

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Sky UK Limited
Osterley Campus
Grant Way
Isleworth
Middlesex
TW7 5QD

Variation application number

EPR/HP3331TA/V003

Permit number

EPR/HP3331TA

Osterley Campus

Permit number EPR/HP3331TA

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

The variation authorises the following changes to the permit:

- The Combined Cooling Heat and Power (CCHP) plant will now only burn wood chip derived from virgin timber. Schedule 2 of the permit has been updated to stipulate this. All waste codes relating to the burning of waste wood have been removed.
- The following existing combustion plant are added into the permit. Tables S1.1 and S3.1 have been updated to include full details of the plant:
 - 14 emergency gas oil generators of varying sizes all greater than 1 MWth
 - 3 natural gas fired boilers all greater than 1 MWth
 - 21 natural gas, gas oil and Liquid Petroleum Gas (LPG) fired plant of varying sizes all less than 1 MWth
- 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 EPR 2016 regulations. 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.
- The permit boundary is expanded to include the additional existing combustion plant.
- A Directly Associated Activity (DAA) has been included in table S1.1 for the storage of gas oil, which is used in the emergency gas oil generators.
- The site address and company name have been changed as requested by the operator. The change in company name is an administrative change that has been made under the same company registration number and does not require a transfer application.
- Condition 4.2.4 and the associated reporting form in table S4.4 has been removed as waste is no longer being accepted onto the installation.
- Improvement Conditions IC3, IC4, IC5 and IC6 have been added to the permit in table S1.3
- Preoperational Condition PO1 stipulating requirements for future development has been added to the permit in table S1.4B.

The rest of the installation shall be operated as follows:

The Sky Osterley Campus is the headquarters for Sky UK Limited and is where the majority of the programming output is delivered from. The site has industrial units to the north east, east and south. There is a large retail unit to the south. To the south west and further north are residential properties. The site is centred around the grid reference TQ 16203 77899.

The installation has an aggregated total thermal input of 73.5 MWth and 63.5 MWth excluding <1 MWth plant. All plant listed below is regulated under Section 1.1 A(1) (a) of the Environmental Permitting regulations 2016. The combustion plant is as follows:

- 1 - Combined Cooling and Heating Plant (CCHP) – 6.4 MWth
- 3 - Gas Boilers (Energy Centre) – 7.5 MWth
- 14 – Gas Oil Standby Generators - 49.6 MWth

- 21 - <1 MWth Combustion Plant – approximately 10 MWth aggregated total

This is a Chapter II installation as there are no units >15 MW, which could aggregate together to greater than 50 MWth. The Medium Combustion Plant Directive applies to this installation, as all plant being added to the permit are existing plant and the relevant emission limits have been applied. For the standby generators, the Specified Generator (SG) legislation does not apply, which is primarily because the generators are operated solely during maintenance and in an emergency.

The CCHP was used to provide cooling (chilled water), heating (low temperature hot water) and electrical power to support the Sky Studios and Sky Central buildings. It is not currently operational and can only recommence operations following completion of preoperational measure 1 as detailed in table S1.4B to ensure it is operating in line with the latest environmental standards.

The gas boilers (Energy Centre Boilers) are used for space heating and hot water for the associated buildings they adjoin. The Energy Centre Boilers support the Sky Central, Sky Studios and the Health and Fitness Centre buildings.

The gas oil standby generators are on site solely to provide electricity to meet the energy demand within the Sky Osterley Campus only in the event of a grid failure. There is no capacity market agreement in place. There have been no instances of grid failure within the last 5 years. A yearly maintenance regime is in place which is co-ordinated to minimise emissions as much as possible.

The location of the CCHP, the gas boilers (Energy Centre) and emergency gas oil generators is within the red line boundary indicated in the site plan in schedule 7. The <1 MWth Combustion Plant is interspersed within the green line boundary. The exact location of the <1 MWth plant being indicated in the site plan referred to in table S3.1 and as per the grid references provided in an email on 04/11/2020.

