Permitting Decisions- Bespoke Permit

We have decided to grant the permit for Unit 2 & 3 Redhill Data Centre (LGW10 and LGW11) operated by Digital Realty (UK) Limited.

The permit number is EPR/JP3929SJ.

The permit was granted on 11/02/2025.

The application is for a data centre with a Schedule 1 Part A(1) 1.1(a) activity for burning any fuel in an appliance with a rated thermal input of 50 or more megawatts. There are 21 standby generators at the installation, with an aggregated thermal input of 72.4 MWth. Engines are operated for 260 minutes per year for testing, and in the event of an emergency, for example, a failure of the local electricity transmission network.

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

Overview of the Installation

The installation is located at Unit 2 and Unit 3 Redhill Data Centre, St Anne's Boulevard, Foxboro Park, Redhill, RH1 1AX (NGR: TQ 52865 15146), within the southern part of a light industrial and commercial area. Residential areas are to the south and west of the site with the nearest residential receptor approximately 50m to the south of the installation. There are four local wildlife sites (LWS) and ancient woodlands within 2km of the installation. Furthermore, the following designated sites are within 2km of the installation: Mole Gap to Reigate Escarpment Site of Special Scientific Interest (SSSI); and 10km of the site: Mole Gap to Reigate Escarpment Special Area of Conversation (SAC).

The installation consists of a Schedule 1 Part A(1) 1.1(a) activity for burning fuel in an appliance with a rated thermal input of 50 or more megawatts. The activity falls under Chapter II of the Industrial Emissions Directive (IED). All generators on site with a thermal input ≥1MWth are classed as Medium Combustion Plant (MCP). The Medium Combustion Plant Directive (MCPD) requirements are fulfilled through compliance with Chapter II of Directive 2010/75/EU.

Unit 2 and Unit 3 are currently managed separately; however we consider them to be part of the same installation for environmental permitting due to their proximity and having the same legal operator.

There are 21 generators (all commissioned before 20/12/2018), with an aggregated thermal input of 72.4 MWth to the following breakdown:

Thermal Input of Generator(s)	Number of generators	Associated air emission point(s)
4.4 MWth	4	A1 – A4
0.51 MWth	1	A5
3.34 MWth	6	A6 – A11
0.59 MWth	1	A12
3.74 MWth	9	A13 – A21

Generators provide power to the data centre in the event of an emergency, including failure of the local electricity transmission network, or an internal failure requiring disconnection from the grid. They are not permitted to support Short-Term Operating Reserve (STOR) and/or Triad management activity.

Both Unit 2 and Unit 3 have two separate cables from the grid originating from two separate substations (Three Bridges and Caterham), limiting likelihood of the generators all operating in an emergency.

The operator has set out a program of monthly (10 minutes), quarterly (20 minutes) and annual (1 hour) testing to ensure that generators are maintained

and able to operate in an emergency scenario. The designed total test period for each generator is four hours and 20 minutes per year.

Generators and fuel tanks are located outdoors around the data centre buildings. At Unit 2, four generators (emission points A1 – A4) are fed from individual 10,000 litre bulk tanks, the remaining generator (emission point A5) is fed from a 2,000 litre day tank. At Unit 3, six generators (emission points A6 – A11) are fed from individual 8,000 litre bulk tanks; with a singular 48,000 litre bulk tank feeding the six 8,000 litre tanks. One generator (emission point A12) is fed from a 2,000 litre day tank, and the remaining nine generators (emission points A13 – A21) are fed by individual 10,000 litre bulk tanks. Tanks are drained and cleaned yearly.

Operating Scenarios

Duration of testing must be minimised, with operators seeking to keep individual generator testing to below 50 hours per annum each. The operator has proposed a testing regime which ensures each generator is tested for four hours and 20 minutes per annum, during the daytime, with the following regime:

- Monthly testing: Once per month, each generator will be tested for 10 minutes at 0% load.

- Quarterly testing: Four times per year, each generator will be tested for up to 20 minutes on-load (up to 100% load for Unit 2 generators emitting via A1 – A5, and 50% load at Unit 3 generators emitting via A6 – A21).

- Annual testing: Once per year, each generator will be tested for one hour at 100 – 110% load.

