

HPC COMPANY DOCUMENT

HINKLEY POINT C MATERIAL CHANGE APPLICATION EIA SCOPING REPORT

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1. INTRODUCTION

1.1 Overview

1.1.1 This Scoping Report has been prepared by Jacobs U.K Limited and Wood Group UK on behalf of NNB Generation Company Limited ('the Applicant'), to support a request for a Scoping Opinion from the Secretary of State. The Scoping Opinion is to inform an updated Environmental Statement (ES) to accompany an application for a material change to The Hinkley Point C (Nuclear Generating Station) Order 2013 (Statutory Instrument 2013 No. 648), (["the DCO"](#)¹), made pursuant to Schedule 6 of the Planning Act 2008 and Part 1 of the Infrastructure Planning (Changes to, and Revocation of, Development Consent Orders) Regulations 2011.

1.2 The Hinkley Point C Project

1.2.1 The original DCO application was submitted by the Applicant on 31 October 2011. Development consent was granted on 19 March 2013.

1.2.2 The DCO authorises, *inter alia*, the development of an electricity generating station with a nominal gross electrical capacity of 3,260 MW power generated by two nuclear reactor units (Unit 1 and Unit 2). The consented scheme is described in more detail in Schedule 1 to the DCO and is more specifically detailed on the drawings listed in Schedule 1, Part 3.

1.2.3 The proposed new nuclear power station known as Hinkley Point C (HPC) and the associated development required to facilitate its construction and operation is hereafter referred to as 'the HPC Project'.

1.2.4 Since the DCO was consented in 2013, the Applicant has submitted four non-material change applications. In accordance with the decisions made by the Secretary of State, these non-material changes will form part of the current baseline assessed in the updated Environmental Impact Assessment (EIA) for this application for a material change:

- The Hinkley Point C (Nuclear Generating Station) (Amendment) Order 2015² ("the 2015 Amendment Order") - changes to buildings and structures within the HPC Development Site layout and changes to facilitate safety and better design;

¹ The Hinkley Point C (Nuclear Generating Station) Order 2013 (Statutory Instrument 2013 No. 648). [\[Online\]](#). [Accessed 25 January 2022].

² The Hinkley Point C (Nuclear Generating Station) (Amendment) Order 2015 (Statutory Instrument 2015 No. 1666). [\[Online\]](#). [Accessed 25 January 2022].

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- The Hinkley Point C (Nuclear Generating Station) (Amendment) Order 2017³ ('the 2017 Amendment Order') - consolidation of the two temporary offsite accommodation campuses into a single campus (named Bridgwater A) including minor changes to the campus itself;
- The Hinkley Point C (Nuclear Generating Station) (Amendment) Order 2018⁴ ('the 2018 Amendment Order') - changes to buildings and structures within the HPC Development Site layout, an alteration to the alignment of the sea wall and erection of additional pipework along the underside of the temporary jetty; and
- The Hinkley Point C (Nuclear Generating Station) (Amendment) Order 2021⁵ ('the 2021 Amendment Order') - changes to buildings and structures within the HPC Development Site layout.

1.2.5 In addition, the DCO was amended by way of a correction order in 2013, namely the Hinkley Point C (Nuclear Generating Station) (Correction) Order 2013 ('the 2013 Correction Order').

1.2.6 The Applicant is seeking to amend elements of the scheme consented under the DCO via an application for a material change to the Secretary of State. The elements that constitute this application are summarised below and discussed in more detail in **Chapter 2**:

- Removal of the requirement to install an acoustic fish deterrent system;
- Amendment to the Interim Spent Fuel Store (ISFS) from wet to dry storage of spent fuel and a change in building dimensions;
- Relocation and re-design of the meteorological mast resulting in the removal of the Meteorological Station building;
- Amendment to retain the existing temporary Hinkley Point substation as a permanent building to supply electricity to Hinkley Point A (HPA)/Hinkley Point B (HPB); and
- Four new structures (two per unit of HPC) to permanently house sluice gates and lifting beams used during outages (i.e. maintenance periods).

