

## Decision document variation

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We have decided to grant the variation for Osterley Campus operated by Sky UK Limited.

The variation number is EPR/HP3331TA/V003.

The variation is for the extension of the installation boundary to include:

- 14 back up gas oil generators >1 MWth
- 3 natural gas boilers >1 MWth
- 21 natural gas, gas oil and LPG fired plant <1 MWth.

The fuel used in the Combined Cooling Heat and Power (CCHP), which is already permitted, has changed to virgin timber only. As a result of the change in fuel type for the CCHP and the inclusion of the boilers and generators described above, the facility will be regulated under a different section of the Environmental Permitting Regulations (2016). The activity reference has been changed in table S1.1 of the permit from S5.4 A1 (b) Incineration of non-hazardous waste to a S1.1 A(1) (a) Combustion facility.

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:

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision considerations](#) section to show how the main relevant factors have been taken into account
- 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 and the variation notice.

# Key issues of the decision

## 1a) Defining the installation – Chapter II Combustion Plant

When the permit was originally issued the only listed activity was the 6.4 MWth Combined Cooling Heat and Power (CCHP) plant, which was regulated under Section 5.1 A(1) (b) of the Environmental Permitting Regulations (EPR) 2016. The Sky Osterley Campus has gradually expanded since that date with additional buildings being constructed, which are supported by an array of gas boilers and gas oil standby generators. These provide the buildings with heat and also a backup electricity supply in the event of the failure of the National Grid.

This incremental addition of combustion plant has now taken the total MWth of combustion plant on the site over 50 MWth. In addition, the CCHP now only burns virgin wood instead of waste. Therefore, all combustion plant on the installation will be permitted under Section 1.1 A(1) (a) of EPR 2016.

Chapter III of the Industrial Emissions Directive (IED) and the Large Combustion Plant Best Available Techniques Reference Document (BREF) and BATc (Best Available Techniques Conclusions) covers the requirements of the previous Large Combustion Plant Directive. The combustion plant is not subject to these requirements as there are no units >15 MWth, which could aggregate together to >50 MWth. The activity is therefore regulated under Chapter II of the IED.

The Medium Combustion Plant Directive (MCPD) applies to combustion plant >1 MWth. It also applies to any >1 MWth plant that when aggregated together are equal to or greater than 50 MW, unless they are covered by Chapter III. For medium combustion plants which are part of an installation covered by Chapter II of Directive 2010/75/EU, the requirements of Article 5 of the MCPD shall be deemed to be fulfilled through compliance with that Directive. In line with Article 6 of the MCPD, the >1 MWth boilers within this permit are medium combustion plant regulated under Chapter II, and the relevant MCPD emissions limits will apply.

The Specified Generator (SG) legislation implemented through the 2018 amendments to EPR 2016 through Schedule 25B do not apply to Chapter II IED installations. However, our expectation would be that for plant that is not operating solely for the purposes of testing or during an emergency, BAT would be to apply the SG limits to the permit. In this instance the generators are only operated during maintenance and in an emergency in the event of a National Grid failure. As such the emission limits do not apply.

**1b) Section 1.1 A(1) – Combustion Plant on the installation**

Combustion Plant (all with individual flues)	Number of Plant	Individual thermal input	Total MWth
Combined Cooling, Heat and Power plant (CCHP)	1	6.4 MWth	6.4 MWth
Gas Boilers (Energy Centre)	3	2.5 MWth	7.5 MWth
Gas Oil Standby Generators	14	1.5 MWth – 5.3 MWth	49.6 MWth
			<b>Aggregated total 63.5 MWth</b>
<1 MWth combustion plant	21	< 1 MWth	approximately 10 MWth

**2) Permit conditions – Standby Plant**

For the standby plant 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 (ELVs) to air and engine emissions monitoring 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.

Each individual generator with its own discharge stack, can be maintained, tested and used in a planned way for up to 500 hours per calendar year each without ELVs or associated monitoring under the Industrial Emissions Directive (IED) and MCPD. The Environment Agency expects planned testing and generator operations to be organised to minimise occasions and durations (subject to client requirements). The testing regime for this installation is described in section 3.d).