No testing of Unit 2 and Unit 3 generators is undertaken on same days. Testing is conducted in line with the table below:

Testing Type	Unit 2 Testing	Unit 3 Testing
Monthly Testing	A maximum of two generators are tested at simultaneously; the landlord generator is always tested on its own.	Generators are not tested simultaneously. Testing is split over three days (not necessarily in this order) as follows: Day 1: Suites S160 and S150 Day 2: Suite S140 Day 3: Suites S120, S130, S110 and the landlord generator

Quarterly Testing	A maximum of two generators are tested at simultaneously; the landlord generator is always tested on its own.	Each suite of engines is tested simultaneously. Testing is split over nine days (not necessarily in this order) as follows: Day 1: Suite S110 Day 2: Suite S120 Day 3: Suite S130 Day 4: Suite S140 Day 5: Suite S150 Day 6: Landlord generator Day 7: Generator 160-1 Day 8: Generator 160-2 Day 9: Generator 160-3
Annual Testing	A maximum of two generators are tested at simultaneously; the landlord generator is always tested on its own.	Generators are not tested simultaneously. Testing is split over nine days (not necessarily in this order) as follows: Day 1: Suite S110 Day 2: Suite S120 Day 3: Suite S130 Day 4: Suite S140 Day 5: Suite S150 Day 6: Landlord generator Day 7: Generator 160-1 Day 8: Generator 160-2 Day 9: Generator 160-3

Air Quality

Our online guidance ("Air emissions risk assessment for your environmental permit", gov.uk) sets out how air emissions risk assessments should be completed, by calculating the impact of emissions and comparing against appropriate environmental standards.

The applicant submitted air dispersion modelling as part of their Air Quality Impact Assessment, which allowed the process contribution (PC) to be predicted at any human and ecological receptor that could be impacted by the operation of the Schedule 1 Part A(1) 1.1(a) activity.

The PC is the estimated concentration of an emitted substance, and when calculated within a dispersion model, takes into account relevant parameters of the release and surrounding conditions, including local meteorology.

Once short-term and long-term PCs have been calculated, they are compared with Environmental Standards (ES).

PCs are considered insignificant if:

- The long-term PC is less than 1% of the relevant ES; and
- The short-term PC is less than 10% of the relevant ES.

The long term 1% PC insignificance threshold is based on the judgements that:

- It is unlikely that an emission at this level will make a significant contribution to air quality; and
- The threshold provides a substantial safety margin to protect health and the environment.

The short term 10% insignificance threshold is based on the judgements that:

- Spatial and temporal conditions mean that short term PCs are transient and limited in comparison with long term process contributions; and
- The threshold provides a substantial safety margin to protect health and the environment.

When assessing the significance of PCs at local nature sites, we consider that emissions are insignificant if:

- The long-term PC is less than 100% of the relevant ES for protected conservation areas; and
- The short-term PC is less than 100% of the relevant ES for protected conservation areas.

When an emission is screened out in this way, we would normally consider that the applicant's proposals for prevention and control of the emission are acceptable. However, where an emission cannot be screened out as insignificant, it does not mean it will necessarily be significant.

Where pollutants do not screen out as insignificant, we determine whether exceedances of the relevant ES are likely. This is done through detailed audit and review of the applicant's dispersion modelling, taking background concentrations and modelling uncertainties into account.

The assessment considers the predicted environmental concentration (PEC), which is the PC of the substance, plus the background concentration of the substance already present in the environment.

PECs are considered to be not significant where:

- Proposed emissions comply with associated emission levels (AELs) or the equivalent requirements where there is no AEL; and

- The resulting PECs do not exceed 100% of the environmental standards.

Where exceedances are predicted, we may require the applicant to go beyond what would normally be considered BAT for the installation to ensure that ESs are met. Local factors are also taken into consideration, for example proximity and impacts upon sensitive designated habitats sites (SAC, SPA, Ramsar, SSSI), which may require us to include more stringent conditions within the permit.

The applicant's Air Quality Impact Assessment was completed by a consultant and audited by the Environment Agency's Air Quality Modelling and Assessment Unit (AQMAU).

Modelling was completed for the three testing scenarios (i.e. monthly testing, quarterly testing, annual testing), plus two emergency scenarios – the first where Units 2 and 3 are operating separately, and the second where Units 2 and 3 are required to operate together for 72 hours.

