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NNB GENERATION COMPANY (HPC) LIMITED

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HINKLEY POINT C OPERATIONAL WATER DISCHARGE ACTIVITY ENVIRONMENTAL PERMIT VARIATION APPLICATION: NON-TECHNICAL SUMMARY

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1 INTRODUCTION

1.1 Purpose

- 1.1.1 The purpose of this document is to provide a Non-Technical Summary (NTS) for the associated variation to the Hinkley Point C (HPC) Operational Water Discharge Activities (OpWDA) environmental permit (EPR/HP3228XT) (Ref 2). For the remainder of the document this will be referred to as “the permit”.
- 1.1.2 The purpose of the application to vary the permit is to remove all references to the Acoustic Fish Deterrent (AFD) system, removal of all references to impacts related to the abstraction of cooling water, and addition of the discharge of seawater and impinged biomass¹ from the Fish Recovery and Return (FRR) system in accordance with the requirements of Schedule 21 of the Environmental Permitting (England and Wales) Regulations 2016 (2016/1154) (EPR16) (Ref.1).

1.2 Scope

- 1.2.1 The application to vary the permit is limited to:
 - Removal of all references to the AFD system.
 - Removal of all references to impacts related to the abstraction of cooling water.
 - Addition of the discharge of seawater and impinged biomass from the FRR system.

1.3 References and Definitions

Ref	Title	Location	Document No.
1	Environmental Permitting (England and Wales) Regulations 2016	https://www.legislation.gov.uk/uksi/2016/1154/contents/made	N/A
2	HPC Operational Water Discharge Activity Environmental Permit (EPR/HP3228XT)	EDRMS	100175054
3	HPC Development Consent Order	https://www.legislation.gov.uk/uksi/2013/648/pdfs/uksi_20130648_en.pdf	N/A

¹ the total quantity or weight of organic matter in a given area or volume.

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Ref	Title	Location	Document No.
4	Hinkley Point C Cooling Water Infrastructure Fish Protection Measures: Report to Discharge DCO requirement CW1 and Marine Licence Condition 5.2.31	EDRMS	100186617
5	SZC Water Discharge Activity Environmental Permit Application	EDRMS	100232385
6	TR479 – Particle Tracking Study of Impinged Sprat from the Proposed Hinkley Point C Fish Recovery and Return.	EDRMS	100805628
7	TR515 - Hinkley Point C Water quality effects of the fish recovery and return system	EDRMS	100805626
8	Updated Report to Inform the Habitats Regulations Assessment.	EDRMS	100161830

Term / Abbreviation	Definition
OpWDA	Operational Water Discharge Activity
HPC	Hinkley Point C
NTS	Non-Technical Summary
EPR16	Environmental Permitting (England and Wales) Regulations 2016
AFD	Acoustic Fish Deterrent
FRR	Fish Recovery and Return
EA	Environment Agency
LVSE	Low Velocity Side Entry
MMO	Marine Management Organisation
NE	Natural England
NRW	Natural Resources Wales
ROV	Remotely Operated Vehicle
PINS	Planning Inspectorate
DEFRA	Department of Environment, Food, and Rural Affairs
SZC	Sizewell C
DCO	Development Consent Order
WFD	Water Framework Directive
HRA	Habitats Regulations Assessment
EDRMS	Electronic Document & Record Management System