The permit has a limit on the activity to exclude voluntary ‘elective power operation’ such as demand side response (i.e. on-site use) or grid short term operating reserve (STOR) (i.e. off-site export of electricity) and Frequency Control by Demand Management (FCDM) for grid support. This is primarily to differentiate standby generators 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 engines 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 engine maintenance run hours is required annually and any electrical outages (planned or grid failures regardless of duration) require both immediate notification to the Environment Agency and annual reporting.

### **3a) Best Available Techniques (BAT) assessment**

The boilers and standby plant are existing, having been added incrementally over time. They have not been under regulation as the total MWth was <50Wth until recent additions have exceeded this. The design, installation and commissioning were not discussed with the Environment Agency as they were not under regulation. Therefore, the selection of the technology was not necessarily based on the premise of it complying with the regulatory guidance and BAT.

The operator has therefore carried out a review of the combustion technologies on site and made an assessment of the technology in order to determine whether their technology can be considered to be in line with BAT. The CCHP was not the subject of this review as it is not being added to the site as part of this variation.

#### Gas Boilers

- The gas boilers were installed in 2016 and are thus classed as existing plant they can meet the emissions limit values for existing plant under MCPD.
- The gas boilers have low NO<sub>x</sub> burners.
- The engines (heat) are 92% energy efficient

#### Gas Oil Standby engines

- No emissions testing of the gas oil generators has been conducted. The default generator specification as a minimum for new plant to minimise the impacts of emissions to air of NO<sub>x</sub> is 2g TA-Luft (or equivalent standard) or an equivalent NO<sub>x</sub> emission concentration of 2000mg/m<sup>3</sup>. At present none of the generators meet the TA-Luft 2g standard.
- No abatement is fitted as it is not cost effective considering the infrequent and limited use of the engines.
- It is estimated that the engines are around 30-40% efficient.
- The engines are automatically activated in the event of grid failure. They are activated when the incoming voltage remains below a set voltage for a period longer than 2 seconds, preventing unnecessary start-ups. The engines have not been utilised for emergency operations in the last 5 years.

The gas Boilers are considered to comply with BAT. However, due to the age of some of the gas oil standby generators there are a number of aspects of BAT that they do not meet. Therefore, improvement condition IC4 has been included which requires the operator to explore and implement improvements to the plant in order for it to meet BAT.

### **3b) Choice of Fuel**

Oil fired gas oil generators are accepted as a commonly used technology for standby generators.

For the boilers, the operator chose natural gas delivered directly from the National Grid as the optimum fuel for this plant. Using natural gas significantly minimises the risk of impact from SO<sub>x</sub> and PM<sub>10</sub> as emissions from the combustion of this fuel are low. Natural gas has therefore been selected as BAT in terms of fuel choice for this plant.

### **3c) Configuration of the Standby Plant**

The number and size of the engines matches the requirements of the data centre. Maximum demand calculations have been carried out to confirm the generators are sized (and not oversized) for the design load. The site operates to an n+1 standby arrangement, where n is the load requirement of the data centre. This means that that there is one spare generator available in the event of breakdown of standby plant.

### **3d) Testing Procedures for the Standby Plant**

In order to minimise emissions the amount of testing undertaken is kept to a minimum. The testing regime is described below:

1. Staggered testing undertaken throughout the month.
2. Maximum of four engines operational at any one time
3. Engines tested for up to 1 hour, which is the minimum length of time feasible.
4. Testing does not happen in the month of December, nor in at least one other month throughout the year. There is therefore a maximum of ten hours of test time per generator each year.
5. Testing is undertaken at night when background emissions from road traffic are low and staff will more likely to be located indoors. This is also necessary to avoid disruption during broadcasting.

Testing used to be undertaken for 2 hours per generator per month. However, it was reduced to 1 hour to minimise gas oil usage and emissions. This is the minimum length of time required to get the engines up to a stable temperature. Running the engines under recommended temperature is not recommended by the manufacturer and can result in increased wear, reduced lifespan of components and contamination of the exhaust flue.

The testing regime is considered appropriate for this installation and is undertaken in the minimum length of time that is feasible within the limitations of the design of the engines. The testing regime has been incorporated into the operating techniques.

