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NNB GENERATION COMPANY (HPC) LTD

NON-TECHNICAL SUMMARY (NTS) - REPORT TO SUPPORT VARIATION OF L/2013/00178 MARINE LICENCE (REVISION 6)

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Glossary

Term / Abbreviation	Definition
AtoN	Aids to Navigation
AFD	Acoustic Fish Deterrent
BDSCT	Bristol Deep Sea Container Terminal
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
FRS	Fish Recovery and Return System
HAF	Handling Alignment Frame
HLV	Heavy Lift Vessels
IEMA	Institute of Environmental Management and Assessment
JUV	Jack Up Vessels
MCA	Maritime and Coastguard Agency
MMO	Marine Management Organisation
NRW	Natural Resources Wales
NTS	Non-Technical Summary
TBM	Tunnel Boring Machine
UXO	Unexploded Ordnance
WID	Water Injection Dredging
ZoI	Zone of Influence

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1 INTRODUCTION

This document forms the Non-Technical Summary (NTS) of the Environmental Statement (ES) Addendum for the variation of Marine Licence L/2013/00178 which relates to the marine works associated with the Hinkley Point C (HPC) development.

This document should therefore be read in conjunction with:

- “Report to Support Variation of L/2013/00178 Marine Licence (Revision 6)” (doc number: 100700648). Hereafter referred to as “Report to Support Rev 6”.

An additional separate ES has been produced to inform this Marine Licence variation which assess the effects of the disposal of dredged material. Therefore, this document should also be read in conjunction with:

- “HPC Disposal of Dredged Material to Portishead Disposal Site (LU070) (L/2013/00178 Rev6) – Environmental Statement (ES)’ (100837050)”

HPC is a proposed new nuclear power station, for which a Development Consent Order (DCO) has been granted and which is currently under construction. It is located at Hinkley Point on the coast of Somerset, approximately 22km north of Taunton.

HPC will comprise a range of buildings, above ground, seabed and sub-surface structures and related facilities. Relevant to this licence revision are the seabed cooling water intakes and outfall structures together with tunnels connecting these to the cooling water pumphouses and turbine halls.

The cooling water infrastructure mentioned above is necessary to allow the use of seawater to cool HPC once operational. Overall, this system will require offshore works including the construction of water intake and outfall structures, bored underground tunnels connecting the cooling water to pumphouses and turbine halls, and a Fish Recovery and Return System (FRS).

1.1 Purpose

1.1.1 Licence Variation

It is necessary to submit a variation for Marine Licence L/2013/00178 due to planned construction methodology updates following detailed design. This will form the seventh version which is revision 6 of the marine licence (known as “Revision 6”). Table 1-1 below outlines the previous variations of this licence.

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Table 1-1: Summary of Marine Licence L/2013/00178 to date

Case Reference	Licence reference	Date	Variation	Revision
MLA/2012/00259	L/2013/00178	11/06/2013	Original licence	0
MLA/2012/00259/1	L/2013/00178/1	14/08/2014	Not stated	1
MLA/2012/00259/2	L/2013/00178/3	17/10/2016	Change wording of conditions 5.2.34 to align with DCO requirement CW1	2
MLA/2012/00259/3	L/2013/00178/4	17/08/2017	Removal of conditions 5.2.15 and 5.2.16 from the licence as Transhipment Activity Plans are no longer a requirement of Marine Management Organisation (MMO) Marine Licences. Split Activity 1.8 (Seawall Construction) into 2 separate Activities: (i) Delivery of Rock Armour and (ii) Seawall Construction. Increase the consented amount of material to be dredged from 200,000m3 to 280,000 m3. Add quantity of material to be excavated at Combwich Wharf to be added to licence (3,000 m3).	3
MLA/2012/00259/4	L/2013/00178/5	21/04/2019	Desilting of Combwich Wharf by Water Injection Dredger (WID) and plough dredging.	4
MLA/2012/00259/5	L/2013/00178/6	20/12/2019	Relates to Combwich Wharf and changes to the refurbishment design and implementation methodology.	5

1.1.2 Revision 6 Activities

Revision 6 of the Marine Licence relates only to changes in construction methodology of works associated with the cooling water infrastructure of HPC. These changes have arisen as a result of planned updates to detailed design. The Report to Support Rev 6 outlines the ten activities included within Rev 6. These activities are listed below, however detailed descriptions of these along with related methodology are available in Sections 2.2 – 2.4 of the Report to Support Rev 6.