2 NON-TECHNICAL SUMMARY

2.1 Background

- 2.1.1 In 2011, NNB Generation Company (HPC) Ltd (NNB GenCo) applied to the Environment Agency (EA) for the permit. The scope of that application covered all discharges of cooling water and trade effluent, as well as the impacts of abstraction of water from the Bristol Channel (to be used and subsequently discharged as cooling water).
- 2.1.2 That application was duly determined and granted by the EA in 2013 (permit number EPR/HP3228XT) (Ref.2)
- 2.1.3 That application described the potential impact on fish populations and proposed 3 mitigation measures. These were:
- An Acoustic Fish Deterrent (AFD) system.
 - Low Velocity Side Entry (LVSE) cooling water intake heads.
 - A Fish Recovery and Return (FRR) system.
- 2.1.4 Following the issue of the permit, NNB GenCo continued to work on the design of all three mitigation measures. This involved significant efforts from several different entities and subject matter experts including:
- NNB GenCo.
 - EA, Marine Management Organisation (MMO), Natural England (NE), and Natural Resources Wales (NRW).
 - EDF (France) Responsible Designers.
 - Specialist environmental consultancies.
 - Specialist engineering consultancies and contractors.
- 2.1.5 The design of the LVSE and FRR were approved under Requirement CW1(1) in paragraph 6 of Schedule 2 of the HPC Development Consent Order (DCO) (Ref.3) by the MMO (in consultation with the EA, NE, and NRW) in 2016. Following this, efforts on the detailed design optioneering of the AFD system commenced with the LVSE intake heads being installed in Summer 2022 and the fish return tunnel (the point where the discharge will occur) construction planned to commence in 2024.
- 2.1.6 A preferred design for the AFD was chosen in 2018 and at that time it became apparent that there were significant issues associated with the installation, but more

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importantly, the maintenance of the AFD system over the operational life (60+years) of HPC.

2.1.7 The most significant issues are associated with:

- Safety: the Bristol Channel has one of the largest tidal ranges in the world. That, coupled with incredibly high turbidity (resulting in almost zero visibility underwater), strong currents, and highly changeable weather would make installation and maintenance of the AFD by divers dangerous. Risk analysis determined that the risk to diver safety was not acceptable to NNB GenCo.
- Technology: an alternative option would be to use Remotely Operated Vehicles (ROVs) to carry out the work. However, investigations have demonstrated that this would be impossible as there are no ROVs on the market that could carry out the intricate work required in the difficult environment of the Bristol Channel.
- Ship mooring: a detailed analysis of the mooring and anchorage was carried out to help inform the determination of the maintenance strategy. This proved extremely challenging with all options presenting difficulties either in connection with the intake heads or regarding diver safety.

2.1.8 In light of these issues, NNB GenCo undertook a review of the environmental impact analysis to determine if an AFD was needed to provide the required protection to marine and migratory fish. This work resulted in an application being submitted to the EA in February 2019 to vary the permit to remove the requirement to install and AFD system. The entire permit application and determination process is not described in detail here, but the key milestones are:

- 2018: Pre-application engagement on the permit variation commences.
- 15 February 2019: Application to vary the permit submitted to the EA.
- August 2020: NNB GenCo serves Notice of Deemed Refusal on grounds of non-determination of the permit variation application on the EA.
- September 2020: NNB GenCo submits an appeal to the Planning Inspectorate (PINS) against the deemed refusal of the permit variation application.
- June 2021: Public inquiry held by an Inspector appointed by the Planning Inspectorate (PINS) as part of the appeal examination.
- December 2021: PINS report sent to Secretary of State: Department of Environment and Rural Affairs (DEFRA) for decision.
- 2 September 2022: Secretary of State for DEFRA issues decision to refuse appeal.

2.1.9 Following receipt of the Secretary of State's decision, NNB GenCo and the EA agreed that the most appropriate way forward would be for a fresh application to be submitted

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by NNB GenCo to the EA to vary the permit. This was on the basis that the EA's own Appropriate Assessment (Ref.8) had concluded that the AFD was not needed to protect water quality and that the EA would be amenable to considering a fresh application to remove the requirement for AFD (subject to the EA undertaking all due process in considering such an application).

- 2.1.10 This would also be consistent with the EA's draft decision on NNB Generation Company (SZC) Limited's water discharge activity environmental permit application (Ref.5) for Sizewell C (SZC) where it has been agreed that abstraction impacts should not be regulated through a discharge permit under Schedule 21 of the EPR16 as they are robustly controlled through other regulatory mechanisms (i.e., the SZC DCO) and by doing so avoiding duplicate regulation.
- 2.1.11 This permit variation application will be followed in due course with an application to the Secretary of State to vary the HPC DCO to, amongst other things, remove the requirement to install an AFD. The DCO application will be accompanied by an application to the MMO to vary the main HPC Marine Licence to remove the requirements for the AFD. These applications will include full assessments of impacts related to the abstraction of seawater and will include an appropriate package of compensation to account for potential impacts on relevant protected sites and features.