1.2.7 Revised drawings have been compiled and submitted as **Appendix A** to this report. This includes:

³ The Hinkley Point C (Nuclear Generating Station) (Amendment) Order 2017 (Statutory Instrument 2017 No. 843). [[Online](#)]. [Accessed 25 January 2022].

⁴ The Hinkley Point C (Nuclear Generating Station) (Amendment) Order 2018 (Statutory Instrument 2018 No. 413). [[Online](#)]. [Accessed 25 January 2022].

⁵ The Hinkley Point C (Nuclear Generating Station) (Amendment) Order 2021 (Statutory Instrument 2021 No. 1474). [[Online](#)]. [Accessed 25 January 2022].

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- A revised HPC Development Site Layout Plan (drawing reference HINK-A1-SL-00-GA-010) including the non-material changes and the changes proposed as part of this application;
- A revised Parameter Plan (drawing reference HINK-A1-SL-00-GA-002);
- A Tracked Change Plan (drawing reference HINK-A1-SL-00-GA-001) providing a visual representation of the proposed changes comprised in this material change application;
- An amended Proposed Masterplan (drawing reference HINK-A1-MP-00-GA-001); and
- Plans indicating the location of where the acoustic fish deterrents would have been installed.

1.3 Purpose of this report

- 1.3.1 The proposed changes constitute EIA development under Schedule 2 of The Infrastructure Planning (EIA) Regulations 2017 as they represent a change to a Schedule 1 development, “where that development is already authorised, executed or in the process of being executed, and the change or extension may have significant adverse effects on the environment”. These regulations are hereafter referred to as ‘the 2017 EIA Regulations’.
- 1.3.2 An updated ES will be submitted with the application for a material change to report the significance of any new or materially different effects identified through the EIA process.
- 1.3.3 Accordingly, the request for a Scoping Opinion is being submitted under regulation 10(2) of the 2017 EIA Regulations. A request for a Scoping Opinion under regulation 10(2) must include the information set out in regulation 10(4). This information and where it can be found within this report are set out in **Table 1–1**.

Table 1–1: Information to be included in the request for a Scoping Opinion under regulation 10(4) of the 2017 EIA Regulations

Requirement	Compliance
(a) the reference number of the order granting development consent in respect of which the applicant proposes to make a subsequent application;	The Planning Inspectorate reference number for the DCO is EN010001.
(b) a description of the proposed development, including its location and technical capacity;	The description of the proposed development can be found in original ES Volume 1 Introduction - Chapter 2: Proposed Hinkley Point C Development ⁶ . A description of the proposed

⁶ EDF Energy (2011). Environmental Statement - Volume 1 Introduction. [Online]. [Accessed 25 January 2022]

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Requirement	Compliance
	changes and any resultant changes to the description of the development have been outlined in Chapter 2 of this Scoping Report.
(c) an explanation of the likely significant effects of the development on the environment which were not identified at the time the order granting development consent was made; and	An explanation of the likely new or materially different significant effects as a result of the proposed changes have been outlined in Chapter 8 and discussed in more detail in Chapters 9 and 10 .
(d) such other information or representations as the person making the request may wish to provide or make.	An outline of relevant engagement and consultation to date is provided in Chapter 4 and a description of the relevant legislation and policy is outlined in Chapter 5 .

1.3.4 The purpose of this Scoping Report is to outline the proposed scope of the updated EIA to be undertaken in support of the application for a material change, to inform the Secretary of State’s Scoping Opinion.

1.3.5 Throughout this Scoping Report, reference is made to the original ES. Where reference is made to the original ES, links have been provided to the certified documents on the National Archives website in the footnotes. For completeness, links to the ES addendum⁷ and associated appendices⁸ have also been provided.

1.3.6 The original ES referred to ‘topics’ and ‘topic chapters’. This report refers to ‘aspects’ throughout in line with Planning Inspectorate Advice Note 7.