- **Activity 1.1: Capital dredge at intake/outfalls.**
 - Updated item from previous licence revision.
- **Activity 1.2: Maintenance dredge at intake/outfalls.**
 - Updated item from previous licence revision.
- **Activity 1.3: Drilling of vertical shafts.**
 - Updated item from previous licence revision.
- **Activity 1.4: Disposal of drill arisings.**
 - Updated item from previous licence revision.

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- **Activity 1.5: Disposal of Tunnel Boring Machines (TBMs).**
 - No change from previous licence revision.
- **Activity 1.6: Installation of intake/outfall heads.**
 - Updated item from previous licence revision.
- **Activity 1.7: Installation of Fish Recovery and Return System (FRS) outfall head.**
 - No change from previous licence revision.
- **Activity 1.8: Installation of Acoustic Fish Deterrent (AFD).**
 - No change from previous licence revision.
- **Activity 1.9: Temporary structures.**
 - New activity – not included in previous licence revision.
- **Activity 1.10: Disposal of capital and maintenance dredged material¹**
 - New activity – not included in previous licence revision (*please note that this activity is covered in a separate Environmental Statement and supporting documentation and assessments which are referenced in Section **Error!** Reference source not found. of Report to Support Rev 6).*

1.1.3 ES Review and Update

The HPC development is subject to Environmental Impact Assessment (EIA) under the Infrastructure Planning (EIA) Regulations, 2017 (for more information regarding legislation see Section 3.5 of Report to Support Rev 6). Following planned detailed design updates, consultation was held with the Marine Management Organisation (MMO) (see Section 1.3 of Report to Support Rev 6) and it was agreed that due to the potential for significant effects to arise as a result of the planned changes, an ES addendum was required. This was necessary to assess the potential for significant effects to arise and would be required to accompany the variation application. The whole ES addendum is available in Section 3 of the Report to Support Rev 6.

Please refer to the following sections of the Report to Support Rev 6 for relevant information from the ES addendum:

¹ The disposal of dredge arisings is included within Revision 6 of the Marine Licence, however a separate ES has been produced to assess the effects resulting from Activity 1.10 (see Section **Error! Reference source not found.**).

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- 3.1: Introduction;
- 3.2: Screening;
- 3.3: Schedule Scoping;
- 3.4: Scope of Assessment;
- 3.5: Legislation, Policy and Guidance;
- 3.6: Methodology;
- 3.7: Site Information;
- 3.8: Coastal Hydrodynamics and Geomorphology;
- 3.9: Offshore and Intertidal Archaeology;
- 3.10: Navigation;
- 3.11: Marine Water and Sediment Quality;
- 3.12: Marine Ecology;
- 3.13: Major Accidents and Disasters;
- 3.14: Summary of Impacts; and
- 3.15: Cumulative Impacts Assessment.

1.2 Scope

A scoping report was produced ahead of the ES review and update (see Appendix A of the Report to Support Rev 6) and a scoping opinion response was received from the MMO in September 2020 (see Appendix P of the Report to Support Rev 6).

Following agreement with the MMO, a number of topics were scoped out of the ES addendum. These topics were scoped out as significant effects would not occur as a result of planned construction methodology updates (for HPC offshore works associated with the cooling water infrastructure). The topics listed below were agreed to be scoped into the ES addendum, and these were assessed further for significant effects. Their section numbers within the Report to Support Rev 6 have been stated for further reference:

- **Coastal Hydrodynamics and Geomorphology (3.8);**
- **Offshore and Intertidal Archaeology (3.9);**
- **Navigation (3.10);**
- **Marine Water and Sediment Quality (3.11);**
- **Marine Ecology (3.12);**

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- **Major Accidents and Disasters (3.13); and**
- **Cumulative Impacts (3.15).**

To view a full list of topics considered at the scoping phase please see Appendix A of Report to Support Rev 6.

Reviews of existing literature and commissioned studies were undertaken to inform the ES addendum to fully understand the potential impacts that may arise as a result of planned updates in detailed design for activities relating to Revision 6. Existing mitigation defined in the DCO ES remains in place for Revision 6 activities with additional mitigation included where necessary.

In summary, no significant effects are anticipated to occur on interest features as a result of methodology changes relating to Revision 6. A summary of each topic considered is outlined below.