Fuel oil for the generators is stored in bulk tanks. The fuel from the bulk tanks is transferred to day tanks, with each generator having its own dedicated day tank. A total of 318,740 litre of fuel oil is stored on the installation. A range of measures are in place to minimise the potential for environmental impacts these included: overfill alarms on all tanks, leak detection systems on all tanks, drip trays at each fill point, spill kits and day tanks being located in a bunded area. An improvement condition (IC3) has been included in the permit, which requires the operator to demonstrate compliance with CIRIA736 to ensure that all tanks are in accordance with the latest oil storage requirements.

The nearest human receptor is 100m to the southwest of the Sky 1 building. There are 2 Special Areas of Conservation (SAC), 1 Special Protection Area (SPA) and 1 Ramsar within 10km of the installation. There is 1 Site of Special Scientific Interest (SSSI) and 31 Local Wildlife Sites (LWS) within 2km of the installation.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number. Status log of the permit		
Description	Date	Comments
Application EPR/HP3331TA/A001	Duly made 20/08/2010	
Request for Further Information	24/09/2010	
Additional Information Received	06/10/2010	ADMS data files, air emission rates for NO ₂ , CO and SO ₂
Additional Information Received	26/11/2010	Confirmation of installation boundary, combustion system & planning approval.
Request for Further Information	16/12/2010	Varied permit issued.
Additional Information Received	14/01/2011 & 20/01/2011	Predicted annual average concentration for NO _x as NO ₂ . Drainage, containment & waste management information.

The status log of a permit sets out the permitting history, including any changes to the permit reference number. Status log of the permit		
Description	Date	Comments
Additional Information Received	27/01/2011	Confirmation of postal address. Information about the electrostatic precipitator, MCERTS, & ash handling
Additional Information Received	02/02/2011	Drainage arrangements for woodchip delivery / ash removal yard. Bund capacities, contingency measures for abatement plant failure.
Additional Information Received	28/02/2011	Surface water drainage plans 200342_48_DR_0015_A (2) & 200342_49_DR_0041_A (3) and proposed trade effluent connection (plan sk-090211-001).
Permit determined EPR/HP3331TA	14/03/2011	Permit issued
Agency variation determined EPR/HP3331TA/V002	13/02/2014	Agency variation to implement the changes introduced by IED
Application EPR/HP3331TA/V003 (variation and consolidation)	Duly made 10/07/2020	Application to extend the permitted boundary to include existing combustion plant on the Osterley Campus in the permit. Change of activity reference for CCHP from S5.4 A1 (b) to S1.1 A(1) (a).
Additional Information Received	11/08/2020	Response to request for information providing further information regarding: thermal input, BAT justification, configuration of the engines, sizing of the generators, emission standards of the plant, operational life of plant, upgrading plant and disposal route for waste oil.
Additional Information Received	01/10/2020 01/11/2020 04/11/2020	Schedule 5 responses providing further information regarding: emissions abatement, boiler configuration and size, air quality management, thermal input, fire procedures, noise, site condition, air quality modelling report update, year when plant was installed.
Additional Information Received	04/11/2020	Responses to request for information providing further information regarding <1 MWth plant: stack configuration, thermal input of individual plant and stack grid references.
Additional Information Received	06/11/2020	Response to request for information providing emissions to air plans for the <1 MWth, CCHP and Energy Centre combustion plant.
Additional Information Received	28/02/2021	Response to request for information providing details regarding emergency operation of generators historic outages, length of generator operation and operational procedures during an outage.
Additional Information Received	23/03/2021	Specification of the number of <1 MWth boilers and their thermal inputs at Athena Court.
Variation determined EPR/HP3331TA/V002 (Billing reference KP3130DQ)	25/03/2021	Varied permit issued

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/HP3331TA

Issued to

Sky UK Limited (“the operator”)

whose registered office is

Grant Way

Isleworth

Middlesex

TW7 5QD

company registration number 02906991

to operate a regulated facility at

Osterley Campus

Grant Way

Isleworth

Middlesex

TW7 5QD

to the extent set out in the schedules.

