

# Draft permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

NNB Generation Company (SZC) Limited

Operational water discharge activities at Sizewell C Power Station  
Sizewell  
IP16 4UR

Permit number

**EPR/CB3997AD**

# Operational water discharge activities at Sizewell C Power Station

## Permit number EPR/CB3997AD

### Introductory note

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

The main features of the permit are as follows.

NNB Generation Company (SZC) Limited proposes to construct a new nuclear power station at a location immediately north of the existing Sizewell B (SZB) and Sizewell A (SZA) power stations. Sizewell C (SZC) power station will consist of two UK EPR™ nuclear reactors, namely Unit 1 and Unit 2, each capable of producing a net electrical output of 1,670MWE for export to the national grid. SZC will be located on the east coast of the United Kingdom, approximately 3.0km north-east of the town of Leiston and 1.0km north of the village of Sizewell in the county of Suffolk.

NNB Generation Company (SZC) Limited has applied for an environmental permit to carry out 'water discharge activities' (WDAs) at SZC. These discharges will arise during the Hot Functional Testing (HFT) phase of commissioning, and during the subsequent operation of the new SZC power station. The permitted WDAs are limited in scope to the discharge of non-radioactive liquid effluents, which can be attributed to the following main sources:

- returned abstracted cooling water from the power station's turbine condensers and other cooling systems
- the control of biological fouling of the cooling systems
- process effluents from the various plant systems, including those that maintain water purity and chemistry
- site drainage
- treated sewage effluent from staff welfare facilities
- returned abstracted seawater via 2 fish recovery and return (FRR) systems

The operation of SZC will require a continual supply of cooling water to serve the steam turbine condensers and various auxiliary systems. This cooling water is abstracted from the Greater Sizewell Bay (North Sea) via 2 intake tunnels (extending approximately 3.0 to 3.5 km offshore). Following use within the power station, the abstracted seawater will be returned to the Greater Sizewell Bay at a higher temperature, in a continual discharge, via 2 outlets (diffuser heads) at the end of a single outfall tunnel (extending approximately 3.5 km offshore).

The main emission (or waste stream) associated with this environmental permit is the discharge of returned abstracted cooling water (waste stream A), which represents approximately 99% by volume of the total overall daily discharges of non-radioactive effluent from SZC.

Several much smaller waste streams (B to G) are combined with the returned cooling water prior to discharge to the Greater Sizewell Bay. They arise primarily as a result of removing wastes from the power station's plant systems to maintain optimum operating conditions and maximise efficiency. Generally, they consist of corrosion products (due to metal oxidation), demineralised water contaminated with conditioning chemicals from the demineralisation plant (used to produce high quality feedwater for use in the power station's systems), dissolved salts, site drainage from the oily water treatment system, and treated sewage effluent from the on-site sewage treatment plant.

Each UK EPR™ unit also includes its own fish recovery and return (FRR) system (waste stream H) to minimise the risk of injury to fish that are drawn into the cooling water system and return them to the Greater Sizewell Bay. The 2 FRR systems each have their own outfall tunnel (each extending approximately 600m offshore), and both discharge back to the Greater Sizewell Bay at a location where the fish are not likely to be returned to the cooling water in-takes.

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

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application EPR/CB3997AD/A001	Duly made 26/06/2020	Application for operational water discharge activities from Sizewell C power station.
Schedule 5 notice No.1 issued	02/10/2020	Notice requesting additional information
Additional information received	03/11/2020	Schedule 5 notice No.1 part 1 response
Additional information received	19/11/2020	Schedule 5 notice No.1 part 2 response
Additional information received	10/12/2020	Schedule 5 notice No.1 part 3 response
Additional information received	18/05/2021	Schedule 5 notice No.1 part 4 response
Additional information received	14/06/2021	Schedule 5 notice No.1 part 5 response
Schedule 5 notice No.2 issued	18/01/2021	Notice requesting additional information
Additional information received	17/02/2021	Schedule 5 notice No.2 part 1 response
Additional information received	11/03/2021	Schedule 5 notice No.2 part 2 response
Additional information received	18/03/2021	Schedule 5 notice No.2 part 3 response
Additional information received	23/03/2021	Schedule 5 notice No.2 part 4 response
Additional information received	15/04/2021	Schedule 5 notice No.2 part 5 response
Additional information received	28/04/2021	Schedule 5 notice No.2 part 6 response
Additional information received	20/05/2021	Schedule 5 notice No.2 part 7 response
Additional information received	14/06/2021	Schedule 5 notice No.2 part 8 response
Schedule 5 notice No.3 issued	15/03/2021	Notice requesting additional information
Additional information received	24/03/2021	Schedule 5 notice No.3 part 1 response
Additional information received	25/03/2021	Schedule 5 notice No.3 part 2 response
Additional information received	06/04/2021	Schedule 5 notice No.3 part 3 response
Additional information received	19/04/2021	Schedule 5 notice No.3 part 4 response
Additional information received	18/05/2021	Schedule 5 notice No.3 part 5 response
Schedule 5 notice No.4 issued	23/04/2021	Notice requesting additional information
Additional information received	28/04/2021	Schedule 5 notice No.4 part 1 response
Additional information received	10/05/2021	Schedule 5 notice No.4 part 2 response
Additional information received	18/05/2021	Schedule 5 notice No.4 part 3 response
Additional information received	14/06/2021	Schedule 5 notice No.4 part 4 response
Schedule 5 notice No.5 issued	18/10/2021	Notice requesting additional information
Additional information received	05/11/2021	Schedule 5 notice No.5 part 1 response
Additional information received	14/11/2021	Schedule 5 notice No.5 part 2 response
Additional information received	07/11/2021	Schedule 5 notice No.5 part 3 response
Additional information received	08/12/2021	Schedule 5 notice No.5 part 4 response
Schedule 5 notice No.6 issued	19/10/2021	Notice requesting additional information
Additional information received	29/11/2021	Schedule 5 notice No.6 part 1 response
Additional information received	16/11/2021	Schedule 5 notice No.6 part 2 response
Additional information received	23/11/2021	Schedule 5 notice No.6 part 3 response

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Additional information received	25/11/2021	Schedule 5 notice No.6 part 4 response
Additional information received	26/11/2021	Schedule 5 notice No.6 part 5 response
Additional information received	29/11/2021	Schedule 5 notice No.6 part 6 response
Additional information received	29/11/2021	Schedule 5 notice No.6 part 7 response
Additional information received	01/12/2021	Schedule 5 notice No.6 part 8 response
Additional information received	06/12/2021	Schedule 5 notice No.6 part 9 response
Permit determined EPR/CB3997AD	DRAFT	DRAFT

End of introductory note

# Permit

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

Permit number

**EPR/CB3997AD**

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

**NNB Generation Company (SZC) Ltd** (“the operator”),

whose registered office is

**90 Whitfield Street**

**London**

**England**

**W1T 4EZ**

company registration number 09284825

to operate water discharge activities at

**Sizewell C Power Station**

**Sizewell**

**IP16 4UR**

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

Name	Date
[name of authorised person]	[DD/MM/YYYY]

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 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 activities authorised by the permit are the activities specified in schedule 1 table S1.1.

### 2.2 The site

- 2.2.1 The discharge activities shall take place at the discharge points marked on the site plans at schedule 7 to this permit, and as listed in table S3.2; and, the operating techniques that are 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 For the activities A1 to A8 referenced in schedule 1, table S1.1 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 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.

### 2.4 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 S1.4 have been completed.

## **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.
- 3.1.2 Samples of the incoming and discharge water shall be taken on each sampling occasion. The difference between the discharge and the incoming measurements will be calculated for each sampling occasion.

### **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).
- 3.2.2 For the activities A1 to A8 referenced in schedule 1, table S1.1 all oils or chemicals stored 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 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 S3.3.
  - (b) the inlet quality specified in tables S3.1 and S3.3.
- and the environmental monitoring specified in the environmental monitoring plan approved in accordance with pre-operational measure PO11 in table S1.4 in schedule 1 to this permit.
- 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 other monitoring to be carried out at the monitoring points specified in table S3.3 of schedule 3 and shown marked on the site plans in schedule 7.

## 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 activities, 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 The Environment Agency shall be notified in writing at least one month in advance of any periods of planned maintenance when the power station will be subject to operation in RF3 maintenance configuration. The notification shall contain the intended start date for, and the proposed duration of the maintenance works. Confirmation of the start date shall be received in writing by the Environment Agency within 1 week of commencement of the maintenance period.



4.3.4 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.

4.3.5 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.