2 SUMMARY OF ES ADDENDUM

2.1 Coastal Hydrodynamics and Geomorphology

For the full assessment of impacts and effects relating to this topic, please see Section 3.8 of the Report to Support Rev 6.

When considering the activities associated with Revision 6 of the Marine Licence, it is anticipated that only extremely localised impacts on hydrodynamics will result. As requested by the MMO (see Section 9 of Report to Support Rev 6), an independent study was undertaken by Mott MacDonald to assess the potential for seabed scour as a result of potential wake shed by the presence of the 6100mm diameter drilling shafts. This assessment is available in Appendix F of Report to Support Rev 6 and concludes that the presence of the drilling shafts will slow flow speeds. However, it is considered very unlikely for any wake generated turbulence to exceed the threshold seabed shear stress to result in significant sediment mobilisation and scour. It is likely for minimal scour to occur and this would be confined within a region extending a few tens of meters from the structures before dissipating and merging with the ambient flow, which itself will be turbulent.

As a result, any impacts from scour are concluded to be limited to marine ecology which is assessed separately in Section 3.12 of Report to Support Rev 6.

2.2 Offshore and Intertidal Archaeology

For the full assessment of impacts and effects relating to this topic, please see Section 3.9 of Report to Support Rev 6.

As a result of planned detailed design updates, areas to be dredged have slightly increased. This is largely because of the need to provide a flotation pocket for Heavy Lift Vessels (HLVs) to lower the head structures into place. Although these dredge areas are marginally closer to a potential wreck site with the outlined mitigation measures in place (as listed in Section 3.9) it is not anticipated for any significant effects to occur on the wreck site. With regards to buried Holocene deposits, previous mitigation outlined at the DCO stage by Historic England (formerly 'English Heritage' at the time of the DCO production) has been closely followed. This includes the preservation by analysis and publication of results from vibrocores.

No significant effects are anticipated as a result of Revision 6 methodology changes. The full assessment and mitigation measures are outlined further in Section 3.9 of Report to Support Rev 6.

2.3 Navigation

For the full assessment of impacts and effects relating to this topic, please see Section 3.10 of Report to Support Rev 6.

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Under Revision 6 of the Marine Licence, the only updated activity that would result in changes to previously assessed navigational risks is Activity 1.9 (Temporary Structures). This will see the use of Jack Up Vessels (JUVs) and Handling Alignment Frames (HAFs) which will be based approximately 1-3km offshore at the intake and outfall head locations (see Section 2.3.6 of Report to Support Rev 6). The risk to navigation of JUV construction plant in the water has already been assessed in the original DCO (see Section 26.6.20 of the original DCO (NNB, 2011b)).

The Principle Contractor responsible for the Marine Works has a duty to undertake all navigational safety arrangements closer to the time of planned offshore works and will identify the potential navigational hazards. This will be consulted on and agreed with the relevant stakeholders directly (including HPC Harbour Authority, other local Harbour Authorities, Trinity House and the Maritime and Coastguard Agency (MCA)).

It has been confirmed following a stakeholder workshop on 26th November 2020 that Aids to Navigation (AtoN) will be used to demark the offshore works area during the construction phase to reduce any potential risks to navigation. The use of AtoN was planned at the DCO stage, however the MMO confirmed via email on 15th December 2020 that the use of AtoN is a licensable activity therefore, an assessment of the use of AtoN is included within the Report to Support Rev 6 under 'Navigation' (Section 3.11).

It is anticipated that approximately 12 AtoN will be placed around the offshore works area, which will consist of both cardinal and special marks. The AtoN plan is currently under review and it is anticipated that this will be available for review by the MMO in early 2021. The AtoN will be anchored to the seabed in order to remain in position throughout the works.

The assessment of effects from AtoN includes the consideration of impacts from AtoN on navigation itself and the risk of Invasive Non-Native Species (INNS) associated with the AtoN. The impacts from AtoN on subtidal habitats (through the use of anchorage and anchor chain abrasion) are assessed separately in the Marine Ecology chapter (3.12.6.4).

A revised list of mitigation measures relevant to navigation is outlined in detail in Section 3.10.3 of Report to Support Rev 6. When considering these measures in place, it is not anticipated that any effects on navigation resulting from planned detailed design changes will be significant.