The notice shall take effect from 25/03/2021

Name	Date
Rebecca Warren	25/03/2021

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/HP3331TA

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/HP3331TA/V003 authorising,

Sky UK Limited (“the operator”),

whose registered office is

Grant Way

Isleworth

Middlesex

TW7 5QD

company registration number 02906991

to operate an installation at

Osterley Campus

Grant Way

Isleworth

Middlesex

TW7 5QD

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Rebecca Warren	25/03/2021

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and energy is used efficiently in the activities.
- (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: AR1 (gas oil fired generators). The activities shall not operate for more than 500 hours in emergency use per annum.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

- 2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.4A have been completed.
- 2.5.2 The operations specified in schedule 1 table S1.4B shall not commence until the measures specified in that table have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1;
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
 - (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
 - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency

when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	Section 1.1 A(1) (a) Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	<p>Operation of: 1 x 6.4 MWth combined cooling, heat and power plant (CCHP)</p> <p>Emergency Gas oil fired generators consisting of: 3 x 1.5 MWth gas oil fired generators 1 x 3.6 MWth gas oil fired generators 1 x 4.7 MWth gas oil fired generator 1 x 2.6 MWth gas oil fired generator 1 x 2.9 MWth gas oil fired generator 1 x 1.7 MWth gas oil fired generator 4 x 5.3 MWth gas oil fired generator 2 x 4.2 MWth gas oil fired generator</p> <p>3 x 2.5 MWth natural gas fired boilers (at the Energy Centre)</p> <p>Total aggregated thermal input of 63.5 MWth</p> <p>Operation of up to 21 combustion plant within the installation boundary with individual capacities of <1 MWth. Total thermal input of approximately 10 MWth.</p>	<p>From receipt of natural gas, gas oil and biomass to discharge of exhaust gases and wastes, despatch of hot water and steam and the generation of electricity.</p> <p>The 14 generators shall only be operated for on-site emergencies and not for elective power generation, such as Balancing Services, Demand Side Response Operations including Frequency Control Demand Management (FCDM) or Triad Avoidance.</p> <p>The 14 generators shall be operated for the purpose of testing for no more than 50 hours each per year</p> <p>The operational hours of the installation shall not exceed the specifications set out in condition 2.3.6.</p> <p>The CCHP shall only be fired on biomass chips or pellets comprising of virgin timber.</p>
	Directly Associated Activity		
A2	Storage of woodchip and loading to Thermal Oil boiler	Storage of woodchip and loading to Thermal Oil boiler	Storage of woodchip within dedicated fuel bunker, movement via a mechanical grab into the fuel silo and transfer to walking floor feeding the boiler.
A3	Electrical Power Generation	Generation of electricity via expansion turbine (ORC).	From transfer of heat to Organic Rankine Cycle (ORC) expansion turbine, generation of electricity and its use on site.

