

# Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

NNB Generation Company (HPC) Limited

Sewage treatment system serving Hinkley Point C Construction Site Hinkley Point C Wick Moor Drove Near Bridgwater Somerset TA5 1UD

Permit number

EPR/XP3321GD

## Sewage treatment system serving Hinkley Point C Construction Site Permit number EPR/XP3321GD

## Introductory note

#### This introductory note does not form a part of the permit

The main features of the permit are as follows.

This permit introduces a new water discharge activity to an existing sub-tidal outlet location (known as Outlet 12) which is near the seaward end of the Hinkley Point C temporary jetty. The permit controls a discharge of up to 1,150 cubic metres per day of treated sewage effluent only that will be generated during the construction phase of Hinkley Point C. The discharge will be of domestic nature from the use of welfare facilities at HPC during the construction phase of the project. The welfare facilities will comprise of wash basins, toilets, showers, kitchens and canteens within a number of office buildings, and an on-site accommodation campus facility for site workers. The foul network at HPC is currently being constructed, and there is likely to be a need for sewage collected in various cess tanks around the site to be tankered into the sewage treatment system.

Domestic sewage effluent will be treated via a new sewage treatment system known as CSTP (Construction Sewage Treatment Plant) consisting of a British Standard sewage treatment plant (also referred to as HAJ), an inlet pumping station, common screening chamber, flow split chamber then individual streams comprising modules for primary settlement and Rotating Biological Contactors as secondary treatment. The effluent is then filtered in final settlement tanks before undergoing tertiary level treatment via ultra-violet disinfection.

The treated effluent will be discharged by pipe across the Jetty to the receiving environment, the Severn Estuary. The same route is also permitted for discharges of groundwater and tunnelling waste streams; under the current Construction Water Discharge Activity (CWDA) permit EPR/JP3122GM/V006\_7.

The permit contains conditions, including numeric emission standards, which will protect the receiving environment and also contains conditions requiring the operator to monitor and report the concentrations of emission standards in the effluent. These monitoring requirements have been imposed in order for the operator to implement their own monitoring regime known as Operator Self-Monitoring (OSM). We have imposed the higher sampling frequency known as OSM Tier 3 in line with our guidance because this applies to any continuous discharge from a facility that requires disinfection.

Improvement programme conditions have also been included to ensure an MCERTS flow monitor is installed.

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

Status log of the permit				
Description	Date	Comments		
Application EPR/XP3321GD/A001	Duly made 30/07/2018	Application for discharge of secondary treated sewage effluent subject to disinfection by membrane filtration.		
Additional information received	17/01/2019	Confirmation of Pre UV treatment monitoring points.		
Permit determined EPR/XP3321GD	30/01/2019	Permit issued to NNB Generation Company (HPC) Limited.		

End of introductory note

## Permit

#### The Environmental Permitting (England and Wales) Regulations 2016

#### Permit number

#### EPR/XP3321GD

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

#### NNB Generation Company (HPC) Limited ("the operator"),

whose registered office is

#### 90 Whitfield Street London W1T 4EZ

company registration number 06937084

to operate a water discharge activity at

Hinkley Point C Construction Site Hinkley Point C Wick Moor Drove Near Bridgwater Somerset TA5 1UD

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

Name	Date
Katie Baxter	30/01/2019

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

#### 1.1 General management

- 1.1.1 The operator shall manage and operate the activity:
  - (a) in accordance with a written management system that identifies and minimises risks of pollution so far as is reasonably practicable, including those risks arising from operations, maintenance, accidents, incidents, non-conformances 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 the permit.

## 2 **Operations**

#### 2.1 Permitted activities

2.1.1 The only activity authorised by the permit is the activity specified in schedule 1 table S1.1.

#### 2.2 The site

2.2.1 The discharge activity shall take place at the discharge point marked on the site plans at schedule 7 to this permit, and as listed in table S3.2; and, the operating technique that is the subject of conditions prefixed by 2.3 shall be applied at the locations shown, or otherwise described, in schedule 7.

#### 2.3 Operating techniques

2.3.1 The discharge in schedule 3 table S3.3 shall consist solely of secondary treated sewage effluent which has been disinfected by means of ultra violet (UV) radiation as specified in that table.