The initial modelling we received was completed somewhat conservatively – for example, the consultant conservatively assumed all generator's annual one-hour testing would be completed on the same day. The Applicant confirmed that in practice this would never occur.

Following our initial audit of the Applicant's AQIA, we informed the Applicant that they would need to reduce their impacts at the Holmethorpe Sandpit Complex SNCI, as large exceedances were predicted during testing scenarios. This could be achieved by adjusting their testing regime, heights of stacks, producing less conservative / more realistic modelling. The Applicant opted to adjust their testing regime and provide updated modelling of air impacts from this testing regime, to ensure there would not be a significant impact at this ecological receptor.

We completed sensitivity checks on the modelling provided to determine whether we agree with the impacts modelled, and the conclusions drawn by the Consultant. As part of these checks, we have used different met data, surface roughness, conversion rates for NO_X to NO_2 and also included an additional human receptor. The consultant has assumed a 35% NO_X to NO_2 conversion in their assessment for human receptors. Due to the location of receptors, we considered that a 15% conversion rate is more appropriate for receptors within 500m of the installation.

It is important to note that the installation has been operating for over 10 years, therefore we are aware that background concentrations will already include emissions from the facility.

The outcomes of our full audit are summarised in the following:

Testing Scenarios:

The modelled testing operation of the generators is in line with the schedules outlined above in the 'Operating Scenarios' section. Our conclusions are below:

Long-term impacts on Human Receptors:

- At all human receptors, process contributions for NO and PM are less than 1% of the applicable long-term environmental standards, therefore we consider impacts are insignificant.
- At all human receptors, process contributions for NO_2 are not predicted to be less than 1% of the long-term environmental standard, however the predicted environmental concentration does not exceed the long-term quality standard, therefore we consider impacts to be not significant.

Short-term impacts on Human Receptors

- Process contributions for SO_2, CO and PM_{10} are less than 10% of their short-term environmental standards, therefore we consider impacts from these emissions to be insignificant.
- Predicted environmental concentrations of NO and 100th percentile NO2 concentrations for AEGL-1, AEGL-2 and AEGL-3 are all less than 100% of their relevant standards. Therefore, we do not predict any exceedances and consider the impacts to be not significant.
- Exceedances of the NO_2 1-hour environmental standard are predicted, however statistical analysis confirms that there is a low probability of an exceedance occurring (less than 1%). We agree with this conclusion and note that where statistical probabilities are less than 5%, we consider that exceedances are unlikely.

Long-term Impacts on Ecological Receptors

- At all statutory ecological receptors, process contributions of NO_X and SO_2 are less than 1% of their long-term environmental standards. At all local wildlife sites, process contributions of NO_X and SO_2 are less than 100% of their long-term environmental standards. Therefore, we consider impacts from these emissions to be insignificant.
- At all statutory ecological receptors, process contributions of nutrient nitrogen and acid deposition are less than 1% of their long-term environmental standards. At all local wildlife sites, process contributions of nutrient nitrogen and acid deposition are less than 100% of their long-term environmental standards. Therefore, we consider impacts to be insignificant.

Short-term impacts on Ecological Receptors

- Process contributions of NO_X at all statutory ecological receptors are less than 1% of the environmental standard, therefore we consider impacts from these emissions to be insignificant.
- Process contributions of NO_X at all local wildlife sites is less than 100% of the environmental standard, therefore we consider impacts from these emissions to be insignificant.

Emergency Scenarios:

Two emergency scenarios were modelled by the Consultant:

- Generators running consecutively for 120 hours, Units 2 and 3 operating separately
- Generators from both Units 2 and 3 operating simultaneously for 72 hours.

We consider these scenarios represent a conservative worst case scenario for this installation, given the information provided by the Applicant on the reliability of the connection of the installation to the electric grid.

Short-term impacts on both Human and Ecological Receptors

We found that there is the potential for exceedance of the NO_2, NO_2 AEGL-1 and NO short-term environmental standards at sensitive human receptors, and exceedance of the NO_X short-term environmental standards at ecological receptors. However, the structural preventative measures taken to avoid the occurrence of this scenario make the source/pathway/receptor mechanism very unlikely. For the installation, we consider that the reasonably likely source/pathway/receptor mechanism would consist of periodic testing operation of the generators.