1.4 Structure of this report

1.4.1 The structure and content of this Scoping Report is outlined in **Table 1–2**.

Table 1–2: Scoping Report structure and content

Chapter	Content
Chapter 2: Updated Description of the Development	Description of the proposed changes and any resultant changes to the description of the development.
Chapter 3: HPC Development Site and Surroundings	Description of the HPC Development Site and surroundings to be considered as part of the baseline for the EIA.
Chapter 4: Engagement and Consultation	Description of the engagement and consultation undertaken to date on the application and the changes proposed.
Chapter 5: Legislative and Regulatory Regime	Updated legislative and regulatory regime against which the application will be assessed.

⁷ EDF Energy (2012). Addendum to the Environmental Statement. [\[Online\]](#). [Accessed 15 March 2022].

⁸ EDF Energy (2012). Addendum to the Environmental Statement - Appendices. [\[Online\]](#). [Accessed 15 March 2022].

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Chapter	Content
Chapter 6: EIA Approach and Methodology	Approach to the EIA in the context of this application.
Chapter 7: Aspects to be scoped out of the updated EIA	Outlines the aspects proposed to be scoped out of the updated EIA along with justification.
Chapter 8: Aspects to be scoped into the updated EIA	Outlines the aspects proposed to be scoped into the updated EIA. Further detail on these aspects are provided in Chapters 9 and 10 .
Chapter 9: Marine Ecology	Marine Ecology is proposed to be scoped into the assessment. This chapter provides an overview of the approach to the EIA and the likely significant effects as a result of the proposed changes.
Chapter 10: Landscape and Visual	Landscape and Visual is proposed to be scoped into the assessment. This chapter provides an overview of the approach to the EIA and the likely significant effects as a result of the proposed changes.
Chapter 13: Summary and Next Steps	A summary of the findings of this Scoping Report and the next steps.

2. UPDATED DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Proposed changes

Materiality

- 2.1.1 The relevant legislation does not define what constitutes a material change. However, under the 2017 EIA Regulations, any change to a Schedule 1 development whereby “...*the change or extension may have significant adverse effects on the environment*” is classed as an EIA development. If a change to a DCO is likely to result in significantly different effects or new significant effects on the environment from those that were originally identified, it is likely the proposed change would be material.
- 2.1.2 Guidance from the Department for Communities and Local Government (DCLG) (now the Department for Levelling Up, Housing and Communities (DLUHC)) has been considered when determining if the changes proposed constitute a material change.
- 2.1.3 As outlined in the DCLG guidance document *Planning Act 2008: Guidance on Changes to Development Consent Orders*⁹, there are certain “*characteristics*” that would indicate the proposed change should be treated as material. These “*characteristics*” are:
- Where a change would require an updated ES;
 - Where a change would require an HRA;
 - Where a change would require the compulsory acquisition of land or “*an interest in or rights over land*” not authorised through the DCO; and
 - Where a change would result in an impact on local people (including businesses and residents) that would be sufficient to indicate the change should be considered material.
- 2.1.4 In line with these “*characteristics*”, as the proposed changes have the potential to result in different effects on the environment than those originally identified and warrant the need to submit an updated ES, HRA and other supporting assessments, the proposed changes have been treated as material.

⁹ Department for Communities and Local Government (DCLG). Planning Act 2008: Guidance on Changes to Development Consent Orders. [[Online](#)]. [Accessed 25 January 2022].

DCO Context

2.1.5 This section details the proposed changes in relation to the DCO and the accompanying Works Plans. Accordingly, consent is sought for:

- Amendments to the description of the relevant building descriptions in Work No. 1A (HPC Development Site), including (g) interim spent fuel store; and (h) meteorological station and the addition to Work No. 1A(h) Hinkley Point substation;
- Amendments to the description of Work No. 2B. And 2D. to remove reference to the acoustic fish deterrent systems; and
- Amendments to Schedule 1 Part 3 of the DCO which identifies the Approved Plans insofar as it relates to the HPC Permanent Development Site, including changes to the following Approved Plans:
 - HPC Development Site Parameter Plan (HINK-A1- SL-00-GA-002 Rev 03);
 - HPC Development Site Layout Plan (HINKA1-SL-00-GA-010 Rev 03); and
 - changes and additions to the individual architectural Approved Plans for each of the affected building/structures.