### **3e) Improvement Conditions**

The following Improvement Conditions (IC) have been included in the permit:

IC3 – The operator has not provided complete details regarding the containment measures in place with regards to the oil and fuel tanks located on the installation. This information has been requested through this IC. See section 6 for more details.

IC4 - Notwithstanding the conclusions of the air quality modelling assessment, the standby generators are not considered to meet BAT. The expectation is that standby plant meets TG-Luft 2g standard or equivalent. Therefore, an improvement condition has been included in the permit (IC4), which considers the site in broad terms but will also address the particular issues with regards to the standby generators. The IC requires the operator to:

- explore options for maximising dispersion by increasing and reconfiguring the stacks (e.g. removing cowling, changing orientation of the stacks), which will help to minimise Process Contributions at sensitive receptors;
- explore options for minimising NO<sub>x</sub> emissions, either through utilising existing systems or through cost effective abatement options where feasible;
- produce a schedule setting out the remaining operational life of each generator and timescales for their planned replacement in advance of this.

The adjustment of stack heights is considered a relatively low cost short term solution that could be brought forward in advance of waiting for scheduled upgrades/replacement of plant.

IC5 – The operator has not provided a drainage plan with the application. The site has expanded over a number of years. There are a series of drainage plans covering various sections of the site. A complete plan covering the whole site has not been provided, which is requested through this IC.

IC6 – Operational details with regards to individual plant <1 MWth on the installation have not been provided. A suitable programme of maintenance and operation of this plant is necessary to ensure emissions are controlled. This IC has been added requesting an outline of operational procedures to ensure it is being used in line with the manufacturer's instructions.

### **3f) Pre-operational Measures**

The CCHP is currently not in use and no date is set for when it is likely to recommence operations. A preoperational measure has been included in the permit requiring the operator to demonstrate that the plant is able to meet all environmental standards and BAT requirements prior to recommencing operations, to ensure the plant is compliant.

### **4) Assessment of Impact on 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 operator has 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 operators assessment of the impact of emissions to air is detailed in application document titled 'Sky Ltd, Osterley Site Environmental Permit, Air Quality Modelling Report', dated July 2020.

The primary pollutant of concern to air quality is nitrogen dioxide (NO<sub>2</sub>) resulting from the combustion process on site. The operator submitted an air dispersion modelling report which assesses the potential impact of emissions of NO<sub>2</sub> and PM<sub>10</sub> from the generators on local air quality.

Sulphur dioxide was not assessed as a low sulphur fuel is used resulting in negligible emissions of sulphur, this has been included as a restriction in the permit. Carbon monoxide emissions will also be negligible due to installation of modern highly efficient engines allowing for complete combustion.

The installation is situated within the boundary of the Hounslow Air Quality Management Area (AQMA) declared as a result of historical exceedances of the annual mean NO<sub>2</sub>. The local authority were consulted and no response was received. In order to bring the generators in line with BAT standards we have included an improvement condition (IC4) as detailed in 3.e). Any improvements to the plant will have the effect of increasing dispersion/reducing NO<sub>x</sub> emissions from the installation and improving local air quality.

The operator's assessment has considered the following testing regimes and emergency operation:

- Off-load testing: Each individual generator is tested for less than 5 minutes one after another, once in a period of six months as part of routine maintenance as explained in their information request response.
- Testing scenario 1: The continuous operation of the boilers (excluding CCHP) and 1 hour routine testing of an individual generator group per day in accordance with the staggered testing regime.
- Testing scenario 2: This is the same as scenario 1 including the continuous operation of CCHP.
- Emergency operation: The continuous operation of the 14 gas oil generators up to 24 hours in the event of power outage.

For short term assessment criteria for NO<sub>2</sub> and PM<sub>10</sub> for both human and ecological receptors the operator considered the generators as part of the total emissions through a qualitative analysis predicting the statistical likelihood of an exceedance. They did not present any quantitative values. We did consider the short term scenario for continuous operation of the CCHP, boilers and generators (maintenance and emergency scenarios) as part of our audit.

Our Air Quality Modelling and Assessment Unit (AQMAU) has audited the air dispersion modelling report submitted with the permit application, including the selection of inputs, modelling methodology and assumptions, outputs of the modelling exercise, statistical interpretation of modelling outputs and conclusions of the assessment.