#### 2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.2 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.

## 3 Emissions and monitoring

#### 3.1 Emissions to water

3.1.1 The limits given in schedule 3 table S3.1 shall not be exceeded.

#### 3.2 Emissions of substances not controlled by emission limits

3.2.1 The operator shall take appropriate measures to minimise so far as reasonably practicable the polluting effects of the emissions of substances in the discharge not controlled by emission limits (excluding odour).

#### 3.3 Monitoring

- 3.3.1 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 and S3.4;
  - (b) inlet quality specified in tables S3.1 and S3.4;
  - (c) efficacy monitoring specified in tables S3.4 and S3.5.
- 3.3.2 The operator shall maintain records of all monitoring required by this permit.
- 3.3.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.3.4 Accessible monitoring points shall be provided and maintained to enable the emissions monitoring programme and/or other monitoring to be carried out at the monitoring points specified in table S3.4 of schedule 3 and shown marked on the site plans in schedule 7.
- 3.3.5 The monitoring programme for the parameters subject to schedule 3A shall be:
  - (a) pre-scheduled to cover a calendar year and the programme recorded before the start of a calendar year sample period; and
  - (b) spot samples collected at approximately equal intervals during the year, including samples from different days of the week and different times. Approximately 10% of samples should be outside the normal sampling window which is 9am-3pm, Monday to Friday.
- 3.3.6 After becoming aware, or following a notification that a sample has not been taken on the schedule 3A Monitoring Programme pre-scheduled date, or is lost, or a result for that sample cannot be reported, the operator shall record the details and reschedule the sample.
- 3.3.7 Continuous recorders, with on-site visual display from which readings may be readily obtained, shall be provided and maintained by the operator and the following shall be measured and recorded at 15 minute intervals:
  - (a) the instantaneous flow rate through each UV irradiation channel;
  - (b) the instantaneous measured applied UV dose for each UV irradiation channel;
  - (c) the number of operational UV lamps for each UV irradiation channel;
  - (d) the instantaneous measured UV transmittance at the inlet to the UV irradiation plant;
  - (e) any other parameters used in calculating the UV dose.

## 4 Information

#### 4.1 Records

- 4.1.1 All records required to be made by schedule 3, 4 and 5 to 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.
- 4.1.2 The operator shall maintain convenient access, in either electronic or hard copy, to the records, plan and management system required to be maintained by this permit.

#### 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 Within the time period after the end of the reporting period specified in schedule 4 table S4.1 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 monitoring 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 S4.2; and
  - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

#### 4.3 Notifications

- 4.3.1 The Environment Agency shall be notified as soon as reasonably practicable following detection, within the site of the regulated facility of:
  - (a) 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; and
  - (b) any breach of a limit specified in schedule 3 table S3.1

Any other significant adverse environmental effects, which may have been caused by the activity, shall also be notified to the Environment Agency as soon as reasonably practicable following detection.

- 4.3.2 The information provided under condition 4.3.1 shall be supported 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 specified in schedule 3A, 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 of the activity by increasing the concentration of, or the addition of, or allowing the introduction of, a substance to the activity to an extent that the operator considers could have a significant adverse environmental effect on the receiving waters, and the change is not permitted by emission limits specified within schedule 3 table S3.1 or the subject of an application for approval under the EP Regulations or under the terms of this permit:
  - (a) the Environment Agency shall be notified in writing at least 14 days before the increase or addition or allowing the introduction; and
  - (b) the notification shall contain a description of the proposed change.

#### 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 "as soon as reasonably practicable", in which case it may be provided by telephone.

# Schedule 1 – Operations

Table S1.1 Activities		
Description of activity	Limits of specified activity	
Discharge of secondary treated sewage effluent subject to disinfection by ultra violet irradiation via Outlet 12	N/A	

Table S1.2 I	Table S1.2 Improvement programme requirements			
Reference	Requirement	Date		
IP1	The operator shall notify the Environment Agency upon commencement of the discharge.	Commencement of the discharge		
IP2	Within 7 days of commencement of the discharge the operator shall submit to the Environment Agency evidence of MCERTS certification or MCERTS accreditation (as appropriate), required for monitoring as per condition 3.3.3	Within 7 days of commencement of the discharge		

# Schedule 2 – Waste types, raw materials and fuels

Schedule 2 not in use.