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A4	Use of thermal energy to generate heating and cooling	Use of thermal energy to generate heating (low temperature hot water - LTHW) and cooling (chilled water)	Transfer of rejected heat from ORC via the turbine cooling water circuit to heat the LTHW and provide the driving thermal energy for the absorption chillers which provide chilled water.
A5	Storage and movement of ash	Storage of fly ash and bottom ash within designated enclosed containers for subsequent disposal or recovery	From transfer of ash from Thermal Oil boiler to discharge into road container for transport off site.
A6	Discharge to Sewer	Waste Water from coolers and water softener plant	Handling and discharge of waste water from coolers and water softener plant into Brent Valley Main Sewer
A7	Storage of gas oil	Storage of gas oil for use in relevant plant	From receipt of gas oil to use within the facility.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/HP3331TA/A001	The response to Part B, section 3 in the Application.	13/07/2010
Additional information	Response to question 2 confirming the correct installation boundary. Response to question 3 on standby fuel. Response to question 4 on grate system.	26/11/2010
Schedule 5 Notice Request dated 16/12/2010	The response to questions 3, 4, 6, 7, 8 and 11.	14/01/2011 & 20/01/2011
Additional information	Response to question 2 confirming that a dry electrostatic precipitator will be used as abatement plant for particulates. Response to question 4 confirming that ash will be handled as a solid state material and not as a liquid slurry.	27/01/2011
Additional information	Response to question 2 confirming bund capacities and application of BAT for bunding and storage areas. Response to question 4 confirming contingency measures for failure of abatement plant.	02/02/2011
Application EPR/HP3331TA/V003	All Supporting Information Documents referenced in response to Parts C2 and C3 of the Application Form.	Duly made 10/07/2020
Additional information requested 21/07/2020	Response to request for information providing further information regarding: thermal input, BAT justification, configuration of the engines, sizing of the generators, emission standards of the plant, operational life of plant, upgrading plant and disposal route for waste oil.	11/08/2020

Table S1.2 Operating techniques		
Description	Parts	Date Received
Response to Schedule 5 Notice dated 03/09/2020	Schedule 5 responses providing further information regarding: emissions abatement, boiler configuration and size, air quality management, thermal input, fire procedures, noise, site condition, air quality modelling report update, year when plant was installed.	01/10/2020 01/11/2020 04/11/2020
Additional information requested 28/09/2020	Response to request for information providing further information regarding <1 MWth plant: stack configuration, thermal input of individual plant and stack grid references.	04/11/2020
Additional information requested 28/09/2020	Response to request for information providing an emissions to air plan showing the location of <1 MWth plant.	06/11/2020
Additional information requested 12/10/2020	Response to request for information providing an emissions to air plans showing the location of the CCHP and Energy Centre Boiler plant.	06/11/2020
Additional information requested 17/02/2021	Response to request for information providing details regarding emergency operation of generators historic outages, length of generator operation and operational procedures during an outage.	28/02/2021
Additional information requested 15/03/2021	Specification of the number of <1 MWth boilers and their thermal inputs at Athena Court.	23/03/2021

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	The Operator shall undertake a study into the feasibility of recycling the bottom ash and fly ash for beneficial use in order to avoid disposal to landfill. A written report shall be submitted to the Environment Agency.	Completed
IC2	The Operator shall undertake atmospheric dispersion modelling based on all available monitoring data since the start of operation for oxides of nitrogen (NO and NO ₂ expressed as NO ₂) from emission point A1. The modelling study shall assess the predicted impact of actual emissions against the EU long term air quality limit value for NO ₂ and will consider if further reductions in NO _x emissions can be made. A written report shall be submitted to the Environment Agency.	Completed
IC3	The operator shall submit a written report to the Environment Agency for written approval which reviews all oil and fuel tank containment infrastructure and associated pipework related to the site combustion plant. The review shall demonstrate that the tank containment infrastructure meets the requirements of CIRIA 736 guidance or equivalent and shall outline timescales for completion of any work required to meet these requirements. The operator shall undertake the work outlined in the report, in line with the timescales as agreed with the Environment Agency.	25/11/2021