The Applicant has confirmed that since 2015, all generators have not been required to run outside of their normal testing regime, aside from one power fault in 2022 which caused only two generators to run simultaneously for a short period.

Provided power outages continue to be unlikely, the risk of an air quality exceedance from emergency operation is low. Furthermore, Emergency Scenario 2 assumes all engines running for 72 hours, whereas in practice, 6 generators would ramp down following initial switch on, to support the load of the data centre servers, and buildings. All generators would not remain operational for a prolonged period to time.

Long-term impacts on both Human and Ecological Receptors

We found no exceedances of any human or ecological long-term environmental standards. Furthermore, long-term PCs for SO_2, nutrient nitrogen and acid

deposition are all insignificant against site-specific critical loads and levels at all ecological sites.

Air quality improvement conditions

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 plan 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 receptor. The Operator is expected to work wit the Local Authority to develop this plan to ensure local factors are fully considered. This production of this AQMP is included in the permit through Improvement Condition 1 (IC1).

We have set Improvement Condition 2 (IC2) which requires the operator to detail proposals and subsequently undertake a monitoring programme to verify the predicted short-term nitrogen oxides (NOX) and dust concentrations at the boundary of the site or off-site locations of sensitive receptors, as appropriate.

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.

Best Available Techniques

Technology, Configuration and Sizing

The choice and configuration of back-up energy plant was driven by the data centre design. Smaller numbers of larger capacity machines were considered unsuitable for the site when initially designed (approximately 15 years ago). The design allows for different suites of generators to support a set of servers.

As outlined in the Environment Agency's Data Centre FAQ document, we accept that oil fired diesel generators are presently a commonly used technology.

The permit limits the applicant to using only ultra-low sulphur gas oil. Polishing of the fuel minimises use of raw materials, limiting creation of waste.

The default engine specification as a minimum for new plant, to minimise the impacts of emissions to air (NOx), is 2g TA-Luft, Tier II US EPA or equivalent standard. All engines were put into operation before 2018, meaning they are classified as 'existing MCP'. Six engines (emitting A6 – A11), have equivalent

emissions with NO_X concentration of 1830mg/m^3 at 5% reference oxygen and normal conditions (at 100% load). All other existing generators do not meet 2g TA-Luft, Tier II US EPA or an equivalent standard. We have included Improvement Conditions IC2 and IC3 to ensure impacts from NO_X emissions at the site boundary are monitored, and improvements to reduce these impacts are undertaken where required.

Electrical Reliability

As the operation of generators is considered undesirable, the incoming power system was designed to ensure that only the most major power outages would trigger the need for the generators to be used to support the data centre.

Initially when a fault is detected an 'uninterruptible power supply' is provided by on-site battery arrays to cover any potential loss or deduction in the supply to data servers for 6 minutes.

Power to the site is provided by the National Grid, received from two substations. Therefore, if either power feed is unavailable, the on-site power system could be re-aligned without engaging back-up generators.

The applicant noted that since 2015, the generators have only run outside of normal testing once during a power fault in 2022, which caused two generators to run.

Permit Conditions

The permit limits use of generators to exclude voluntary elective power generation (e.g. Triad avoidance, STOR etc). Furthermore, generators are limited to 500 hours per year for emergency back-up.

Routine testing of generators is <50 hours per year, with the operating techniques incorporated into Table S1.2 in the permit. Emission limit values have not been incorporated into the permit, as they are not applicable when operating the combustion plant for <500 hours per year.

Monitoring requirements are included in the permit for all plant, with initial measurements required before 01/01/2030. This monitoring is included for NOx and CO every 1500 hours of operation or once every five years (whichever comes first).

Limits to the AR1 activity within the permit exclude any elective power operation such as Short-Term Operating Reserve (STOR) and triad management activities.