2.1.6 In addition to the above, all references within the DCO to specific previously consented plans will need to be amended where those plans are changed. In practice, this requires amendment to such references in DCO Requirements PW3, MS16, MS19, MS21.

2.1.7 Amendments to CW1 and CW2 are also required in relation to the associated acoustic fish deterrent systems (see **paragraph 2.1.9**) for further detail on these DCO Requirements.

Acoustic Fish Deterrent

Rationale/Driver

2.1.8 The proposed change in relation to the acoustic fish deterrent (AFD) is required following the outcome of further engineering, health and safety and environmental studies which have been undertaken subsequent to the DCO grant in March 2013.

2.1.9 An AFD was included within the proposed design of the cooling water system (CWS) intake head within the original ES, to comprise modular sound projector (SP) arrays, with a series of amplifiers and associated SPs. The intention of the AFD was to repel hearing-sensitive fish, such as herring, sprat and shad, as well

as moderately hearing-sensitive fish, including cod and whiting¹⁰. The requirement to design and install the AFD was secured within the DCO under Requirement CW1(2) and (3), and CW2(1), with associated sub-sections:

- CW1(2): *“The acoustic fish deterrent system shall not be installed until details of the location and design have, following consultation with the Countryside Council for Wales, Natural England and the Environment Agency, been submitted to and approved by the Marine Management Organisation”.*
- CW1(3): *“No water abstraction shall commence until the off-shore intake and outfall heads, cooling water intake and outfall tunnels, the fish recovery and return system, the low velocity side entry intakes and the acoustic fish deterrent system have been installed in accordance with the approved detailed referred to in paragraphs (1) and (2)”.*
- CW2(1): *“No water abstraction shall commence until a monitoring and adaptive measures plan for Work Nos. 2° to 2H has, after consultation with the Countryside Council for Wales, Natural England and the Environment Agency, been submitted to and approved by the Marine Management Organisation. The purpose of the plan shall be to ensure that the acoustic fish deterrent system minimises the impacts of water abstraction on the relevant fish populations, having regard to the conservation objectives of the Severn Estuary SAC and other relevant ecological considerations”.*

2.1.10 Following development consent in 2013, a rigorous process of optioneering and design was undertaken to review reliable and effective AFD options¹¹. This review focused on the following key aspects which are of particular relevance to AFD design, installation and maintenance:

- Site-specific constraints, including: location, tidal range, water velocity and turbidity, and the implications of these site-specific constraints;
- Analysis of available AFD systems, and an estimation of the sound levels achievable against what would be required;
- Lessons learned from other sites where AFD technology is already installed;
- AFD mounting requirements at the HPC Development Site;
- Power supply requirements and how these could be achieved; and
- Maintenance requirements, including a review of physical constraints.

¹⁰ EDF Energy (2011) Hinkley Point C Development Consent Order Application: Environmental Statement – Volume 2 – Hinkley Point C Development Site. Document ref: Environmental Statement 4.3, October 2011.

¹¹ EDF Energy (2018) Summary of Engineering Optioneering Process Followed for the Hinkley Point C Acoustic Fish Deterrent (AFD) System. Document ref: NNB-301-REP-000710.