2.2 Contents of this application

- 2.2.1 The specific changes to the permit being requested in this application are:
- Table S1.2 Operating Techniques (page 8, rows 3 and 9): removal of references to AFD.
 - Table S1.4 Pre-Operational Measures:
 - PO2 (page 11): removal of reference to AFD.
 - PO8 (page 14): removal of reference to AFD.
 - PO11 (page 15): removal of reference to "impacts related to abstraction of cooling water".
 - Addition of the discharge of seawater and impinged biomass from the fish recovery and return system as a waste stream (Waste Stream H).
 - This application does not seek to make any changes to existing conditions or discharge limits included in the current version of the permit.
- 2.2.2 Although Waste Stream H will be a new addition to the permit, the discharge from the FRR system has always been part of the design of HPC (i.e., this does not represent

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an engineering change to the design of HPC). It is now being added to the permit to account for evolution of regulatory theory and principles that has occurred since the original permit was issued in 2013.

2.2.3 The application is directly supported by the following technical assessments/reports:

- TR479 – Particle Tracking Study of Impinged Sprat from the Proposed Hinkley Point C Fish Recovery and Return (Ref.6)
- TR515 - Hinkley Point C Water quality effects of the fish recovery and return system (Ref.7).
- NNB-308-REP-000722 - Updated Report to Inform the Habitats Regulations Assessment (Ref.8).

2.2.4 Although some of the documents provided as supporting evidence/assessments contain information pertaining to the potential impacts related to cooling water abstraction, this information does not form part of this application and only the information/assessments related to discharges and water quality are relevant in the context of this application.²

2.2.5 All abstraction related impacts will be fully assessed, and compensated for where appropriate, during the forthcoming application to vary the HPC DCO.

2.3 Summary of assessments

2.3.1 As stated previously, all the assessments produced in support of this application were originally produced to support the 2019 permit variation application but only the parts of those documents relevant to water discharges and potential water quality effects are relevant to this application.

2.3.2 From a water quality perspective, the various assessments have shown that there are no expected impacts from the discharge of impinged biomass (and subsequent breakdown of that biomass) on:

- Water quality and Water Framework Directive (WFD) objectives.
- Conservation objectives or designated sites/species.

² This information has been included within this application as an artefact of the purpose of the variation application submitted in 2019. The EA pragmatically agreed that the same documents could be submitted for this application in order to avoid significant re-work of the documents that would only serve to remove information related to abstraction.

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- Amenity value.

2.3.3 The conclusions from the relevant assessments are as follows:

2.3.4 TR479 – Particle Tracking Study of Impinged Sprat from the Proposed Hinkley Point C Fish Recovery and Return (amenity value)

“Even during the peak impingement event (148 sprat in one night) the average density along the shoreline was only one sprat per 68 m, rapidly falling to zero within 5 hours once bird predation commenced. The mean instantaneous density was much lower. Such dead fish densities are not considered to represent a nuisance and would be unlikely to be discernible on the shoreline.”

2.3.5 TR515 - Hinkley Point C Water quality effects of the fish recovery and return system (water quality & WFD):

“The effects due to decay of this larger discharge have been assessed in this report as negligible and as having no effect on the status of the Bridgwater Bay or Parrett Estuary water bodies or the Celtic Sea MSFD area. There is, therefore, no need to consider the water quality and biological effects of the more diffuse spread of dead fish as these will also be negligible.”

2.3.6 NNB-308-REP-000722 - Updated Report to Inform the Habitats Regulations Assessment

“The conclusion of the updated HRA report Stage 2: Appropriate Assessment is that the proposed change to the HPC development, (i.e., use of a CWS with an FRR system and LVSE intake head but no AFD system installed) will not adversely affect the integrity of the designated sites in question in view of their conservation objectives, either alone or in combination with other plans or projects.”

2.3.7 Potential water quality impacts associated with the discharge of impinged biomass were assessed by the EA during the 2019 variation application determination process. Those assessment concluded there was no predicted impact.

2.3.8 As those assessments are the EA’s own assessments, they have not been included as part of this application package but, as the input data has not changed (with the expectation of an additional year of impingement monitoring data, which has no appreciable impact on the predicted biomass discharge quantities) the results of the assessments should still be considered valid.

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