We agree with the operator that predicted levels for human receptor locations are unlikely to cause an exceedance of the Environmental Standard (ES) for NO<sub>2</sub> and PM<sub>10</sub>. We also agree with the operator that predicted levels for ecological receptor locations were unlikely to cause an exceedance of the ES for long term NO<sub>x</sub>.

However, we were unable to agree with the operators conclusions that for ecological receptor locations that there would not be an exceedance of the Environmental Standard for short term NO<sub>x</sub> emissions.

## Human Receptors:

### Short Term impacts

The results presented are based upon operator's assessment of the continuous operation of the CCHP and boilers. The operator's assessment of the generators as part of total emissions was considered through a qualitative analysis predicting the statistical likelihood of an exceedance.

**Table 1 – Maximum modelled nitrogen dioxide concentration at the receptor with the highest process contribution (receptor CR\_12)**

Pollutant	ES µg/m <sup>3</sup>	Back-ground µg/m <sup>3</sup>	Process Contribution (PC)		Predicted Environmental Concentration (PEC)	
			µg/m <sup>3</sup>	% of ES	µg/m <sup>3</sup>	% of ES
NO <sub>2</sub> (1 hour)	200	56	8.8	4.4	64.8	32.4

The impacts of the generators were considered in combination with the CCHP and boilers. The operator predicted that all 14 generators could operator for 35 hours a year without any modelled receptor location having greater than 5% probability of exceeding the short term ES. The likelihood of exceeding the ES is low.

Results were not presented for the short term impacts with regards to PM<sub>10</sub>. The operator concluded that the maximum combined PC is below the Environment Agency's short-term PC of 10% of the relevant air quality standard.

Based on our audit of short term impacts at human receptors locations we found that:

#### Maintenance testing:

- For off-load and test scenario 1, short term NO<sub>2</sub> PCs are insignificant.
- For test scenario 2, short term NO<sub>2</sub> PCs are 'not insignificant' at some of the receptors, however, PECs do not exceed the ES and are therefore acceptable.
- For off-load and test scenario 1 and 2, there is unlikely to be any exceedance of the daily PM<sub>10</sub>.

#### Emergency operation:

- There are potential exceedances of the short term NO<sub>2</sub> ES at amenity receptor location AR\_1. However the probability of exceedance remains low as long as the power outage does not last longer than 34 hours. This is greater than the modelled worst case scenario of 24 hours of emergency operation.
- There is unlikely to be any exceedance of the daily PM<sub>10</sub> at sensitive human receptor locations outside the site boundary.

Therefore, it is unlikely that predicted levels for human receptor locations will cause an exceedance of the Environmental Standard (ES) for short term NO<sub>2</sub> and PM<sub>10</sub>.



## Long Term impacts

The results presented are based upon the continuous operation of the CCHP and boilers and combined testing and emergency operation of the generators (10 hours testing and 24 hours emergency operation)

**Table 2 - Maximum modelled nitrogen dioxide and particulates at the receptors with the highest process contribution (receptors RR\_6 for nitrogen dioxide and RR\_9 for particulates)**

Pollutant	ES µg/m <sup>3</sup>	Back- ground µg/m <sup>3</sup>	Process Contribution (PC)		Predicted Environmental Concentration (PEC)	
			µg/m <sup>3</sup>	% of ES	µg/m <sup>3</sup>	% of ES
NO <sub>2</sub> (annual)	40	30.1	0.6	1.6	30.7	76.7
PM <sub>10</sub> (annual)	40	18.5	0.1	0.2	18.6	46.4

The maximum modelled concentration for NO<sub>2</sub> is >1% of the Environmental Standard (ES). However, after background concentrations were included the concentration was <100% of the ES. Therefore, in accordance with our assessment criteria emissions can be screened out as not significant as the PEC is less than the ES

The maximum modelled concentration for PM<sub>10</sub> is <1% of the ES. Therefore, in accordance with our assessment criteria emissions can be screened out as insignificant.