4.3.6 Where the operator proposes to make a change in the nature of the activities by increasing the concentration of, or the addition of, or allowing the introduction of, a substance to the activities 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		
Activity reference	Description of activity	Limits of specified activity
A1	Discharge of trade effluent consisting of returned abstracted seawater (Waste stream A) via Outlets 1 and 2	Chlorination/injection of biocide shall take place at an appropriate location downstream of the drum screens but upstream/before the condensers
A2	Discharge of trade effluent generated by operations within the nuclear island waste monitoring and discharge system (Waste stream B) combined with the steam generator blowdown system that cannot be recycled (Waste stream C) via Outlets 1 and 2	<ol style="list-style-type: none"> <li>1) The discharge of hydrazine from the combined waste streams B and C shall only occur during station start up or shut down periods, drain-down after wet layup and during maintenance of the steam generators.</li> <li>2) Over the period of daily addition of hydrazine from the combined waste streams B and C (A2) to the cooling water flow of waste stream A (A1):               <ol style="list-style-type: none"> <li>(a) the rate of addition of hydrazine shall be constant</li> <li>(b) the cooling water discharge flow shall be greater than or equal to 116 m<sup>3</sup> per second</li> </ol> </li> <li>3) The period of daily addition of hydrazine from the combined waste streams B and C (A2) to the cooling water flow of waste stream A (A1) shall be no less than 2 hours 18 minutes, and no more than 4 hours 38 minutes.</li> <li>4) There shall be no discharge of hydrazine from the combined waste streams B and C (A2) within the same 24 hour period as hydrazine from waste steam D (A3).</li> </ol>
A3	Discharge of trade effluent generated from the turbine hall and uncontrolled area floor drains, excluding blowdown from the steam generator blowdown system (Waste stream D) via Outlets 1 and 2	<ol style="list-style-type: none"> <li>1) Over the period of daily addition of hydrazine from the combined waste stream D (A3) to the cooling water flow of waste stream A (A1):               <ol style="list-style-type: none"> <li>(a) the rate of addition of hydrazine shall be constant</li> <li>(b) the cooling water discharge flow shall be greater than or equal to 116 m<sup>3</sup> per second</li> </ol> </li> <li>2) The period of daily addition of hydrazine from waste streams D (A3) to the cooling water flow of waste stream A (A1) shall be no less than 2 hours 18 minutes, and no more than 4 hours 38 minutes.</li> <li>3) There shall be no discharge of hydrazine from waste streams D (A3) within the same 24 hour period as hydrazine from the combined waste streams B and C (A2).</li> </ol>
A4	Discharge of trade effluent generated from the site drainage system, including drainage from road and roof surfaces, uncontaminated water from oily water network and atmospheric condensate from chillers (Waste stream E) via Outlets 1 and 2	

<b>Table S1.1 Activities</b>		
<b>Activity reference</b>	<b>Description of activity</b>	<b>Limits of specified activity</b>
A5	Discharge of trade effluent generated from the production of demineralised water (Waste stream F) via Outlets 1 and 2	
A6	Discharge of treated domestic sewage effluent generated from the site's administration, welfare and mess facilities (Waste stream G) via Outlets 1 and 2	
A7	Discharge of trade effluent composed of returned abstracted seawater from fish recovery and return (FRR) system 1 (Waste stream H) via Outlet 3	
A8	Discharge of trade effluent composed of returned abstracted seawater from fish recovery and return (FRR) system 2 (Waste stream H) via Outlet 4	

<b>Table S1.2 Operating techniques</b>			
<b>Activity reference</b>	<b>Description of documentation</b>	<b>Parts</b>	<b>Date Received</b>
A1 to A8	OT1 -Environmental permit application for Sizewell C, application reference EPR/CB3997AD – Main document (reference – 100232385 Revision 02)	Sections 2.3.2 to 2.3.8 - descriptions of the treatment systems used to remove contaminants prior to discharge Section 2.6.2 - Prevention of unplanned emissions of oil from heat exchangers Section 2.7.2 - Hot functional testing Section 3.5 - Oily water treatment Section 3.7.3 - Strategy for minimising chlorination Section 3.8 - Sanitary effluent Section 3.9 - Segregated surface water drainage system Section 3.10 - Outfall design Section 4.1.3 - Maximum expected pre-dilution substances concentrations in waste streams B and C (combined) Section 4.1.4 - Maximum expected pre-dilution substances concentrations in waste stream D Section 4.1.6 - Maximum expected pre-dilution substances concentrations in waste stream F	26/06/2020
A1, A7 and A8	OT2 – Further information supplied in Schedule 5 Notice No.2 part 2 response	Information requests 1(b) and 1(c) responses confirming the injection of biocide downstream of the drum screens but before the condensers	11/03/2021

<b>Table S1.2 Operating techniques</b>			
<b>Activity reference</b>	<b>Description of documentation</b>	<b>Parts</b>	<b>Date Received</b>
A1 to A8	OT3 - Emissions Management Plan	As approved in accordance with pre-operational measure PO5 in table S1.4	To be received in accordance with pre-operational measure submission timescales in Table S1.4
A1 to A8	OT4 - Commissioning Discharges Management Plan	As approved in accordance with pre-operational measure PO6 in table S1.4	
A1, A7 and A8	OT5 - Operational strategy for the control of biofouling	As approved in accordance with pre-operational measure PO7 in table S1.4	
A1, A7 and A8	OT6 - Commissioning Plan for FRR systems 1 and 2	As approved in accordance with pre-operational measure PO8 in table S1.4	
A1	OT7 - Forebay de-silting Plan	As approved in accordance with pre-operational measure PO9 in table S1.4	
A2 and A3	OT8 - Hydrazine management Plan	As approved in accordance with pre-operational measure PO10 in table S1.4	
A1 to A8	OT9 - Environmental Monitoring Plan	As approved in accordance with pre-operational measure PO11 in table S1.4	
A1 to A8	OT10 - Priority Hazardous Substances Plan	As approved in accordance with pre-operational measure PO12 in table S1.4	
A1 to A8	OT11 - Effluent Monitoring Plan	As approved in accordance with pre-operational measure PO15 in table S1.4	
A1 to A8	OT12 - Hydrodynamic Modelling Review Plan	As approved in accordance with pre-operational measure PO16 in table S1.4	

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	The operator shall submit a written report to the Environment Agency on the implementation of its environmental management system (EMS) and the progress made in the accreditation of the system by an external body, or, if appropriate, submit a schedule by which the EMS will be subject to accreditation.	The report shall be submitted within 12 months of the date on which the hot functional testing phase of commissioning commences.
IC2	The operator shall review its hydrodynamic modelling for the purpose of post-scheme appraisal within 5 years of the commencement of commercial operation of UK EPR™ unit 2, to validate their modelling predictions. The review shall include re-calibration and validation of the hydrodynamic model(s) if necessary, as well as a reassessment of the assumptions concerning the near-field behaviour of the discharges.  The operator shall submit a written report to the Environment Agency on the review of its hydrodynamic modelling within one month of completing the review.	As specified in Improvement Condition IC2

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC3	<p>The operator shall review its hydrodynamic modelling and associated impact assessment in light of the following:</p> <ul style="list-style-type: none"> <li>• best available climate change projections</li> <li>• operational performance of the power station</li> <li>• the output from post scheme appraisal studies</li> </ul> <p>within 5 years of the commencement of commercial operation of UK EPR™ unit 2, and every 10 years thereafter unless otherwise agreed in writing by the Environment Agency.</p> <p>The review will assess how the climate change projections could influence the operation of the power station in the future. The results of the review must be reported to the Environment Agency in writing within one month of completing each review.</p>	As specified in Improvement Condition IC3

<b>Table S1.4 Pre-operational measures</b>		
<b>Reference</b>	<b>Pre-operational measures</b>	<b>Date</b>
PO1	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit a summary of the site environment management system (EMS) to the Environment Agency, and make available for inspection all documents and procedures which form part of the EMS. The EMS shall be developed in line with our guidance on development of management systems for environmental permits, and shall include an accident management plan for the water discharge activities. The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.</p>	At least one calendar month prior to the commencement of the hot functional testing phase of commissioning.
PO2	<p>Prior to the commencement of the hot functional testing (HFT) phase of commissioning the operator shall submit to the Environment Agency for approval a report which includes a completed, as-built description of the plant and infrastructure relevant to the water discharge activities (A1 to A8). Note that the report shall take into account the whole cooling water system, including the design of the FRR systems.</p> <p>In addition, the report shall contain an updated site plan clearly showing all relevant buildings and structures and the route of the associated pipework, including all land-based infrastructure associated with the cooling water system.</p> <p>Should the final design vary from that described in the permit application, the report shall include, as appropriate, a risk assessment to demonstrate how the changes will prevent or minimise impacts on the receiving water environment, and ensure compliance with this permit.</p>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning.