# Schedule 3 – Emissions and monitoring

 Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements

requirements						
Effluent(s) and discharge point(s)	Parameter	Limit (including unit)	Reference Period	Limit of effective range	Monitoring frequency	Compliance Statistic
Secondary treated	Maximum daily flow	1,150 m <sup>3</sup> /day	Total daily volume	N/A	Continuous	Maximum
sewage effluent subject to disinfection by ultra violet	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	N/A	Continuous	N/A
irradiation via Outlet 12	ATU-BOD as O2	40 mg/l	Instantaneous (spot sample)	N/A	As specified in schedule 3A	Maximum
	Ammoniacal nitrogen (expressed as N)	20 mg/l	Instantaneous (spot sample)	N/A	As specified in schedule 3A	Maximum
	Suspended solids (measured after drying at 105°C)	60 mg/l	Instantaneous (spot sample)	N/A	As specified in schedule 3A	Maximum
	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	N/A	N/A	No significant trace

Table S3.2 Discharge points			
Effluent Name	Discharge Point	Discharge point NGR	Receiving water/Environment
Secondary treated sewage effluent subject to disinfection by ultra violet irradiation	Outlet 12	ST 19315 46475	Severn Estuary

Table S3.3 UV process details and process limits				
Effluent(s) and discharge point(s)	Dose type	Design minimum dose mJ/cm2	Effective dates	Assumed transmittance to be used in dose calculations
Secondary treated sewage effluent subject to disinfection by ultra violet irradiation via Outlet 12	Applied	32	1st Jan - 31st Dec	45%

Table S3.4 Monitoring points				
Effluent(s) and discharge point(s)	Monitoring type	Monitoring point NGR	Monitoring point reference	
Secondary treated	Effluent sampling	ST 19503 46069	CSTP QMP	
sewage effluent subject to	MCerts flow monitoring	ST 19755 46052	CSTP FMP	
disinfection by ultra violet irradiation via Outlet 12	Pre UV treatment monitoring	ST 19752 46026 (North) ST 19752 45981 (Middle) ST 19752 45960 (South)	UV1 (North) UV2 (Middle) UV3 (South)	
	Post UV treatment monitoring	ST 19503 46069	CSTP QMP	
	UV irradiation plant inlet monitoring as specified by condition 3.3.7	ST 19752 46026 (North) ST 19752 45981 (Middle) ST 19752 45960 (South)	UV1 (North) UV2 (Middle) UV3 (South)	
	UV irradiation channel monitoring as specified by condition 3.3.7	ST 19752 46026 (North) ST 19752 45981 (Middle) ST 19752 45960 (South)	UV1 (North) UV2 (Middle) UV3 (South)	

Table S3.5 UV efficacy monitoring point requirements			
Monitoring type	Parameters	Monitoring frequency	
Pre UV treatment monitoring point	No monitoring	As specified for sanitary	
UV irradiation plant inlet monitoring point	UV transmittance at 254nm	parameters in schedule 3A.	
UV Irradiation channel monitoring points	Instantaneous flow rate Applied dose	Monitoring for all parameters in table S3.5	
Post UV treatment monitoring point	Esherichia Coli (E.coli) Intestinal Enterococci Suspended solids	to coincide.	

## Schedule 3A – Operator Self-Monitoring (OSM) tier 3 Sampling

Parameter	'Normal frequency' of samples per year	Reduced Sampling frequency after 12 consecutive months of numeric permit compliance, samples per year or pro rata over the remainder of a year	On numeric limit failure return to normal frequency as soon as reasonably practicable, samples per 12 months <sup>1</sup>	Out of hours samples
Sanitary	24	12	24	For 24 samples 2 out of hours samples per annum
Non sanitary	12	12	12	For 12 samples 1 out of hours sample per annum

<sup>1</sup>For UV efficacy monitoring use sanitary frequency and increase following failure of UV requirements only.