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC4	<p>The Operator shall conduct a review of NO_x emissions from the Installation. The review shall cover the following :-</p> <ul style="list-style-type: none"> • An appraisal of Best Available Techniques (BAT) for preventing, and where that is not possible minimising emissions of NO_x. • An appraisal of stack heights, their orientation (i.e. vertical or horizontal) and their suitability for achieving maximum dispersion. • A schedule for the replacement of standby plant based upon expected operational life. <p>A report detailing the review and its findings shall be submitted to the Environment Agency. Where any improvements are identified, the Operator shall submit proposals for their implementation including timescales to be agreed in writing by the Environment Agency.</p>	25/01/2022
IC5	The Operator shall complete a survey of the routing of all drains within the installation and provide the Environment Agency with detailed drainage plans. The drainage plans shall show both surface and foul water drainage arrangements, including discharge points.	25/03/2022
IC6	The operator shall submit a written procedure to the Environment Agency for written approval covering the operation of all individual plant less than 1 MWth. The procedure must outline how the plant is operated in accordance with the manufacturer's instructions and how records are made and retained to demonstrate this.	25/09/2021

Table S1.4A Pre-operational measures		
Reference	Pre-operational measures	Date
1	The Operator shall submit a copy of the installation's Environment Management System (EMS) to the Agency and make available for inspection all documents and procedures which form part of the EMS. The EMS shall be developed in line with Part 1 of EPR 1.00 "How to comply with your Environmental Permit", Horizontal Guidance Note H6 "Environmental Management Systems" and the additional requirements set out in Section 1 of EPR 1.01 "Combustion Activities" guidance document. The EMS shall include an accident management plan which shall cover potential spillages and prevention of ground, surface water and groundwater contamination. The EMS shall also include operating procedures demonstrating control of the third party contractor.	Completed
2	The Operator shall provide the Environment Agency with a written definition of start-up and shut-down for the purposes of defining when the emission limits specified in Table S3.1 will apply.	Completed
3	The Operator shall provide the Environment Agency with a written report that includes details of the trade effluent discharge consent obtained from Thames Water Ltd and the monitoring programme established under the consent.	Completed

Table S1.4B Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
1	Activity A1 – Combined Cooling, Heat and Power (CCHP) 6.4 MWth, biomass fired combustion unit	<p>The operator shall submit a report demonstrating that the CCHP meets all of relevant environmental standards and requirements that are in force at the time before operations are recommenced. This shall include Continuous Emission Monitoring (CEM) for Dust as required.</p> <p>Any deficiencies shall be outlined in the report, explaining how these shall be addressed and within what timeframe.</p> <p>The report shall be submitted to and approved by the Environment Agency.</p>

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Gas oil	Less than 0.1% w/w sulphur content
Fuel for CCHP unit	Biomass chips or pellets comprising virgin timber.

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location*1	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1.1 CCHP [Point 1 on site plan entitled 'Sky Osterley – Energy centre and CCHP' submitted on 06/11/2020]*2	Biomass fired CCHP Plant 6.4 MWth	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	375 mg/m ³	(Average of ½-hour averages) over minimum 4 hour period	Quarterly	BS EN 14792
		Particulate Matter	75 mg/m ³	1 hour period	Annual	BS EN 13284-1
		Carbon Monoxide	300 mg/m ³	(Average of ½-hour averages) over minimum 4 hour period	Annual	BS EN 15058
		Sulphur Dioxide	No limit set	-	-	-
A1.2 G4 – G6 G8 – G12 G17 – G22 [Points G4 – G6, G8 – G12, G17 – G22 on site plan entitled 'Sky Osterley – Site Plan and emissions points' submitted on 09/07/2020]	14 Gas oil fired generators G4 – 1.5 G5 – 1.5 G6 – 1.5 G8 – 3.6 G9 – 4.7 G10 – 2.6 G11 – 2.9 G12 – 1.7 G17 – 5.3 G18 – 5.3 G19 – 5.3 G20 – 5.3 G21 – 4.2 G22 – 4.2 (figures above all MWth)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	No limit set	-	-	-
		Carbon Monoxide	No limit set	-	-	-
A1.3 Energy Centre [Points 18a, 18b and 18c on site plan entitled 'Sky Osterley – Energy centre	3 Natural Gas Fired Boilers 2.5 MWth each.	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	250 mg/Nm ³	Periodic	Every 3 years The initial one within 4 months of the issue date	MCERTS BS EN 14792