Protection of Land, Surface Water & Groundwater

As the data centre is already operational, the drainage and containment infrastructure are already in place, predating the permit application. Generator sets and fuel tanks are all located above-ground, outside the data centre itself. Weekly walk overs are undertaken to provide a visual inspection of all generators / tanks. The positioning of tanks limits the potential risks to land, surface water and groundwater, as they are protected from impact. We note that all tanks are integrally bunded to provide 110% containment and have leak detection alarms in the annulus. However, as build standards / ages of the fuel tanks were not provided; we have set Improvement Condition IC5 which requires integrity testing for tanks and pipework. The operator is also required to review the containment measures currently in place at the site against the standards set out in gov.uk *'Oil storage regulations for businesses'*. Where improvements are required, the proposals along with an implementation timescale will be reviewed and agreed with the Environment Agency.

Full specifications for the interceptors have not been provided, therefore one element of Improvement Condition IC6 requires the operator to undertake an inspection and confirm the specification of the interceptors including alarms and capacity. They must also consider the applicability of installing a physical device on the drainage system for the purpose of full retention, and any improvements identified would be carried out on a timescale agreed with the Environment Agency.

Any surface water discharges from the installation pass through one of two interceptors before discharging to surface water sewer via W1 and W2 emission points. We have included IC7 to confirm the Operator's understanding of surface water drainage from the site.

Noise

Routine operation of the generators for testing purposes will only occur during the daytime, when residual and background sound levels are naturally higher. Generators are housed in acoustic containers and there is an acoustic wall along the southern boundary of the site.

Testing of generators is staggered, with a maximum of three generators operating at any one time; we consider that this minimises the risk of significant noise emissions from the installation. Sustained operation of the engines should occur only infrequently, limiting the potential for impact from the generators at receptors. We consider the likelihood of prolonged outages to be low.

A full Noise Impact Assessment and Noise Management Plan were not required. However we have included our standard noise conditions within the permit, which allows us to ask for a Noise management Plan if we become aware of noise-related issues on 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
- Health and Safety Executive
- Director of Public Health
- UK Health and Security Agency
- Food Standards Agency

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’ and Appendix 1 of RGN 2 ‘Interpretation of Schedule 1’.

The operator has provided the grid reference for the emission points from the medium combustion plants/specified generator.

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 plans which we consider to be satisfactory. These show the extent of the site of the facility, including the discharge points.

The plans show the location of the part of the installation to which this permit applies on that site.

A 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. They have chosen not to collect reference data via intrusive sampling, meaning a baseline of ‘zero’ is assumed. We note that the site has been operational for more than ten years.

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 the following designated sites:

- Mole Gap to Reigate Escarpment Site of Special Scientific Interest (SSSI)
- Mole Gap to Reigate Escarpment Special Area of Conversation (SAC)

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 do not screen out as insignificant

Emissions of NO_X and PM cannot be screened out as insignificant. We have assessed whether the proposed techniques are Best Available Techniques (BAT). Emergency operation of the back-up generators is minimised as far as possible, with the primary prevention method being the highly reliable design of the uninterruptible power supply and multiple grid connections to two different substations.

The proposed 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. The permit conditions enable compliance with our EA Data Centre FAQ guidance.

Operating techniques for emissions that screen out as insignificant

Emissions of SO_2 have been screened out as insignificant, and so we agree that the applicant's proposed techniques are Best Available Techniques (BAT) for the installation. This is largely controlled by the operator using only ultra-low sulphur gas oil (specified in Table S2.1 of the permit).

We consider that the monitoring included in the installation permit reflects BAT for the sector.

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 permit condition 2.3.6, operation of generators in an emergency is limited to 500 hours per year. Furthermore, monthly testing for each engine is only 5 hours and 5 minutes per engine, with no engines operating simultaneously. Therefore, emissions to air are minimised which 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. Tables S2.1 specifies that the gas oil for fuelling generators must have a sulphur content lower than 0.001%.

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme. We have included the following improvement conditions:

IC1 requires the operator to produce an Air Quality Management Plan (AQMP) in conjunction with the Local Authority. This outlines any measure to be taken in the event of a National Grid failure and identifies trigger points during an emergency where the Environment Agency and Local Authority should be notified. This improvement condition is included in all data centre permits.

IC1 is included for the production, in conjunction with the local authority of an AQMP. IC2 and IC3 are included as we consider the predicted impacts are sufficiently above the EQS for the emergency scenario to require ambient air monitoring.