2.4 Marine Water and Sediment Quality

For the full assessment of impacts and effects relating to this topic, please see Section 3.11 of Report to Support Rev 6.

A review of any potential changes in impacts related to marine water and sediment quality considered the results from the sediment sampling surveys across the site from 2009 - 2017.

The sampling analysed sediments for the following determinands; radionuclides, metals, organotins, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). Sediment sampling undertaken in 2009 involved collecting vibrocore samples. These

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samples showed that deeper sediments generally contained low determinand levels, with high levels located nearer the surface of the core i.e. at seabed level (Cefas, 2018). The 2017 survey collected grab samples of the seabed (shallower overall sediment depth), which showed no change in determinand concentrations at the seabed level compared to the 2009 data. As this top section of sediment is constantly re-worked by the movement of tides, it is not anticipated that dredging will result in the leaching and/or resuspension of determinands from sediment that would result in adverse impacts on marine ecology. In addition, dredging activities were undertaken across the site during the 2018 dredge campaign, disturbing sediments further in locations where the 2021 dredge are planned to occur. Therefore, results from the most recent 2017 sediment surveys (see **Error! Reference source not found.**) were used to inform the assessment of dredging activities. This is because determinand levels were not deemed to have significantly changed since this date.

A sediment quality survey was undertaken in 2020, but the results from this are not yet available to publish. Initial reviews of the 2020 data suggest that there are no differences in potential determinand concentrations when compared to all of the sediment sampling results from previous campaigns. The 2020 results will be provided to the MMO ahead of programmed dredging activities occurring to provide updated evidence of sediment determinand levels and provide further assurance.

A sediment transport assessment was completed to review sediment transport in the Severn Estuary and the Bristol Channel in order to investigate the potential impacts associated with sediment plumes as a result of dredging. This assessment is available in Appendix G of Report to Support Rev 6.

Results from the sediment transport assessment have been used to inform the assessment of effects on marine ecology (notably biogenic reef) in Section 3.12 of Report to Support Rev 6. As these were the only potential effects anticipated to arise from changes in marine water and sediment quality as a result of Revision 6 updates, no further assessment is undertaken in Section 3.11 of Report to Support Rev 6, as the assessment is covered instead in the section on Marine Ecology (Section 3.12 of Report to Support Rev 6).

No significant effects are anticipated to arise from marine water and sediment quality.

2.5 Marine Ecology

For the full assessment of impacts and effects relating to this topic, please see Section 3.12 of Report to Support Rev 6.

A variety of activity changes relating to Revision 6 were highlighted as having potential impacts on marine ecological features. The following impacts were assessed on the following receptors:

- Noise and vibration (from updates in percussive piling and drilling methods):
 - Intertidal birds;

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- Fish;
 - Shellfish and invertebrates; and
 - Marine mammals.
- Habitat loss and change (from the use of JUVs):
 - Subtidal habitats.
- Habitat loss and change (from updates in capital and maintenance dredging):
 - Subtidal habitats.
- Water quality (from updates in capital and maintenance dredging):
 - Fish;
 - Shellfish and invertebrates;
 - Subtidal habitats; and
 - Marine mammals.
- Physical damage (from updates in capital and maintenance dredging):
 - Fish
 - Shellfish and invertebrates; and
 - Marine mammals.
- Physical damage (from updates in drilling of vertical shafts):
 - Fish; and
 - Marine mammals.
- Physical damage (from updates in the sealing off of vertical shafts):
 - Fish; and
 - Marine mammals.
- Physical damage (from updates in the use of anchors and anchor chains):
 - Subtidal habitat.

Despite some effects being highlighted as possibly occurring during Revision 6 activities, the majority of those identified are temporary, and all effects would only affect a very limited number of individuals. Following a professional review by Mott MacDonald it was deemed that mitigation outlined in Section 3.12.7 of Report to Support Rev 6 was sufficient for the level of impact anticipated and no significant effects were highlighted.

2.6 Major Accidents and Disasters

For the full assessment of impacts and effects relating to this topic, please see Section 3.13 of Report to Support Rev 6.

The consideration of major accidents and disasters is a recent requirement to EIA regulations (2017). As a result, within this licence variation this topic has been assessed for the first time against Revision 6 activities (although mitigation for the avoidance of any accident or disaster resulting from the HPC offshore works has already been included throughout the DCO and design stages).