Based on our audit of long term impacts at human receptors we found that:

Maintenance testing:

- For off-load and test scenario 1, long term NO<sub>2</sub> PCs are insignificant.
- For test scenario 2, long term NO<sub>2</sub> PCs are 'not insignificant' at some of the receptors, however, PECs do not exceed the ES and are therefore acceptable.
- For off-load and test scenario 1 and 2, there is unlikely to be any exceedance of the annual PM<sub>10</sub> and PM<sub>2.5</sub> at sensitive human receptor locations outside the site boundary.

Emergency operation:

- There is unlikely to be any exceedance of the annual NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> at sensitive human receptor locations outside the site boundary.

Therefore, it is unlikely that predicted levels for human receptor locations will cause an exceedance of the Environmental Standard (ES) for long term NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.

## Ecological Receptors:

### Short Term impacts

The results presented are based upon operator's assessment of the continuous operation of the CCHP and boilers. There was no consideration of the generators as part of a quantitative or qualitative assessment.

**Table 3 - Maximum modelled nitrogen oxides at the receptor with the highest process contribution (receptors ER\_3 for designated sites and ER\_9 for non-statutory sites)**

Pollutant	ES µg/m <sup>3</sup>	Back-ground µg/m <sup>3</sup>	Process Contribution (PC)		Predicted Environmental Concentration (PEC)	
			µg/m <sup>3</sup>	% of ES	µg/m <sup>3</sup>	% of ES
Designated Sites (SSSI, SAC, SPA, Ramsar)						
NO <sub>2</sub> (24 hour)	75	No data	0.7	0.9	No data	No data
Non-Statutory Sites (LWS)						
NO <sub>2</sub> (24 hour)	75	No data	9.6	12.7	No data	No data

The operator concludes that as the maximum modelled concentration for NO<sub>2</sub> is <10% of the ES for designated sites and <100% for non-statutory sites emissions and can be screened out as insignificant.

Based on our audit of short term impacts at ecological receptor locations we found that:

Maintenance testing:

- There is unlikely to be any exceedance of the daily NO<sub>x</sub> critical levels at all ecological receptor locations.

Emergency operation:

- We do not agree with the applications conclusions. Our audit predicts that there is the potential for the exceedance of the daily NO<sub>x</sub> critical levels at:

Syon Park SSSI, Tide Meadow at Syon Park LWS, Blondin Park Nature Area LWS, London's Canals LWS, Boston Manor Park LWS, Wyke Green Golf course LWS, Hounslow Loop Railsides LWS and Blondin Nature Area LNR when the site operates for 24 hours during an outage.

The diesel generators contribute to the majority of emissions during emergency operations. Should a power failure occur after 5am then the procedure is that the installation would run on generators until the midnight to prevent any possible disruptions to broadcasting. Between 12-5am the installation would reconnect to the National Grid and restore mains power.

The generators have not been used in an emergency scenario in 5 years. Emergency operation is considered unlikely. An improvement condition (IC4) has been included which requires the operator to explore options for reducing NO<sub>x</sub> emissions from the installation through improvements to plant and stack heights in order for plant to comply with BAT

expectations. These improvements will reduce the potential for an impact on the SSSI and LWSs, in the unlikely event that the generators need to operate. No further assessment is necessary.

Long Term impacts

The results presented are based upon the continuous operation of the CCHP and boilers and testing and emergency operation of the generators (10 hours testing and 24 hours emergency).

**Table 4 - Maximum modelled nitrogen oxides at the receptor with the highest process contribution (receptors ER\_3 for designated sites and ER\_8 for non-statutory sites)**

Pollutant	ES µg/m <sup>3</sup>	Back-ground µg/m <sup>3</sup>	Process Contribution (PC)		Predicted Environmental Concentration (PEC)	
			µg/m <sup>3</sup>	% of ES	µg/m <sup>3</sup>	% of ES
Designated Sites (SSSI, SAC, SPA, Ramsar)						
NO <sub>2</sub> (annual)	30	No data	0.078	0.3	No data	No data
Non-Statutory Sites (LWS)						
NO <sub>2</sub> (annual)	30	No data	1.8	6.2	No data	No data

The maximum modelled concentration for NO<sub>2</sub> is <1% of the ES for designated sites. Therefore, in accordance with our assessment criteria emissions can be screened out as insignificant.

The maximum modelled concentration for NO<sub>2</sub> is <100% of the ES for non-statutory sites. Therefore, in accordance with our assessment criteria emissions can be screened out as insignificant.