IC4 requires the operator to submit a monitoring plan for approval, outlining their proposal for the implementation of the flue gas monitoring requirements specified in Table S3.1. This IC also helps to establish a timeline for installation of sample points where required.

IC5 requires the Operator to conduct integrity testing on their fuel tanks and fuel pipelines. Exact specifications for the tanks cannot be provided, and therefore we have included the improvement condition to ensure these aging tanks are still fit for purpose and are being maintained appropriately.

IC6 requires the operator to undertake an inspection to confirm the specifications of the two existing interceptors on site. The interceptors were installed many years ago, and the capacity is unknown. We have included this improvement

condition to understand whether improvements should be made to minimise risk of pollution from the site.

IC7 requires the operator to undertake a CCTV pipeline assessment on the sewer pipelines, and confirm that all surface drainage from fuel storage and generator areas does not bypass the interceptor before emission.

Emission Limits

We have decided that emission limits are not required in the permit, as the generators are for back-up purposes, and are permitted for use <500 hours per year.

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.

We have specified monitoring of emissions of carbon monoxide and nitrogen oxides from all MCPs, with a minimum frequency of once every 1500 hours of operation, or every five years (whichever comes first). First measurements should be taken prior to the compliance date of 01/01/2030. This monitoring is included for all existing MCPs to incorporate requirements of the Medium Combustion Plant Directive.

We have also included monitoring for the two engines <1MWth, which are operated in the same way. We consider that the limited monitoring of carbon monoxide and nitrogen oxides of all engines is BAT for the site, and the monitoring proposed is proportionate to the risk associated with emissions from the installation.

Sampling ports are not yet fitted to emission points. Improvement Condition IC4 will ensure that sampling ports are fitted in accordance with our gov.uk web guidance “Monitoring stack emissions: low risk MCPs and specified generators” (Updated 04/06/2024), and to a timescale agreed with the site’s regulatory officer.

Reporting

We have specified reporting in the permit.

Monitoring data and performance parameters are to be reported as specified in Tables S4.1 and S4.2.

We made these decisions in accordance with our EA Data Centre FAQ document.

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.

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: UKHSA

Brief summary of issues raised:

- Nitrogen dioxide is the main emission of concern
- Dispersion modelling indicates that nitrogen dioxide levels off site exceed guidance and thresholds.
- Concerns during emergency scenarios that emission levels exceed US EPA AEGL Level 1 for Units 2 and 3, and HSE workplace exposure limits are exceeded for Unit 3.
- Although Unit 2 and 3 have independent power supplies, both power supplies could fail.
- Unit 1 should be considered within worst case modelling.
- Infrastructure plans are not clear regarding tanks / underground pipework. Conditions of this infrastructure is not clear from the application, particularly with regard to integrity testing on underground pipework.
- UKHSA would support the applicants offer to monitor air quality at the site boundary.

Summary of action taken / responses:

- An audit of the dispersion modelling has been undertaken by our AQMAU team, with sensitivity checks conducted; more detail is in the key issues section of this decision document. Following our audit:
    - The Applicant adjusted their testing regimes and re-modelled to reduce PCs and ensure testing of the generators does not lead to exceedances of environmental standards.
    - We do not predict exceedances of AEGL 1 during any testing scenarios.
    - There is potential for exceedances of EQS' and critical levels/loads during emergency operation, however we agree that emergency scenarios are highly unlikely. IC1 has been included for the operator to produce an AQMP in conjunction with the local authority. IC2 and IC3 have been included to ensure monitoring at the site boundary is undertaken, and emission reduction measures are implemented if necessary, in agreement with the Environment Agency.
- We agree with the applicant's assessment that operation of generators is highly unlikely, given that each Unit is connected to two different electrical substations (Three Bridges and Caterham). The Applicant provided additional information regarding electrical reliability and past operation during emergencies. This is discussed in the 'Key Issues' section above.
- Unit 1 is not a data centre and is not considered within the applicant's modelling; we are satisfied with the approach taken.

- Additional infrastructure plans were requested and assessed; there is one short section of underground pipework which has leak detection. Improvement Condition IC5 requires the operator to conduct integrity tests on tanks and pipelines, make any improvements highlighted by the tests, and provide details of a suitable ongoing maintenance schedule.