<b>Table S1.4 Pre-operational measures</b>		
<b>Reference</b>	<b>Pre-operational measures</b>	<b>Date</b>
PO3	<p>Prior to the commencement of the hot functional testing (HFT) phase of commissioning the operator shall submit to the Environment Agency for approval a report which reviews the proposed substance loadings and emissions to surface water from Sizewell C. The report shall include, but not be restricted to the following:</p> <ul style="list-style-type: none"> <li>• a summary of the lessons learnt through design evolution and/or commissioning and operating the EPR™ at Flamanville 3 in France, Hinkley Point C (HPC) in Somerset, or any other EPR™ site worldwide</li> <li>• information from designers and suppliers which has influenced the final design with respect to the flow and composition of effluents</li> <li>• reference to outputs from the demineralisation plant (expected to be based on the use of mains water supply only and no desalination technology in variance to the data provided in GDA and the permit application).</li> </ul> <p>The report shall validate the proposed substance loadings and emissions from Sizewell C, fully describing and justifying:</p> <ul style="list-style-type: none"> <li>• any expected variances from the substance loadings and emissions proposed in the permit application</li> <li>• any additional mitigation measures required to ensure compliance with this permit.</li> </ul>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning
PO4	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval a scoping document for development of an emissions management plan, to show how emissions not covered by emission limits in Table S3.1, will be prevented, or where that is not practicable, minimised.</p>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning
PO5	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval an emissions management plan in accordance with the scope agreed under PO4.</p>	At least two calendar months prior to the commencement of the hot functional testing phase of commissioning

<b>Table S1.4 Pre-operational measures</b>		
<b>Reference</b>	<b>Pre-operational measures</b>	<b>Date</b>
PO6	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval a commissioning discharges management plan. The plan shall describe how the operator intends to undertake hot functional testing (HFT). The plan shall include, but not be restricted to, the following:</p> <ul style="list-style-type: none"> <li>• the timetable for HFT of both UK EPR™ units</li> <li>• a description of the HFT process</li> <li>• a description of associated effluent treatment measures</li> <li>• confirmation of the expected substance loadings and emissions to surface water</li> <li>• confirmation of the expected thermal loading, including the expected temperature of the discharge</li> <li>• proposals for effluent monitoring during the HFT process</li> </ul> <p>The plan should also demonstrate how the operator's management and engineering controls will ensure that substance loadings and emissions to surface water do not exceed the levels stated in the permit application, with particular reference to how:</p> <ul style="list-style-type: none"> <li>• environment impacts will be prevented or minimised; and</li> <li>• compliance with this permit will be achieved.</li> </ul>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning.
PO7	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval a report which confirms and justifies its operational strategy for the control of biofouling of the cooling water system. The report shall include, but not be restricted to, the following:</p> <ul style="list-style-type: none"> <li>• an appraisal of the operational conditions and chlorination strategy used at Sizewell B power station, and a description of how this has been taken into account in defining the proposed strategy for SZC</li> <li>• the lessons learnt through design evolution and/or commissioning and operating the EPR™ at Flamanville 3 in France, Hinkley Point C (HPC) in Somerset, or any other EPR™ site worldwide</li> <li>• details of how the operational strategy has been optimised to reduce the need for chemical dosing and the subsequent discharge of total residual oxidant (TRO) and the formation of chlorinated by-products (CBPs)</li> <li>• validation of the impacts of the proposed dosing regime, to include reference to numerical modelling and ecotoxicological studies, as appropriate.</li> </ul>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning.

<b>Table S1.4 Pre-operational measures</b>		
<b>Reference</b>	<b>Pre-operational measures</b>	<b>Date</b>
PO8	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval a commissioning plan for the 2 FRR (fish recovery and return) systems. The plan shall include, but not be restricted to the following:</p> <ul style="list-style-type: none"> <li>• a description of how the operator intends to optimise the 2 FRR systems to minimise impacts upon fish</li> <li>• details of the monitoring proposed to facilitate optimisation and meet the above objective</li> <li>• confirmation of the timetable associated with the commissioning of the 2 FRR systems</li> <li>• proposals for demonstrating the effectiveness of the optimisation process to the Environment Agency prior to the start of active commissioning of the first SZC UK EPR™ unit.</li> </ul>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning.
PO9	<p>Prior to the commencement of the hot functional testing phase of commissioning begins the operator shall submit to the Environment Agency for approval a forebay de-silting plan for the removal of accumulated silt from within the cooling water forebays. The plan shall include:</p> <ul style="list-style-type: none"> <li>• verification of the initial impact assessment findings detailed in the permit application</li> <li>• a method statement for carrying out the de-silting activity.</li> </ul>	At least one calendar month prior to the commencement of the hot functional testing phase of commissioning.
PO10	<p>Prior to the commencement of the hot functional testing phase of commissioning, the operator shall submit to the Environment Agency for approval a hydrazine management plan which details how hydrazine shall be managed and treated within the combined waste streams B and C, and waste stream D prior to discharge. The plan shall include, but not be restricted to the following:</p> <ul style="list-style-type: none"> <li>• the methodology to be followed in managing and treating hydrazine prior to discharge to ensure the two modelled scenarios within the permit application are achieved</li> <li>• proposals for monitoring during commissioning (HFT) to demonstrate that the required treatment of hydrazine is being achieved in (i) waste streams B and C (combined) and (ii) waste stream D</li> <li>• proposals for ongoing process monitoring to ensure that the hydrazine treatment process maintains its effectiveness</li> <li>• details to ensure that an appropriate analytical method and limit of detection (LOD) for monitoring of hydrazine is implemented, the use of which shall be approved by the Environment Agency</li> <li>• details of contingency plans to deal with equipment failure and/or breakdown, or other reasonably foreseeable incidents which may compromise the effectiveness of the hydrazine treatment processes.</li> </ul>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning.



<b>Table S1.4 Pre-operational measures</b>		
<b>Reference</b>	<b>Pre-operational measures</b>	<b>Date</b>
PO11	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval an environmental monitoring plan for the purpose of post-scheme validation.</p> <p>The plan shall propose monitoring methods to determine the physical, chemical and biological characteristics of the area of the projected plumes along with monitoring locations and frequencies. It shall also include the procedures for assessing any effects and reporting the results of the monitoring and assessment to the Environment Agency. The plan shall include, but not be restricted to, the following aspects:</p> <ul style="list-style-type: none"> <li>• thermal plume monitoring</li> <li>• chemical plume monitoring</li> <li>• subtidal and intertidal benthic ecology</li> <li>• water quality monitoring</li> <li>• sediment quality monitoring</li> <li>• the quality assurance procedures in place</li> <li>• discharges of moribund biomass as a potential source of polluting matter</li> <li>• review of the limit of detection for effluent monitoring techniques</li> <li>• the progress towards MCERTS certification or MCERTS accreditation, unless otherwise agreed in writing by the Environment Agency, and, if necessary, a timetable for achieving the MCERTS standard.</li> </ul>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning.
PO12	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval a priority hazardous substances (PHS) management plan. The plan shall describe how the operator intends to manage the use of chemicals so as to gradually cease or phase out discharging hazardous substances, in accordance with the objectives set out under the Water Framework Directive.</p> <p>The plan will make reference to, among other things, the cadmium and mercury which is present as trace contaminants in bulk raw materials, and will propose a timetable for the gradual phasing out of the use of such chemicals.</p>	At least one calendar month prior to the commencement of the hot functional testing phase of commissioning.
PO13	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency confirmation of the final National Grid references (NGRs) for the individual diffuser heads on the cooling water outfall tunnel, and the two fish recovery and return (FRR) system outfalls on each FRR outfall tunnel, to refine the NGRs in the permit application which were submitted with a 50m limit of deviation to allow for tunnel drilling contingency.</p> <p>Following written approval by the Environment Agency, the NGRs shall be deemed to be incorporated under Table S3.2 of this permit.</p>	At least one calendar month prior to the commencement of the hot functional testing phase of commissioning.

<b>Table S1.4 Pre-operational measures</b>		
<b>Reference</b>	<b>Pre-operational measures</b>	<b>Date</b>
PO14	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency:</p> <ul style="list-style-type: none"> <li>• confirmation of the NGRs for the compliance monitoring points associated with each waste stream, as listed in Table S3.3</li> <li>• confirmation of the monitoring point references, to be prefixed by 'M', for the waste stream compliance monitoring points</li> <li>• detailed site plan(s) showing the exact location of the waste stream compliance monitoring points</li> </ul> <p>Following written approval by the Environment Agency, the NGRs and monitoring point references shall be deemed to be incorporated under Table S3.3 of this permit. The site plan(s) shall be deemed to be incorporated under Schedule 7 of this permit.</p>	At least one calendar month prior to the commencement of the hot functional testing phase of commissioning.
PO15	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval an effluent monitoring plan which specifies the monitoring techniques and assessments to be used for monitoring effluents under this permit. The plan shall also include, but not be restricted to, the following:</p> <ul style="list-style-type: none"> <li>• the quality assurance procedures in place</li> <li>• the progress towards MCERTS certification or MCERTS accreditation, unless otherwise agreed in writing by the Environment Agency, and if necessary, a timetable for achieving the MCERTS standard.</li> </ul>	At least three calendar months prior to the commencement of the hot functional testing phase of commissioning.
PO16	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator submit to the Environment Agency for approval a hydrodynamic modelling review plan. The plan shall include a description of the sampling and monitoring regimes that will be put in place to meet the requirement of improvement condition IC2 in Table S1.3 of this permit.</p>	At least one calendar month prior to the commencement of the hot functional testing phase of commissioning.
PO17	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval a site plan detailing the following storage locations of (a) hydrazine and ammonia, (b) chemical products, and (c) oil and grease.</p> <p>Following written approval by the Environment Agency, the site plan shall be deemed to be incorporated under Schedule 7 of this permit.</p>	At least one calendar month prior to the commencement of the hot functional testing phase of commissioning.