The operator did not provide numerical predictions against nutrient nitrogen and acid deposition as part of their modelling assessment. We undertook our own assessment as part of our audit, as described below.

Based on our audit of long term impacts at ecological receptor locations we found that:

Maintenance testing:

- There is unlikely to be any exceedance of the annual NO<sub>x</sub> nutrient nitrogen and acid deposition critical loads at all ecological receptor locations.

Emergency operation:

- There is unlikely to be any exceedance of the annual NO<sub>x</sub> critical levels, nutrient nitrogen and acid deposition critical loads at all ecological receptor locations.

Therefore, we agree with the operator that predicted levels for ecological receptor locations are unlikely to cause an exceedance of the ES for long term NO<sub>x</sub>.

## **5. Emissions of Noise**

A number of measures are in place at the installation to minimise the potential for the impact of noise on sensitive receptors. The risk of noise pollution is greatest from the standby generators when they are fired up for testing or used in the event of a power outage. The measures in place at the installation are described below:

- All combustion plant is located indoors, with standby generators G21 and G22 being located in acoustic garages.
- Generator testing is staggered. The maximum number of generators that operate for testing is four, with each generator being operated for testing for up to 1 hour per month for 10 months a year.
- The generators are spread out through the site and are amongst buildings and landscaping which will help to minimise noise levels.
- The site is within an industrial area with relatively high levels of background noise from road traffic, air traffic, industry and construction. Within this context the noise from the generators is likely to be unperceivable.
- A noise survey was undertaken in May 2019 as part of the planning process for the Sky Labs building. The planning authority required that the noise rating was 5dB(A) below background level in accordance with BS4142, which is in line with our requirements that would be expected by the Environment Agency.
- There have been no complaints to the operator to date in relation to noise.

We have undertaken an assessment of the noise risk associated with the combustion plant and have used a qualitative noise screening approach to determine whether noise can be considered a significant risk. We have also reviewed whether there is justification for further noise modelling and noise management plans. Taking into account the containment of combustion operations, activity type, operational time, operation size, location and receptor proximity noise sources, we are satisfied that the noise risk posed is low and therefore further noise modelling and noise management plans are not required.

## **6. Oil Fuel and Storage**

The operator has reviewed their oil and fuel storage tanks against the requirements of our oil storage guidance and have demonstrated that their infrastructure meets some but not all of the requirements. These are, but not limited to:

- Day tanks that supply the diesel generators are located within a bunded tank room.
- All bulk tanks fitted with an overfill alarm float switch and overfill prevention valve.
- All bulk tanks are fitted with a leak detection system.
- Access to the fill points are always locked.
- Drip trays are located at each fill point.
- Spill kits are located across the site.
- Site is covered with hardstanding.
- Security across the site with no unauthorised access.

Compliance with all of the criteria in our guidance has been not been demonstrated, in particular with regards to bunding capacity. The infrastructure needs to be reviewed and all remedial works outlined with timescales for completion of this work as agreed with the Environment Agency. This has been addressed through the inclusion of Improvement Condition 3.

## **7. Protection of Groundwater**

There are no fugitive emissions to land or groundwater from the data centre. The generators are located in containers and are located on hard-standing or concrete flooring. Externally, the site consists of hard standing. Diesel, hazardous waste and hazardous materials are largely stored in bunded containers and/or are indoors, such that any source of potential contamination is prevented from discharging to land. Therefore, it is considered that the risk to groundwater is low and a full review of hardstanding and drainage infrastructure is not necessary.

There are suitable measures place with regards to the storage of oil. A full review of the storage arrangements across the whole site is requested through IC3, with any deficiencies to be addressed within suitable agreed timescales.

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

The application was publicised on the GOV.UK website.

We consulted the following organisations:

Local Authority – Planning

Local Authority - Environmental Health

National Grid

Health and Safety Executive

Fire & Rescue

Director of Public Health and Public Health England

No responses were received from Local Authority – Planning, Local Authority - Environmental Health, National Grid, Health and Safety Executive and Fire & Rescue and Director of Public Health.

The comments from Public Health England and our response are summarised in the [consultation responses](#) section.