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location*1	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
<i>and CCHP</i> submitted on 06/11/2020]					of the permit	
		Carbon Monoxide	No limit set	Periodic	Every 3 years The initial one within 4 months of the issue date of the permit	MCERTS BS EN 15058
21 Combustion Plant rated < 1 MWth [As shown on site plan entitled 'Sky Osterley – Combustion Plant <1 MWth' submitted on 06/11/2020]	21 Combustion Plant each rated < 1 MWth	No parameter set	No limit set	-	-	-

Notes:

*1 The emission points references correspond with the list of plant as set out in the non-technical summary submitted on 10/01/2020 with the application EPR/HP3331TA/V003.

*2 The emission limits and monitoring requirements will be reviewed when in the event that the CCHP resumes operations and changes will be made to this table as necessary in line with the requirements of Preoperational Condition 1 in table S1.4B.

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 [Point W1 on site plan entitled 'Sky Osterley – Site Plan and emissions points' submitted on 09/07/2020]. Emission to Brent Valley Main Sewer	Surface water run-off discharges to surface water sewer	No parameters set	No limit set	-	-	-

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site—emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 [Point S1 on site plan entitled 'Sky Osterley – Site Plan and emissions points' submitted on 09/07/2020]. Emission to Brent Valley Main Sewer.	Waste water from heat rejection coolers and water softener (regen) plant to foul sewer	No parameters set	No limit set	-	-	-

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Oxides of nitrogen Parameters as required by condition 3.5.1	A1.1	Six monthly	1 st Jan
	A1.3	Every 3 years	1 st Jan
Carbon Monoxide Parameters as required by condition 3.5.1	A1.1	Annually	1 st Jan
	A1.3	Every 3 years	1 st Jan
Particulate Matter Parameters as required by condition 3.5.1	A1.1	Annually	1 st Jan

Table S4.2: Annual production/treatment	
Parameter	Units
Electrical Energy Generated	MWh _e
Electrical Energy exported to National Grid	MWh _e
Electrical Energy used at Sky Osterley Campus	MWh _e
Thermal Energy Generated	MWh _e
Cooling Energy Generated	MWh _e

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Gas oil usage	Annually	tonnes
Generator operation for testing/maintenance	Report to be submitted annually	<ul style="list-style-type: none"> - Total hours operation for the site (hours) - Total hours operation per generator (hours) - Total number of runs per generator (quantity) - Time per run (minutes)
Generator operation for emergency running	Within 24 hours of emergency operation commencing	<ul style="list-style-type: none"> - Date and time of National Grid failure - Number of generators operating immediately after the failure - Number of generators operating two hours after failure - Anticipated duration of the mains supply failure (hours)

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Generator operation for emergency running	Annually	- Total number of runs - Duration of runs (hours)
Water usage	Annually	m ³
Total fuel combusted at Installation	Annually	Tonnes
Average Calorific Value of Biomass Fuel Consumed (Wet Basis)	Annually	MJ/kg

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form 'air 1' or other form as agreed in writing by the Environment Agency	25/03/2021
Water usage	Form 'water usage 1' or other form as agreed in writing by the Environment Agency	14/03/2011
Gas oil usage	Form 'performance 2' or other form as agreed in writing by the Environment Agency	25/03/2021
Generator operation for testing/maintenance	Form 'performance 2' or other form as agreed in writing by the Environment Agency	25/03/2021
Generator operation during emergency scenario – annual reporting	Form 'performance 2' or other form as agreed in writing by the Environment Agency	25/03/2021
Generator operation during emergency scenario – within 24 hours	Form 'emergency scenario' or other form as agreed in writing by the Environment Agency	25/03/2021
Other performance indicators	Form 'performance 1' or other form as agreed in writing by the Environment Agency	14/03/2011

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the breach of permit conditions not related to limits	
To be notified within 24 hours of detection	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

(d) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	

Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“virgin timber” means timber from:

- Whole trees and the woody parts of trees including branches and bark derived from forestry works, woodland management, tree surgery and other similar operations (it does not include clippings or trimmings that consist primarily of foliage);
- Virgin wood processing (e.g. wood offcuts, shavings or sawdust from sawmills) or timber product manufacture dealing in virgin timber.
- If virgin timber is mixed with waste timber or any other waste, the mixed load is classed as waste.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

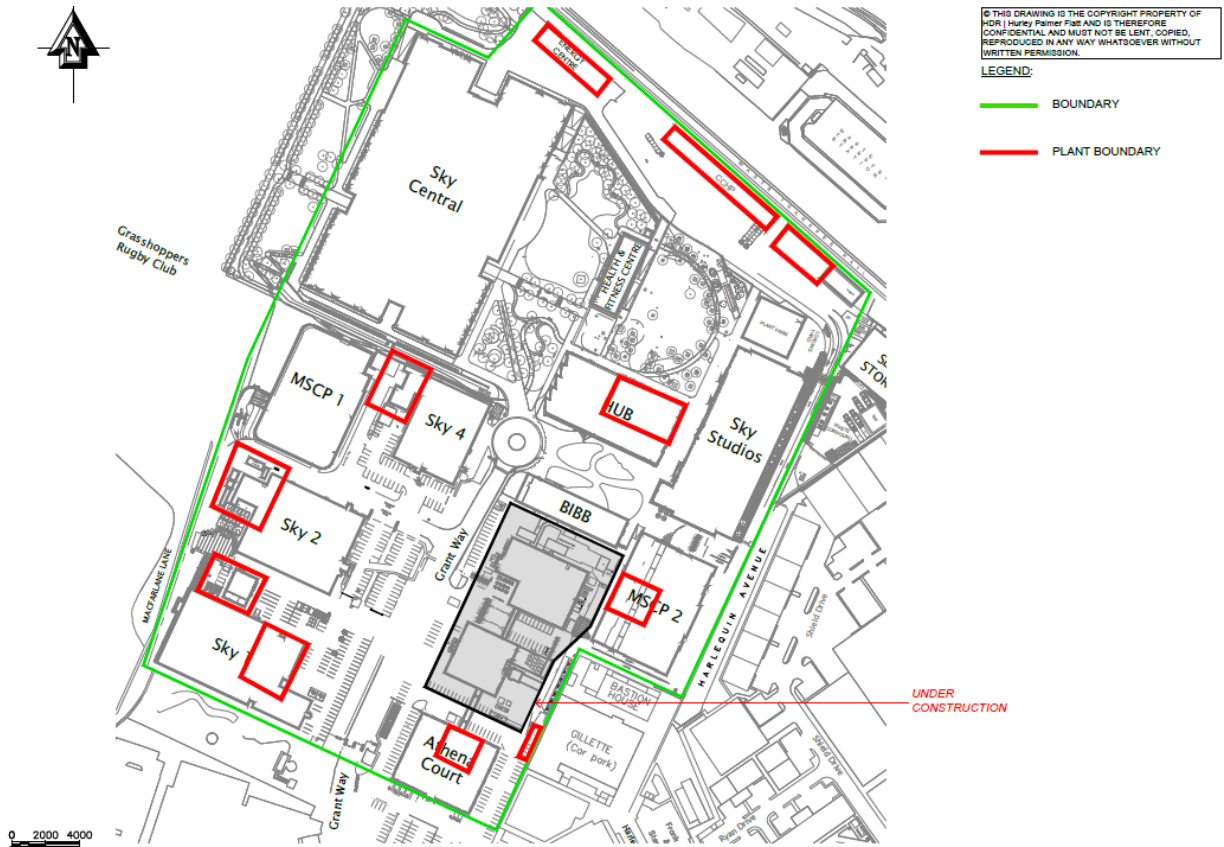
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



END OF PERMIT