<b>Table S1.4 Pre-operational measures</b>		
<b>Reference</b>	<b>Pre-operational measures</b>	<b>Date</b>
PO18	<p>Prior to the commencement of the hot functional testing phase of commissioning the operator shall submit to the Environment Agency for approval a site plan detailing the location of where the operating techniques specified in table S1.2 will be applied.</p> <p>Following written approval by the Environment Agency, the site plan shall be deemed to be incorporated under Schedule 7 of this permit.</p>	At least one calendar month prior to the commencement of the hot functional testing phase of commissioning.

## **Schedule 2 – Waste types, raw materials and fuels**

Schedule 2 not in use.

## Schedule 3 – Emissions and monitoring

For the purpose of this schedule the following interpretations shall apply:

- “Daily load” shall be calculated as follows:
  - (a) for waste streams B & C (combined) and for waste stream D, by multiplying the volume of effluent released from an effluent tank by the release concentration in that effluent tank. Where more than one effluent tank is discharged per day then the daily load for each substance shall be calculated by summing the individual loads discharged from each tank
  - (b) for cadmium and mercury arising from waste streams B & C (combined) and waste stream D, by summing the calculated loads from each contributory waste stream
  - (c) for waste stream F, unless otherwise stated, by recording the amount of substance used in the demineralisation plant over that day.
- “Annual load” shall be calculated by summing the daily loads in a fixed calendar year from 1 January to 31 December inclusive.
- “Hourly” limits for total residual oxidant require a minimum of one sample result to be recorded should the dosing period be less than sixty minutes.
- “Percentile” limits apply over a fixed calendar year from 1 January to 31 December inclusive, with the data return for the calendar year being at least 99%.
- “Planned” (in the context of RF3 maintenance) means work that is specified within the operator’s standard maintenance schedule, whether short or long term. It does not include any unscheduled, reactive, or emergency maintenance work.
- The maximum rate of discharge for waste stream A (Unit 1 & Unit 2 combined) shall be calculated by summing the 15-minute instantaneous or integrated flow in Unit 1 and the 15minute instantaneous or integrated flow in Unit 2, i.e.

$$Q_{\text{UNIT 1 \& UNIT 2}} = Q_{\text{UNIT 1}} + Q_{\text{UNIT 2}}$$

where: Q refers to the 15-minute instantaneous or integrated flow

- “RF3 maintenance” means the situation when Sizewell C power station is operating with only three of the four main cooling water pumps (CRF pumps) running, with the remaining CRF pump under maintenance. This means that one EPR™ unit will have both of its CRF pumps running, while the other EPR™ unit will have only one of its two CRF pumps running. The increased temperature differential permitted during RF3 maintenance can only apply to one EPR™ unit at any given time, that being the EPR™ unit running with reduced pump capacity due to the maintenance work.
- The maximum temperature for waste stream A (Unit 1 & Unit 2 combined) shall be calculated by mass balance, a follows:

$$T_C = (Q_{\text{UNIT 1}} \times t_{\text{UNIT 1}}) + (Q_{\text{UNIT 2}} \times t_{\text{UNIT 2}}) / (Q_{\text{UNIT 1}} + Q_{\text{UNIT 2}})$$

where:

- $T_C$  refers to the temperature of the combined flow from Unit 1 and Unit 2
- Q refers to the 15-minute instantaneous or integrated flow
- t refers to the instantaneous absolute temperature

All values for flow and temperature must be coincident in time, i.e. measured over the same time period.

- “Tidal mean” is defined as an average of 15 minute data over 12.5 hours, as computed every 15 minutes.

Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Effluent(s) and discharge point(s)	Parameter	Limit (including unit)	Reference Period	Limit of effective range	Monitoring frequency	Compliance Statistic
A1: Waste stream A via Outlets 1 and 2	Maximum rate of discharge	132 m <sup>3</sup> /second	Instantaneous (spot sample)	EPR units 1 and 2 combined	Continuous	Tidal mean
	Temperature	35°C	Instantaneous (spot sample)	EPR units 1 and 2 combined	Continuous	99.5 percentile
	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	EPR unit 1	Continuous	N/A
	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	EPR unit 2	Continuous	N/A
	Total residual oxidant (TRO)	200 µg/l	Instantaneous (spot sample)	EPR unit 1	Hourly	Maximum
		200 µg/l	Instantaneous (spot sample)	EPR unit 2	Hourly	Maximum
	pH	6 to 9	Instantaneous (spot sample)	EPR unit 1	N/A	Minimum and maximum
		6 to 9	Instantaneous (spot sample)	EPR unit 2	N/A	Minimum and maximum
	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	EPR unit 1	N/A	No significant trace
		No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	EPR unit 2	N/A	No significant trace

<b>Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements</b>						
<b>Effluent(s) and discharge point(s)</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference Period</b>	<b>Limit of effective range</b>	<b>Monitoring frequency</b>	<b>Compliance Statistic</b>
<b>A1:</b> Waste stream A via Outlets 1 and 2	Temperature	11.6 °C	Instantaneous (spot sample)	EPR unit 1: During normal (day-to-day) operation	Continuous	Maximum increase compared to inlet as a tidal mean. Condition 3.1.3 applies
		11.6 °C	Instantaneous (spot sample)	EPR unit 2: During normal (day-to-day) operation	Continuous	Maximum increase compared to inlet as a tidal mean. Condition 3.1.3 applies
		23.2 °C	Instantaneous (spot sample)	EPR unit 1: During planned RF3 maintenance, as referenced within 'interpretations'	Continuous	Maximum increase compared to inlet as a tidal mean. Condition 3.1.3 applies
		23.2 °C	Instantaneous (spot sample)	EPR unit 2: During planned RF3 maintenance, as referenced within 'interpretations'	Continuous	Maximum increase compared to inlet as a tidal mean. Condition 3.1.3 applies
<b>A2:</b> Combined waste streams B and C via Outlets 1 and 2	Maximum daily discharge volume	1,500 m <sup>3</sup> /day	Total daily volume	EPR units 1 and 2 combined	Continuous	Maximum
	Maximum rate of discharge	83.3 litres/second	Instantaneous (spot sample)	EPR units 1 and 2 combined	Continuous	Maximum
	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	N/A	Continuous	N/A
	pH	6 to 9	Instantaneous (spot sample)	EPR unit 1	N/A	Minimum and maximum
	pH	6 to 9	Instantaneous (spot sample)	EPR unit 2	N/A	Minimum and maximum

Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Effluent(s) and discharge point(s)	Parameter	Limit (including unit)	Reference Period	Limit of effective range	Monitoring frequency	Compliance Statistic
A2: Combined waste streams B and C via Outlets 1 and 2	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	EPR unit 1	N/A	No significant trace
	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	EPR unit 2	N/A	No significant trace
	Boron (as B)	984 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		2,448 kg/year	N/A		Daily	Maximum
	Lithium (as Lithium Hydroxide)	4.4 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		8.8 kg/year	N/A		Daily	Maximum
	Hydrazine	66.6 g/day	N/A	EPR units 1 and 2 combined with a minimum cooling water discharge flow rate of 116 m <sup>3</sup> /second	Daily	Maximum
		3.0 kg/year	N/A		Daily	Maximum
	Morpholine	75 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		210 kg/year	N/A		Daily	Maximum
	Ethanolamine	15 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		65 kg/year	N/A		Daily	Maximum
	Nitrogen (as N)	8.2 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		253.25 kg/year	N/A		Daily	Maximum
	Ammoniacal nitrogen (expressed as NH <sub>4</sub> <sup>+</sup> )	1.83 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		325.2 kg/year	N/A		Daily	Maximum

Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Effluent(s) and discharge point(s)	Parameter	Limit (including unit)	Reference Period	Limit of effective range	Monitoring frequency	Compliance Statistic
A2: Combined waste streams B and C via Outlets 1 and 2	Phosphate (as PO <sub>4</sub> <sup>3-</sup> )	150 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		602.5 kg/year	N/A		Daily	Maximum
	COD	39.27 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		601 kg/year	N/A		Daily	Maximum
	Aluminium (total) as Al	0.09 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.41 kg/year	N/A		Daily	Maximum
	Chromium (total) as Cr	0.14 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.65 kg/year	N/A		Daily	Maximum
	Copper (total) as Cu	0.01 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.03 kg/year	N/A		Daily	Maximum
	Iron (total) as Fe	0.6 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		2.7 kg/year	N/A		Daily	Maximum
	Manganese (total) as Mn	0.06 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.26 kg/year	N/A		Daily	Maximum
	Nickel (total) as Ni	0.01 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.03 kg/year	N/A		Daily	Maximum
	Lead (total) as Pb	0.01 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.02 kg/year	N/A		Daily	Maximum
	Zinc (total) as Zn	0.1 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.46 kg/year	N/A		Daily	Maximum



Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Effluent(s) and discharge point(s)	Parameter	Limit (including unit)	Reference Period	Limit of effective range	Monitoring frequency	Compliance Statistic
A3: Waste stream D via Outlets 1 and 2	Maximum daily discharge volume	1,500 m <sup>3</sup> /day	Instantaneous (spot sample)	N/A	N/A	Maximum
	Maximum rate of discharge	83.3 litres/second	Instantaneous (spot sample)	EPR units 1 and 2 combined	Continuous	Maximum
	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	N/A	Continuous	N/A
	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	EPR unit 1	N/A	No significant trace
	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	EPR unit 2	N/A	No significant trace
	Hydrazine	66.6 g/day	N/A	EPR units 1 and 2 combined with a minimum cooling water discharge flow rate of 116 m <sup>3</sup> /second	Daily	Maximum
		24.3 kg/year	N/A		Daily	Maximum
	Morpholine	17.25 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		1,464 kg/year	N/A		Daily	Maximum
	Ethanolamine	9.75 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		854 kg/year	N/A		Daily	Maximum
	Nitrogen (as N)	319.8 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		9876.7 kg/year	N/A		Daily	Maximum

Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Effluent(s) and discharge point(s)	Parameter	Limit (including unit)	Reference Period	Limit of effective range	Monitoring frequency	Compliance Statistic
A3: Waste stream D via Outlets 1 and 2	Ammoniacal nitrogen (expressed as NH <sub>4</sub> <sup>+</sup> )	71.3 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		12,683.7 kg/year	N/A		Daily	Maximum
	Phosphate (as PO <sub>4</sub> <sup>3-</sup> )	202.5 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		187.5 kg/year	N/A		Daily	Maximum
	COD	290.7 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		4,449 kg/year	N/A		Daily	Maximum
	Aluminium (total) as Al	1.01 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		4.85 kg/year	N/A		Daily	Maximum
	Chromium (total) as Cr	1.56 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		7.72 kg/year	N/A		Daily	Maximum
	Copper (total) as Cu	0.07 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.39 kg/year	N/A		Daily	Maximum
	Iron (total) as Fe	6.55 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		32.27 kg/year	N/A		Daily	Maximum
	Manganese (total) as Mn	0.61 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		3.07 kg/year	N/A		Daily	Maximum
	Nickel (total) as Ni	0.083 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.41 kg/year	N/A		Daily	Maximum
	Lead (total) as Pb	0.055 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum
		0.28 kg/year	N/A		Daily	Maximum
Zinc (total) as Zn	1.10 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum	
	5.54 kg/year	N/A		Daily	Maximum	

<b>Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements</b>						
<b>Effluent(s) and discharge point(s)</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference Period</b>	<b>Limit of effective range</b>	<b>Monitoring frequency</b>	<b>Compliance Statistic</b>
<b>A4:</b> Waste stream E via Outlets 1 and 2	Maximum daily discharge volume	35,000 m <sup>3</sup> /day	Total daily volume	N/A	N/A	Maximum
	pH	6 to 9	Instantaneous (spot sample)	N/A	Daily	Minimum and maximum
	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	N/A	Daily	No significant trace
<b>A5:</b> Waste stream F via Outlets 1 and 2	Maximum daily discharge volume	4,000 m <sup>3</sup> /day	Total daily volume	N/A	Continuous	Maximum
	Maximum rate of discharge	46 litres/second	Instantaneous (spot sample)	N/A	N/A	Maximum
	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	N/A	Continuous	N/A
	pH	6 to 9	Instantaneous (spot sample)	N/A	N/A	Minimum and 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
	Detergents	624 kg/year	N/A	N/A	Daily	Maximum
	Sulphates	2,000 kg/day	N/A	N/A	Daily	Maximum
		98,400 kg/year	N/A	N/A	Daily	Maximum
	Amino tri-methylene phosphonic acid (ATMP)	45 kg/day	N/A	N/A	Daily	Maximum
		9,100 kg/year	N/A	N/A	Daily	Maximum

Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Effluent(s) and discharge point(s)	Parameter	Limit (including unit)	Reference Period	Limit of effective range	Monitoring frequency	Compliance Statistic
<b>A5:</b> Waste stream F via Outlets 1 and 2	Hydoxy Ethylidene Diphosphonic acid (HEDP)	4.5 kg/day	N/A	N/A	Daily	Maximum
		890 kg/year	N/A	N/A	Daily	Maximum
	Acetic acid	0.1 kg/day	N/A	N/A	Daily	Maximum
		14 kg/year	N/A	N/A	Daily	Maximum
	Phosphoric acid	0.1 kg/day	N/A	N/A	Daily	Maximum
		12 kg/year	N/A	N/A	Daily	Maximum
	Sodium polyacrylate	40 kg/day	N/A	N/A	Daily	Maximum
		8,030 kg/year	N/A	N/A	Daily	Maximum
Acrylic acid	1 kg/day	N/A	N/A	Daily	Maximum	
	165 kg/year	N/A	N/A	Daily	Maximum	
<b>A2</b> (combined waste streams B and C), <b>A3</b> (waste stream D) and <b>A5</b> (waste stream F) all via Outlets 1 and 2	Cadmium	0.005 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum (A2, A3 and A5 combined)
		0.37 kg/year	N/A		Daily	Maximum (A2, A3 and A5 combined)
	Mercury	0.0011 kg/day	N/A	EPR units 1 and 2 combined	Daily	Maximum (A2, A3 and A5 combined)
		0.099 kg/year	N/A		Daily	Maximum (A2, A3 and A5 combined)
<b>A6:</b> Waste stream G via Outlets 1 and 2	Maximum daily discharge volume	190 m <sup>3</sup> /day	Total daily volume	N/A	Continuous	Maximum
	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	N/A	Continuous	N/A

<b>Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements</b>						
<b>Effluent(s) and discharge point(s)</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference Period</b>	<b>Limit of effective range</b>	<b>Monitoring frequency</b>	<b>Compliance Statistic</b>
<b>A6:</b> Waste stream G via Outlets 1 and 2	ATU-BOD as O <sub>2</sub>	20 mg/l	Instantaneous (spot sample)	N/A	Weekly	Maximum
	Suspended solids (measured after drying at 105°C)	30 mg/l	Instantaneous (spot sample)	N/A	Weekly	Maximum
	Ammoniacal nitrogen (expressed as N)	20 mg/l	Instantaneous (spot sample)	N/A	Weekly	Maximum
	Visible oil or grease	No significant trace present so far as is reasonably practicable	Instantaneous (visual examination)	N/A	Weekly	No significant trace
<b>A7:</b> Waste stream H (FRR system 1) via Outlet 3	Maximum daily discharge volume	25,920 m <sup>3</sup> /day	Total daily volume	N/A	Continuous	Maximum
	Maximum rate of discharge	300 litres/ second	Instantaneous (spot sample)	N/A	Continuous	Maximum
	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	N/A	Continuous	N/A
<b>A8:</b> Waste stream H (FRR system 2) via Outlet 4	Maximum daily discharge volume	25,920 m <sup>3</sup> /day	Total daily volume	N/A	Continuous	Maximum
	Maximum rate of discharge	300 litres/second	Instantaneous (spot sample)	N/A	Continuous	Maximum
	15-minute instantaneous or averaged flow	No limit set. Record as l/s	15 minute	N/A	Continuous	N/A

<b>Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements</b>						
<b>Effluent(s) and discharge point(s)</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference Period</b>	<b>Limit of effective range</b>	<b>Monitoring frequency</b>	<b>Compliance Statistic</b>
<b>A7:</b> Waste stream H (FRR system 1) via Outlet 3 and <b>A8:</b> Waste stream H (FRR system 2) via Outlet 4	Total combined moribund biomass	8,046 kg	Daily mean (90 day rolling average)	In accordance with the FRR systems commissioning plan, environmental monitoring plan and effluent monitoring plan as approved in accordance with pre-operational measures PO8, PO11 and PO15 in table S1.4		Maximum (A7 and A8 combined)
	Total combined moribund biomass	4,083 kg	Daily mean (12 month rolling period (annual average))			