## 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	Monitoring point reference	Reporting period	Period begins	
Total daily volume	CSTP FMP	Annually Report to be submitted within 2 months of the end of the calendar year	1 January	
15-minute flow	CSTP FMP	Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days from the end of the reporting period unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency	
Operator Self Monitoring - ATU-BOD as O <sub>2</sub> , ammoniacal nitrogen (expressed as N), suspended solids (measured after drying at 105°C)	CSTP QMP	Quarterly Report to be submitted within 28 days from the end of the reporting period unless otherwise specified in writing by the Environment Agency	1st of month	
Operator Self Monitoring summary report	CSTP QMP	Annually Report to be submitted within 2 months of the end of the calendar year	1 January	
UV disinfection measurements specified by condition 3.3.7	UV1 (North) UV2 (Middle) UV3 (South)	Quarterly Report to be submitted within 28 days from the end of the reporting period unless otherwise specified in writing by the Environment Agency	1 January, 1 April, 1 July, 1 October	
Disinfection efficacy Parameter required by condition 3.3.1 and table S3.5	CSTP QMP UV1 (North) UV2 (Middle) UV3 (South)	Quarterly Report to be submitted within 28 days from the end of the reporting period unless otherwise specified in writing by the Environment Agency	1 January, 1 April, 1 July, 1 October	
UV disinfection performance reports	UV1 (North) UV2 (Middle) UV3 (South)	Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days from the end of the reporting period unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency	

Table S4.2 Reporting forms			
Parameter	Reporting format		
Total daily volume	WISKI electronic format specified by the Environment Agency		
15-minute flow	WISKI electronic format specified by the Environment Agency		
OSM - ATU-BOD as O <sub>2</sub> , ammoniacal nitrogen (expressed as N), suspended solids (measured after drying at 105°C)	Quarterly - Electronic format specified by the Environment Agency		
Operator Self Monitoring summary report	Annually - Summary report of compliance with the monitoring programme specified in table S3.1 and schedule 3A in a format specified by the Environment Agency		
UV disinfection measurements specified by condition 3.3.7	Form as agreed in writing by the Environment Agency		
Disinfection efficacy	Form as agreed in writing by the Environment Agency		
UV disinfection performance reports	Form as agreed in writing by the Environment Agency		

# 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 unless otherwise agreed in writing by the Environment Agency		
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/type or nature of sewage released		
Best estimate of the quantity or rate of release of substances and/or duration of discharge		
Best estimate of the environmental impact of the discharge		
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 specified in schedule 3 table S3.1 (including individual exceedances of limits which are covered by condition 3.1.2)

The information specified below is to be notified to the Environment Agency as soon as reasonably practicable following detection.		
Monitoring point reference/ source		
Self monitoring regime (where relevant)	e.g. OSM	
Type of failure	e.g. maximum/other	
Date of sample/event		
Parameter		
Result and units		
Limit and units		

# Part B – to be submitted as soon as reasonably practicable unless otherwise agreed in writing by the Environment Agency

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/breach/exceedance	
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	

Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

"accident" means an accident that may result in pollution.

"annually" means once every year.

"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.

"appropriate measures" for the purposes of the emission of substances not controlled by emission limits condition (condition 3.2.1) do not require the operator to undertake treatment to a level beyond that specified in schedule 1 table S1.1, or to carry out routine monitoring for substances not controlled by emission limits.

"ATU-BOD as O<sub>2</sub>" means the biochemical oxygen demand (measured after 5 days at 20°C with nitrification suppressed by the addition of allylthiourea).

"disinfection" means the use of a process designed specifically to reduce the number of viable, potentially infectious micro organisms in the effluent.

"emissions of substances not controlled by emission limits" means emissions of substances to air, water or land from the permitted activities, which are not controlled by an emission limit.

"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.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"OSM" means operator self-monitoring, whereby the operator rather than the Agency carries out routine effluent quality compliance monitoring to standards specified in the permit.

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

"significant pollution" means a category 1 or category 2 incident indicated by the Common Incident Classification Scheme (CICS).

"year" means calendar year ending 31 December.

## Schedule 7 – Site plans



©Crown Copyright. All rights reserved. Environment Agency, 100024198, 2019.



Map continues below



Permit number EPR/XP3321GD



#### END OF PERMIT