## **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 RGN 2 'Defining the scope of the installation', Appendix 1 or RGN 2 'Interpretation of Schedule 1', guidance on waste recovery plans and permits.

The extent of the facility 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.

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

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.

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. A HRAS 1 has been sent to Natural England for information only.

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 operator 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<sub>x</sub> 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. The permit conditions enable compliance with relevant BAT reference documents (BREFs) and BAT Conclusions, and Emission Limit Values (ELVs) deliver compliance with BAT-Associated Emissions Levels (AELS).

See the Key Issues section for further information as to why emissions are acceptable based upon the predicted likelihood of exceedances arising.

## **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.

## **Updating permit conditions during consolidation**

We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permit.



## Improvement programme

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

See key issues section for further information.

## Emission limits

Emission Limit Values (ELVs) based on BAT (Best Available Techniques) have been added for the following substances:

- NO<sub>x</sub> for the three 2.5 MWth natural gas boilers that from the Energy Centre.

The limits have been included in accordance with the requirements of the Medium Combustion Plant Directive. The boilers are <5 MWth and are classed as existing plant. The MCPD specifies that for this plant the limits do not apply until 2029/2030. However, for existing plant being included in a permit for the first time, which is the case here, we require operators to comply with the limits from the date of permit issue.

The limits that were included in the previous permit for the CCHP have been copied across into this variation. The ELVs were set in application EPR/HP3331TA/A001 based on the manufacturer's emissions specification and our significance thresholds for environmental effect with regard to the air dispersion modelling data. The limits remain valid as they provide protection against the potential for environmental effects. The CCHP plant is currently not used. There is the opportunity to review the limits again as part of preoperational condition 1, if necessary, before operations recommence.

## Monitoring

We have decided that monitoring should be added for the following parameters, using the methods detailed and to the frequencies specified:

- NO<sub>x</sub> – Every 3 years for the three 2.5 MWth boilers at the Energy Centre
- CO – Every 3 years for the three 2.5 MWth boilers at the Energy Centre

We made these decisions in accordance with the requirements of the MCPD.

## Reporting

We have added reporting in the permit for the following parameters:

- NO<sub>x</sub> – Every 3 years for the three 2.5 MWth boilers at the Energy Centre
- CO – Every 3 years for the three 2.5 MWth boilers at the Energy Centre

We made these decisions in accordance with the requirements of the MCPD.

## **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.

## **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 variation.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

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

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

# Consultation Responses

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

## Responses from organisations listed in the consultation section:

Response received from: Public Health England (PHE)

Brief summary of issues raised:

The consultee noted the main emissions of potential concern are nitrogen dioxide, particulate matter and sulphur dioxide. During routine testing both the long and short term testing scenarios are not predicted to exceed the air quality standard for nitrogen dioxide. In the event of power failure, all of the emergency generators would operate. They would need to operate for more than 36 hours for there to be a probability (>5%) that the short-term air quality standard for nitrogen dioxide to be exceeded. For the same scenarios the particulate matter scenarios for both short and long term standards are below the air quality thresholds.

The site is located within the borough of Hounslow where there is a borough wide air quality management area declared based on annual concentrations of nitrogen dioxide. Therefore, reducing public exposure to non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards has potential public health benefits. PHE support measures to minimise or mitigate public exposure to these pollutants and to encourage their consideration during site design, operational management and regulation.

Summary of actions taken:

We have undertaken an audit of the air quality modelling report and agree with the conclusions of the report as identified in the key issues section of this document. Emissions from the combustion units at the installation are not predicted to cause impact on human health.

Despite this it is still necessary to ensure all combustion plant is operating to BAT standards, particularly considering that the site is within an air quality management area and as the emergency gas oil generators do not meet the latest emission standards (see key issues).

Therefore, we have included improvement condition 4 which requires the operator to consider improvements to stack heights, consideration of other appropriate measures such as abatement to reduce nitrogen dioxide emissions and requests a schedule for the planned replacement of plant in advance of it reaching the end of its operational life.

We have also included a preoperational measure, which requires the operator to ensure that the CCHP plant is in line with the latest environmental standards prior to it recommencing operations.

These requirements should help to further reduce emissions of nitrogen dioxide and particulates from the installation.