<b>Table S3.2 Discharge points</b>				
<b>Activity reference</b>	<b>Effluent Name</b>	<b>Discharge Points</b>	<b>Discharge point NGRs</b>	<b>Receiving water/ Environment</b>
A1	Trade effluent consisting of returned abstracted seawater (waste stream A)	Outlet 1 and Outlet 2	TM 51080 64125 and TM 51155 64125 Final discharge point NGRs to be confirmed in accordance with pre-operational condition PO13	Greater Sizewell Bay (North Sea)
A2	Trade effluent generated by operations within the nuclear island waste monitoring and discharge system (Waste stream B) combined with the steam generator blowdown system that cannot be recycled (Waste stream C)			
A3	Trade effluent generated from the turbine hall and uncontrolled area floor drains, excluding blowdown from the steam generator blowdown system (waste stream D)			
A4	Trade effluent generated from the site drainage system, including drainage from road and roof surfaces, uncontaminated water from oily water network and atmospheric condensate from chillers (waste stream E)			
A5	Trade effluent generated from the production of demineralised water (waste stream F)			
A6	Treated domestic sewage effluent generated from the site's administration, welfare and mess facilities (waste stream G)			
A7	Trade effluent composed of returned abstracted seawater from fish recovery and return (FRR) system 1 (waste stream H)	Outlet 3	TM 47980 64000 Final FRR system 1 discharge point NGR to be confirmed in accordance with pre-operational condition PO13	Greater Sizewell Bay (North Sea)
A8	Trade effluent composed of returned abstracted seawater from fish recovery and return (FRR) system 2 (waste stream H)	Outlet 4	TM 47980 64254 Final FRR system 2 discharge point NGR to be confirmed in accordance with pre-operational condition PO13	Greater Sizewell Bay (North Sea)

<b>Table S3.3 Monitoring points</b>				
<b>Activity reference</b>	<b>Effluent(s) and discharge point(s)</b>	<b>Monitoring type</b>	<b>Monitoring point NGR</b>	<b>Monitoring point reference*</b>
A1	Discharge of trade effluent consisting of returned abstracted seawater (waste stream A) via Outlets 1 and 2	Influent sample point(s)	NGRs to be specified in accordance with pre-operational measure PO14	Monitoring point references to be specified in accordance with pre-operational measure PO14
		Effluent sample point(s) from EPR unit 1		
		Effluent sample point(s) from EPR unit 2		
		MCERTs flow monitoring point(s)		
A2	Trade effluent generated by operations within the nuclear island waste monitoring and discharge system (Waste stream B) combined with the steam generator blowdown system that cannot be recycled (Waste stream C) via Outlets 1 and 2	Effluent sample point(s) from EPR unit 1	NGRs to be specified in accordance with pre-operational measure PO14	Monitoring point references to be specified in accordance with pre-operational measure PO14
		Effluent sample point(s) from EPR unit 2		
		MCERTs flow monitoring point(s)		
A3	Trade effluent generated from the turbine hall and uncontrolled area floor drains, excluding blowdown from the steam generator blowdown system (waste stream D) via Outlets 1 and 2	Effluent sample point(s) from EPR unit 1	NGRs to be specified in accordance with pre-operational measure PO14	Monitoring point references to be specified in accordance with pre-operational measure PO14
		Effluent sample point(s) from EPR unit 1		
		MCERTs flow monitoring point(s)		
A4	Trade effluent generated from the site drainage system, including drainage from road and roof surfaces, uncontaminated water from oily water network and atmospheric condensate from chillers (waste stream E) via Outlets 1 and 2	Effluent sample point(s)	NGRs to be specified in accordance with pre-operational measure PO14	Monitoring point references to be specified in accordance with pre-operational measure PO14
		MCERTs flow monitoring point		
A5	Trade effluent generated from the production of demineralised water (waste stream F) via Outlets 1 and 2	Effluent sample point(s)	NGRs to be specified in accordance with pre-operational measure PO14	Monitoring point references to be specified in accordance with pre-operational measure PO14
		MCERTs flow monitoring point		



<b>Table S3.3 Monitoring points</b>				
<b>Activity reference</b>	<b>Effluent(s) and discharge point(s)</b>	<b>Monitoring type</b>	<b>Monitoring point NGR</b>	<b>Monitoring point reference*</b>
A6	Treated domestic sewage effluent generated from the site's administration, welfare and mess facilities (waste stream G) via Outlets 1 and 2	Effluent sample point	NGRs to be specified in accordance with pre-operational measure PO14	Monitoring point references to be specified in accordance with pre-operational measure PO14
		MCERTs flow monitoring point		
A7	Trade effluent composed of returned abstracted seawater from fish recovery and return (FRR) system 1 (waste stream H) via Outlet 3	Effluent sample point	NGRs to be specified in accordance with pre-operational measure PO14	Monitoring point references to be specified in accordance with pre-operational measure PO14
		MCERTs flow monitoring point		
A8	Trade effluent composed of returned abstracted seawater from fish recovery and return (FRR) system 2 (waste stream H) via Outlet 4	Effluent sample point	NGRs to be specified in accordance with pre-operational measure PO14	Monitoring point references to be specified in accordance with pre-operational measure PO14
		MCERTs flow monitoring point		

\*All monitoring points to be appropriately labelled

## Schedule 4 – Reporting

For the purposes of this schedule the following interpretations shall apply:

- Substance loading data for A2 (waste streams B and C combined), A3 (waste stream D) and A5 (waste stream E) shall be reported as:
  - (a) the calculated load for each substance; and
  - (b) the corresponding effluent volume and effluent concentration;

unless monitoring is based on a record of the amount of the substance used, in which case that data shall be reported.

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

<b>Table S4.1 Reporting of monitoring data</b>				
<b>Discharge activity</b>	<b>Parameter</b>	<b>Monitoring point reference</b>	<b>Reporting period</b>	<b>Period begins</b>
<b>A1: Waste stream A</b>	15-minute flow	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency
	Temperature and total residual oxidant (TRO)	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January

<b>Table S4.1 Reporting of monitoring data</b>				
<b>Discharge activity</b>	<b>Parameter</b>	<b>Monitoring point reference</b>	<b>Reporting period</b>	<b>Period begins</b>
<b>A2:</b> Combined waste streams B and C	Total daily discharge volume	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January
	15-minute flow	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency
	Boron (as B), lithium hydroxide, hydrazine, morpholine, ethanolamine, nitrogen (as N), ammoniacal nitrogen (as NH <sub>4</sub> <sup>+</sup> ), phosphate (as PO <sub>4</sub> <sup>3-</sup> ), detergents, COD, aluminium, copper, chromium, iron, manganese, nickel, lead and zinc	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January
<b>A3:</b> Waste stream D	Total daily discharge volume	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January

<b>Table S4.1 Reporting of monitoring data</b>				
<b>Discharge activity</b>	<b>Parameter</b>	<b>Monitoring point reference</b>	<b>Reporting period</b>	<b>Period begins</b>
<b>A3: Waste stream D</b>	15-minute flow	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency
	Hydrazine, morpholine, ethanolamine, nitrogen (as N), ammoniacal nitrogen (as NH <sub>4</sub> <sup>+</sup> ), phosphate (as PO <sub>4</sub> <sup>3-</sup> ), COD, aluminium, chromium, copper, iron, Manganese, nickel, lead and zinc	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary and in accordance with the effluent monitoring plan as approved in accordance with pre-operational measure PO15 Report to be submitted within 2 months of the end of the calendar year	1 January
<b>A4: Waste stream E</b>	pH, visible oil and grease	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary and in accordance with the effluent monitoring plan as approved in accordance with pre-operational measure PO15 Report to be submitted within 2 months of the end of the calendar year	1 January

<b>Table S4.1 Reporting of monitoring data</b>				
<b>Discharge activity</b>	<b>Parameter</b>	<b>Monitoring point reference</b>	<b>Reporting period</b>	<b>Period begins</b>
<b>A5:</b> Waste stream F	Total daily discharge volume	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January
	15-minute flow	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency
	Detergents, sulphates, amino trimethylene phosphonic acid (ATMP), hydroxy Ethylidene diphosphonic acid (HEDP), acetic acid, phosphoric acid, sodium polyacrylate and acrylic acid	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January
<b>A2</b> (combined waste streams B and C), <b>A3</b> (waste stream D) and <b>A5</b> (waste stream F)	Cadmium and mercury	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January

<b>Table S4.1 Reporting of monitoring data</b>				
<b>Discharge activity</b>	<b>Parameter</b>	<b>Monitoring point reference</b>	<b>Reporting period</b>	<b>Period begins</b>
<b>A6: Waste stream G</b>	Total daily discharge volume	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January
	15-minute flow	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency
	ATU-BOD as O <sub>2</sub> , suspended solids (measured after drying at 105°C), ammoniacal nitrogen (expressed as N) and visible oil or grease	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January

