions (ICs) have been included in the permit:

IC1 - Air Quality Management Plan (AQMP)

We have specified that the operator shall have a written action Air Quality Management Plan (AQMP) to manage the risks for prolonged emergency running of the plant and limit the duration of an outage event to less than 50 hours, as far as possible. This needs to be proportionate to the level of risk at the receptors. The operator is expected to work with the Local Authority to develop this plan to ensure local factors are fully considered.

IC2 - Short-term nitrogen oxides and dust concentrations - monitoring plan

We have set improvement condition 2 (IC2) requiring the operator to detail proposals and subsequently undertake a monitoring programme to verify the predicted short-term nitrogen oxides (NO_x) and dust concentrations at the boundary of the site or off-site locations of sensitive receptors as appropriate.

IC3 - Short-term nitrogen oxides and dust concentrations - monitoring report

Improvement condition 3 (IC3) requires the operator to submit a report detailing the results and conclusions of the emissions monitoring undertaken as part of IC2. This will contribute to the validation of conclusions reached in the air quality assessment and inform the air quality management plan. IC3 also requires the operator to review the options for reducing the predicted emission impacts. The reduction measures are expected to achieve a reduction of impacts during both the maintenance/testing and emergency operations. In setting IC2 and IC3 we have considered the level of the NO_x peaks predicted by the Applicant's modelling.

IC4 - Monitoring plan - flue gas monitoring requirements

The operator shall submit a monitoring plan for assessment and written 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 04 June 2024 (formerly known as TGN M5).

We have included this improvement condition to ensure that the operator provides details of the monitoring proposed to be carried out in order to comply with the monitoring requirements of the permit.

Emission Limits

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

As the plant is limited to less than 500 hours of emergency operation by permit condition 2.3.3 and less than 50 hours for maintenance and testing in permit table S1.2, air emission limits are not applicable.

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 A129, with a minimum frequency of once every 1,500 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 (MCPD), 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 (NO_x) from emission points A1 to A129, 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 04 June 2024 (formerly known as TGN M5).

We have set an improvement condition (IC4) requiring the operator to submit a monitoring plan for approval by the Environment Agency detailing the operator's proposal for the implementation of the flue gas monitoring requirements specified in the permit.

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 MCP is first put into operation, whichever is later (permit condition 3.5.2) unless otherwise agreed under Improvement Condition 4 in accordance with the requirements of the Medium Combustion Plant Directive.

Reporting

We have specified reporting in the permit to ensure the site is operated to the standards specified in the Operating Techniques including the reporting of emissions to air.

We have specified reporting to ensure the operator notifies us of any operation of the stand-by generators in emergency mode in response to national grid power outage.

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

We have assessed operator competence. There is no known reason to consider the applicant will not comply with the permit conditions.

We have checked our systems to ensure that all relevant convictions have been declared.

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: Health and Safety Executive

Brief summary of issues raised: No response received.

Response received from: Local sewerage undertaker and/or local water undertaker

Brief summary of issues raised: No response received.

Response received from: Food Standards Agency

Brief summary of issues raised: No response received.

Response received from: Local Authority – Planning

Brief summary of issues raised: No response received.

Response received from: Director of Public Health & UK Health Security Agency (UKHSA)

Brief summary of issues raised:

- The applicant should produce an air quality management plan prior to the facility coming into operation. The Environment Agency should satisfy itself that the proposed measures within the air quality management plan are appropriate to minimise emissions off-site. Measures may include air monitoring to underpin the predicted modelling results.
- The applicant should produce an accident management plan prior to operations commencing on the proposed site. The Environment Agency should satisfy itself that the proposed measures within the Accident Management Plan are suitable and minimise the risk of impacts beyond the boundary of the site.
- We would also suggest that operators should be encouraged to prevent overlapping plant testing and maintenance scheduling.

Summary of actions taken:

With regard to concerns about air quality management, the operator confirmed the generators are emissions-optimised to 2gTA-Luft standard which is considered best available techniques for standby generators for data centres.

In addition to this, we have specified that the Operator shall have a written Air Quality Management Plan (AQMP) to manage the risks for prolonged emergency running of the plant and limit the duration of an outage event to less than 50 hours, as far as possible. This needs to be proportionate to the level of risk at the receptors. The Operator is expected to work with the Local Authority to develop this plan to ensure local factors are fully considered.

With regards to concerns about Accident Management, we have reviewed the operator's environmental risk assessment incorporating the fugitive emission risk assessment and management plan, and accidents risk assessment and management plan providing measures in place to respond to accidents that may

lead to unintended discharges. We are satisfied with the measures the operator has presented in the environmental risk assessment.

We have included the operator's schedule of generator operation for testing and maintenance as an operating technique in table S1.2 of the permit. We are satisfied that the operator's proposals will not result in over-lapping plant testing and maintenance scheduling.

Response received from: Local Authority - Environmental Protection Department (Air Quality Specialist) - White Horse and South Oxfordshire District Councils

Brief summary of issues raised:

Testing of emergency backup generators may cause significant disturbance to nearby residents if undertaken at anti-social hours. I therefore recommend that the testing of the emergency generators be limited to between the hours of 0800 and 1800 Mondays to Fridays.

Summary of actions taken:

The operator is proposing to carry out testing and maintenance only during daylight hours, 07:00 to 19:00 Mon to Friday with no testing at the weekends or bank holidays. In addition, the operator has provided a noise impact assessment which assessed the generator testing against daytime background sound levels and determined that testing within the above hours will not have a significant noise impact on nearby receptors. The noise levels would not increase above existing background noise. The operator has taken measures to mitigate and reduce noise from the generators to a minimum through installation of generators in high performing acoustic enclosures, with attenuated inlets and exhausts.