The assessment of impacts was undertaken in line with IEMA (Institute of Environmental Management and Assessment) guidance and relied upon the use of the Avon and Somerset Community Risk Register.

Due to the distance from the shore of the activities taking place under Revision 6 (approximately 1-3km offshore from MHWS), there is minimal interaction between the project and land based activities (although it is noted that transport of materials and personnel will be undertaken partially on land). The majority of risks relate to the use of marine vessels and the potential impact on at sea workers and marine ecology.

It was considered that the extensive mitigation already in place for the proposed works (see Section 3.13.5 of Report to Support Rev 6) sufficiently mitigated for any major accident or disaster and as a result, no significant effects are anticipated.

2.7 Cumulative Impacts

For the full assessment of impacts and effects relating to this topic, please see Section 3.15 of Report to Support Rev 6.

Three types of cumulative impacts are assessed in the cumulative effects section of the ES update. These include the following:

- **Site-specific cumulative impacts:** These are impacts that arise from each of the HPC project components individually (either the HPC main site or any of the associated developments). Different aspects of each of these components may themselves have additive or interactive impacts.
- **Project-wide cumulative impacts:** These are impacts that arise from the combined impacts (additive or interactive) of the full HPC project, that is, the cumulative impacts of any part of the HPC project with another component(s).
- **Wider cumulative impacts:** These are the combined impacts (additive or interactive) that may occur between any component(s) of the HPC project and any other 'non-HPC project' developments that do not form part of the HPC Project (referred to in this assessment as 'non-HPC project developments').

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Based on the scale and temporary nature of the works the Zone of Influence (ZoI) for consideration of cumulative impacts was set at 10km.

2.7.1 Site-specific cumulative impacts:

These were assessed within each relevant chapter of the ES addendum

2.7.2 Project-wide cumulative impacts:

These included other ongoing or planned sub-projects or activities at HPC that are anticipated to cross over with the HPC offshore Rev 6 works. The projects included for project-wide cumulative impacts assessment were:

- Combwich Wharf;
- Unexploded Ordnance (UXO) clearance activity; and
- Dredge arisings disposal.

As Combwich Wharf works ongoing into 2021 consist mainly of landscaping works, it is considered that there is no potential for the temporal overlap of activities to result in adverse cumulative effects when considered against the Rev 6 activities. Therefore, Combwich Wharf was scoped out of further assessment.

2.7.3 Wider cumulative impacts:

Projects external to HPC that were considered for wider cumulative impacts were reviewed against those originally considered at the DCO (for any projects still ongoing) and a review of the following was undertaken to establish whether any new projects should be considered:

- MMO public register of granted marine licence applications;
- The interactive governmental marine activity data explorer tool (MMO, 2020)
- National Infrastructure Planning applications; and
- Natural Resources Wales (NRW) public register of granted marine licence applications.

Projects within a 10km radius of the HPC offshore works were considered. The full criteria for consideration of projects for wider cumulative impacts is given in Section 3.14.2 of Report to Support Rev 6.

Projects included for consideration of wider cumulative impacts include:

- The Bristol Deep Sea Container Terminal (BDSCT), The Bristol Port Company;
- Decommissioning of Hinkley Point B, EDF Energy;
- Area 472 aggregate extraction, Hanson Aggregates;

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- Compensatory habitat creation at Steart Point, Environment Agency;
- Area 526 aggregate extraction;
- Bridgwater Tidal Barrier;
- Dredge arisings disposal within the Bristol Channel from port maintenance dredging at the following ports; Milford Haven, Watchet Harbour, Swansea Bay Outer, Cardiff Grounds, Bristol Holm Deep, Portishead, Royal Portbury (Pier and Entrance); Avonmouth (Inner and Royal Edward Entrance), and Newport.

The BDSCT and also Steart Point habitat creation projects were scoped out of further assessment due to the fact that they will not cross over temporally with the HPC offshore works and it was deemed there were no pathways present for cumulative impacts to occur (see Section 3.14.4 of Report to Support Rev 6).

The assessment of cumulative impacts was undertaken between the above projects and the HPC offshore works. Impacts considered included underwater noise and vibration, marine and water sediment quality and visual disturbance. As outlined in Tables 3-35 and 3-36 in Section 3.15, none of the cumulative impacts are anticipated to result in significant effects. This is mainly due to the distances between the projects and the temporary nature of the HPC offshore works.

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