<b>Table S4.1 Reporting of monitoring data</b>				
<b>Discharge activity</b>	<b>Parameter</b>	<b>Monitoring point reference</b>	<b>Reporting period</b>	<b>Period begins</b>
<b>A7:</b> Waste stream F (FRR system 1)	Total daily discharge volume	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January
	15-minute flow	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency
<b>A8:</b> Waste stream F (FRR system 2)	Total daily discharge volume	Monitoring point references to be specified in accordance with pre-operational measure PO14	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
			Annual summary Report to be submitted within 2 months of the end of the calendar year	1 January
	15-minute flow	Monitoring point references to be specified in accordance with pre-operational measure PO14	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

<b>Discharge activity</b>	<b>Parameter</b>	<b>Monitoring point reference</b>	<b>Reporting period</b>	<b>Period begins</b>
<b>A8:</b> Waste stream F (FRR system 2)	15-minute flow (continued)	Monitoring point references to be specified in accordance with pre-operational measure PO14	Reports to be provided to the Environment Agency upon request Report to be submitted within 28 days unless otherwise specified in writing by the Environment Agency	Upon request by the Environment Agency
<b>A7:</b> Waste stream H (FRR system 1) and <b>A8:</b> Waste stream H (FRR system 2)	Total combined moribund biomass	Monitoring point references to be specified in accordance with pre-operational measure PO14	In accordance with effluent monitoring plan as approved in accordance with pre-operational measure PO15	

<b>Activity</b>	<b>Parameter</b>	<b>Reporting format</b>
<b>A1:</b> Waste stream A	15-minute flow	WISKI or other electronic format as agreed in writing by the Environment Agency
	Temperature and total residual oxidant (TRO)	Electronic format as agreed in writing by the Environment Agency
<b>A2:</b> Combined waste streams B and C	Total daily discharge volume	Electronic format as agreed in writing by the Environment Agency
	15-minute flow	WISKI or other electronic format as agreed in writing by the Environment Agency
	Boron (as B), lithium hydroxide, hydrazine, morpholine, ethanolamine, nitrogen (as N), ammoniacal nitrogen (as NH <sub>4</sub> <sup>+</sup> ), phosphate (as PO <sub>4</sub> <sup>3-</sup> ), detergents, COD, aluminium, copper, chromium, iron, manganese, nickel, lead and zinc	Electronic format as agreed in writing by the Environment Agency
<b>A3:</b> Waste stream D	Total daily discharge volume	Electronic format as agreed in writing by the Environment Agency
	15-minute flow	WISKI or other electronic format as agreed in writing by the Environment Agency



<b>Table S4.2 Reporting forms</b>		
<b>Activity</b>	<b>Parameter</b>	<b>Reporting format</b>
<b>A3:</b> Waste stream D	Hydrazine, morpholine, ethanolamine, nitrogen (as N), ammoniacal nitrogen (as NH <sub>4</sub> <sup>+</sup> ), phosphate (as PO <sub>4</sub> <sup>3-</sup> ), COD, aluminium, chromium, copper, iron, Manganese, nickel, lead and zinc	Electronic format as agreed in writing by the Environment Agency
<b>A4:</b> Waste stream E	pH, visible oil and grease	Electronic format as agreed in writing by the Environment Agency
<b>A5:</b> Waste stream F	Total daily discharge volume	Electronic format as agreed in writing by the Environment Agency
	15-minute flow	WISKI or other electronic format as agreed in writing by the Environment Agency
	Detergents, sulphates, amino tri-methylene phosphonic acid (ATMP), hydroxy Ethylidene diphosphonic acid (HEDP), acetic acid, phosphoric acid, sodium polyacrylate and acrylic acid	Electronic format as agreed in writing by the Environment Agency
<b>A2</b> (combined waste streams B and C), <b>A3</b> (waste stream D) and <b>A5</b> (waste stream F)	Cadmium and mercury	Electronic format as agreed in writing by the Environment Agency
<b>A6:</b> Waste stream G	Total daily discharge volume	Electronic format as agreed in writing by the Environment Agency
	15-minute flow	WISKI or other electronic format as agreed in writing by the Environment Agency
	ATU-BOD as O <sub>2</sub> , suspended solids (measured after drying at 105oC), ammoniacal nitrogen (expressed as N) and visible oil or grease	Electronic format as agreed in writing by the Environment Agency
<b>A7:</b> Waste stream F (FRR system 1)	Total daily discharge volume	Electronic format as agreed in writing by the Environment Agency
	15-minute flow	WISKI or other electronic format as agreed in writing by the Environment Agency
<b>A8:</b> Waste stream F (FRR system 2)	Total daily discharge volume	Electronic format as agreed in writing by the Environment Agency
	15-minute flow	WISKI or other electronic format as agreed in writing by the Environment Agency

<b>Table S4.2 Reporting forms</b>		
<b>Activity</b>	<b>Parameter</b>	<b>Reporting format</b>
<b>A7:</b> Waste stream H (FRR system 1) and <b>A8:</b> Waste stream H (FRR system 2)	Total combined moribund biomass	Electronic format 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	

<b>(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</b>	
<b>To be notified within 24 hours of detection unless otherwise agreed in writing by the Environment Agency</b>	
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 effluent 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>(b) Notification requirements for the breach of a limit specified in schedule 3 table S3.1</b>	
<b>The information specified below is to be notified to the Environment Agency as soon as reasonably practicable following detection.</b>	
Monitoring point reference/ source	
Self monitoring regime (where relevant)	
Type of failure	
Date of sample/event	
Parameter	
Result and units	
Limit and units	

<b>(c) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
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 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	

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* 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).

“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.

“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.

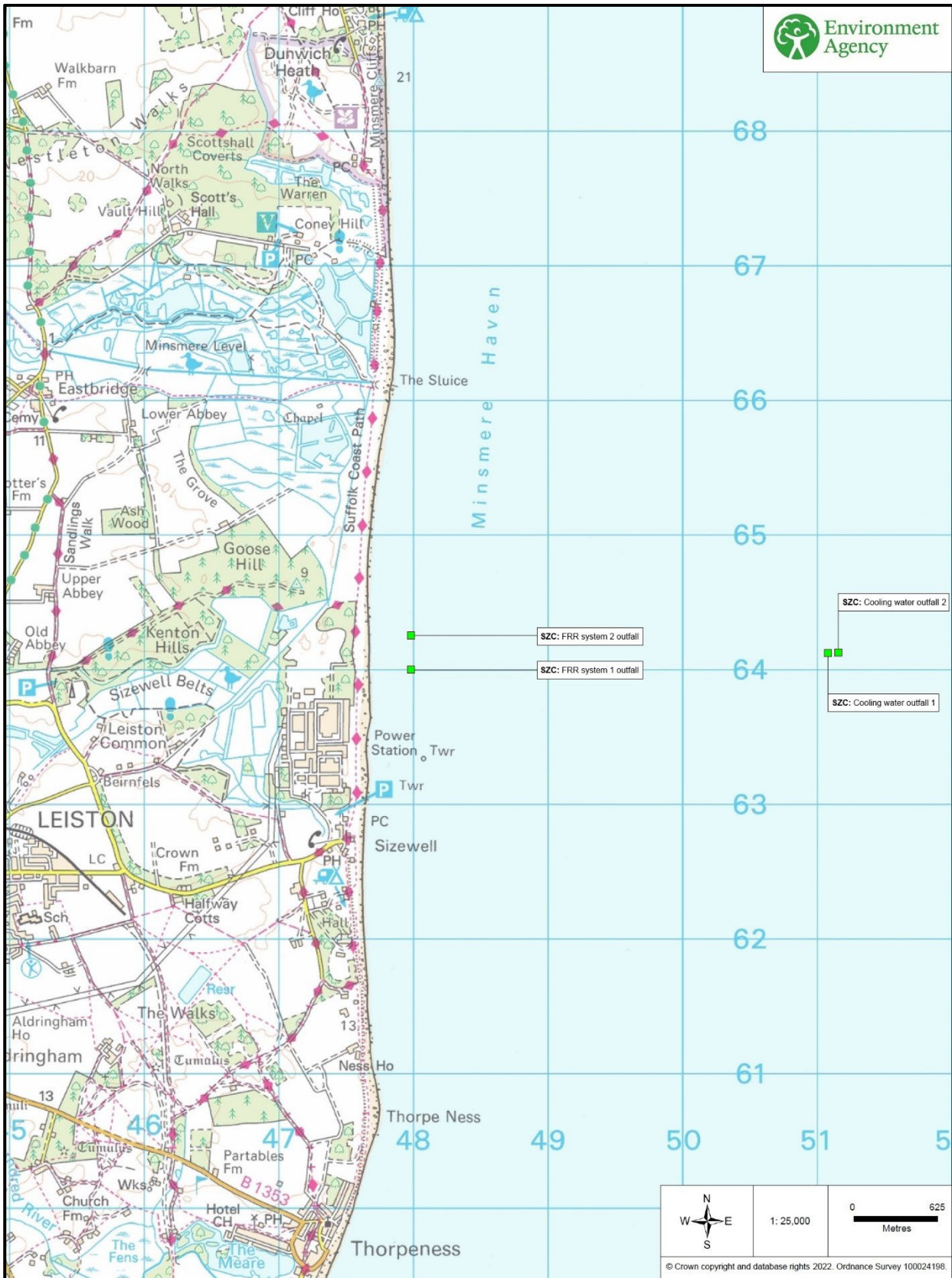
“m<sup>3</sup>/day” means cubic metres per day

“m<sup>3</sup>/second” mean cubic metres per second

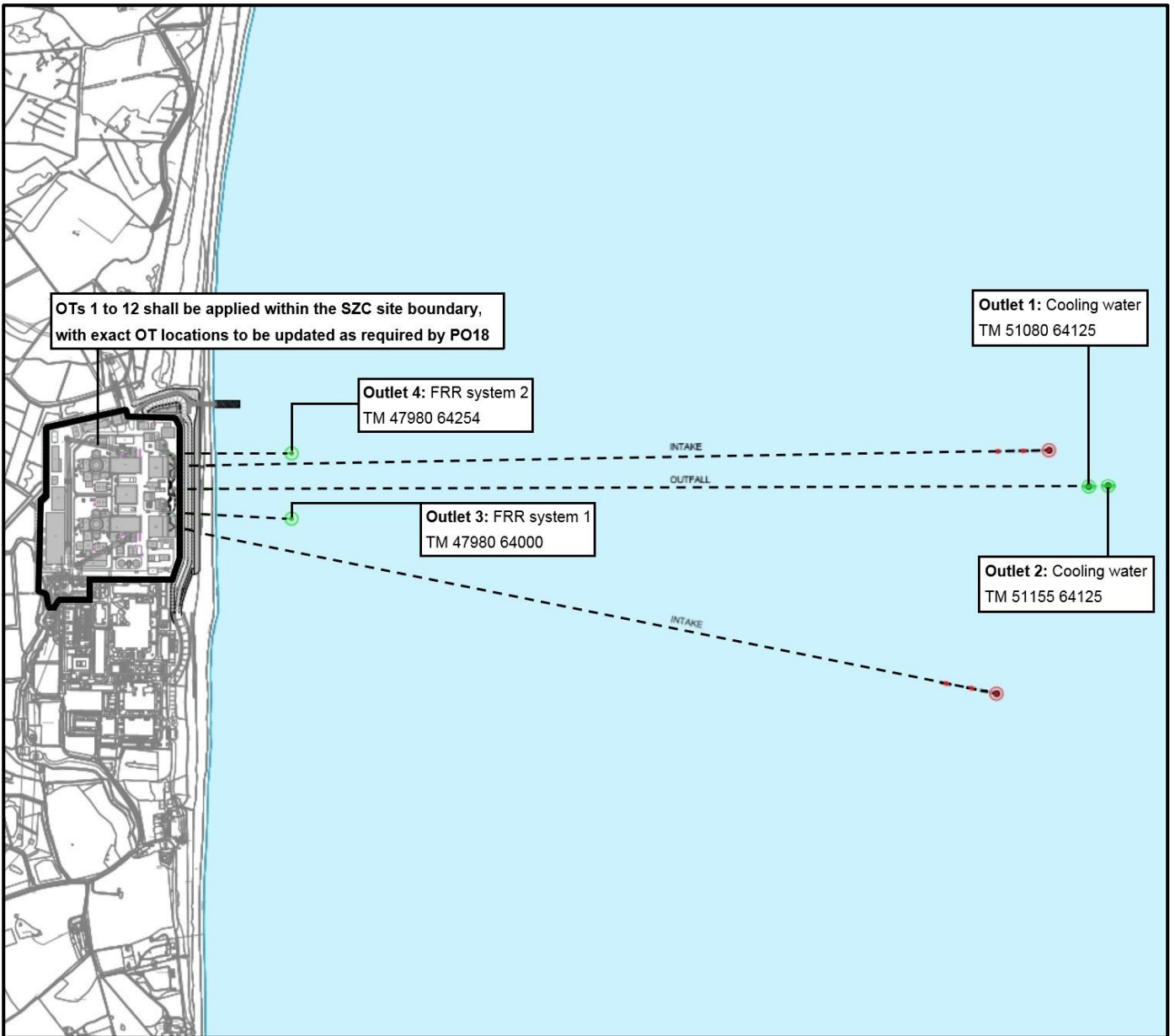
“µg/l” means microgram per litre

“mg/l” means milligram per litre

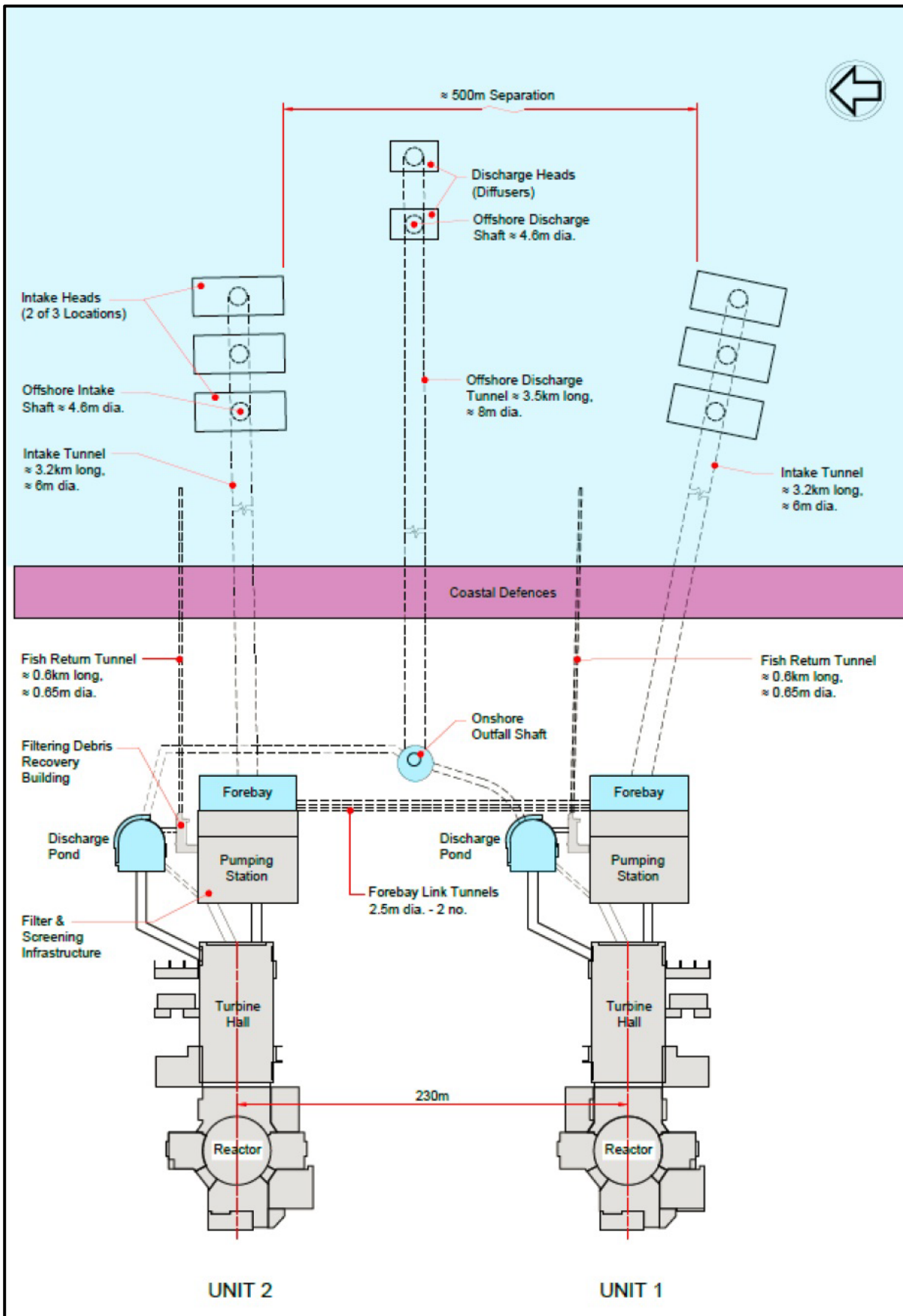
# Schedule 7 – Site plans



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