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- 2.1.11 The optioneering and design studies¹¹ have considered the specific technical requirements of an AFD system and the particular environmental conditions of the HPC Development Site within which such a system would operate, noting the high tidal range, high water velocity, high turbulence, silt-loads, and risk of biofouling. Based on the hearing capacity of key fish species within the assemblage of the Severn Estuary, it was concluded that an AFD system at HPC would require mounting of SPs across the intake screens, with a sound level of at least 160 db, a frequency of 30-60 Hz, and the capability of operating at up to 2 kHz¹¹.
- 2.1.12 The studies¹¹ noted that existing SP systems as installed at the Doel and Pembroke power stations require frequent cleaning and replacement. Both of these systems have been installed, and are operational in environmental conditions more benign than those observed at HPC (for example lower water depth, tidal range, and wave / current regime), and are at a physically smaller scale (and with greater ease of access) than would be required at HPC.
- 2.1.13 The required maintenance regime for the AFD systems was a key consideration of the optioneering process, with a subsequent review focusing on this aspect in more detail¹¹. Multiple solutions were investigated, including those of existing systems, and hypothetical systems matching the needs of HPC¹¹, which concluded the following:
- Available technology capable of producing the sound field required at HPC (based on the fish assemblage present in the vicinity of the HPC Development Site) requires very frequent maintenance to ensure reliability. To reduce this frequency to a window of 12-18 months, considerable further development and testing of technology would be required.
 - Maintenance of the SP would require diver and/or remotely-operated vehicle (ROV) use. For divers in particular, the highly turbid nature of the Severn Estuary poses a high risk of diver entanglement, or tangling of the ROV tether on safety classified intake structures. Diver entrapment in the intake head would remain a high safety risk.
 - The tidal window for diving operations at the HPC intake location is limited to approximately one hour per tidal cycle.
 - Additional concerns included the operation of maintenance vessels in the vicinity of the intake heads.
 - An estimated minimum of 72 days across the year would be required to undertake the annually-required maintenance of the HPC AFD system, based on the potential time available from a tidal perspective (exclusive of mobilisation and demobilisation and any allowance for weather downtime, and taking into account water velocity and depth constraints, along with the duration of the necessary tasks).

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- 2.1.14 Following review of the outcomes of the optioneering process, including from a diver-safety risk perspective, it was concluded that DCO Requirements CW1 and CW2 to install and monitor an AFD system at HPC should be reassessed.
- 2.1.15 The independently reviewed¹² findings of the optioneering review determined that the conclusions of the original report remained valid, i.e. that further developments in AFD technology and associated maintenance procedures have not advanced sufficiently to alter the optioneering process' outcomes. In addition, it was concluded that the installation and maintenance of an AFD system at HPC would pose a risk to human life (i.e. those divers / other maintenance staff directly involved in the AFD works), and therefore should not be installed.
- 2.1.16 From an ecological perspective, additional analysis of the environmental implications of not installing an AFD system was also undertaken¹³. This was subsequently further developed, following a review of the initial (2018) analysis by the Environment Agency¹⁴. This work concluded that HPC, with low velocity side entrances (LVSE) intake heads and a Fish Recovery and Return (FRR) system fitted, would not have a significant effect on the fish assemblage of the Severn Estuary.

Description

- 2.1.17 On the basis of the above findings, the proposed change involves an amendment to Requirement CW1 and CW2 of the DCO (Cooling water infrastructure design) to remove the need to install an AFD system to the intake heads.
- 2.1.18 There is no proposed change to the remainder of the cooling water infrastructure design, which remains as presented in the original ES¹⁰. In the marine environment, this includes LVSE to the intake, and the installation of an FRR system that will include a tunnel extending approximately 600 m under the foreshore, to return entrapped fish back to the sea. The FRR also incorporates a means to sample the fish so that assessments can be made in respect of numbers and types of fish caught as well as fish survivorship through the system.
- 2.1.19 The onshore infrastructure associated with the CWS also remains as presented within the original ES¹⁰.

¹² Proof of Evidence: Dr Manus O'Donnell: Environmental Permitting (England And Wales) Regulations 2016 Appeal by NNB Generation Company (HPC) Limited (The "Appellant") Water Discharge Activity at Hinkley Point C, Somerset Permit Variation Application Relating to Acoustic Fish Deterrent. Application Ref: EPR/HP3228XT/V004. Appeal Ref: APP/EPR/573.

¹³ Cefas, for EDF Energy (2018) Revised predictions of impingement effects at Hinkley Point C, Edition 2. Document Ref. HPC-DEV024-XX-RET-100031.

¹⁴ Cefas, for EDF Energy (2021) Hinkley Point C impingement predictions corrected for Hinkley Point B raising factors and cooling water flow rates. Document Ref. 100874130.

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2.1.20 Plans indicating the location of where the acoustic fish deterrents would have been installed can be found in **Appendix A**.

Other consents/assessments

Water Discharge Activity Permit variation

2.1.21 The HPC Operational Water Discharge Activity (WDA) Environmental Permit (EPR/HP3228XT) was granted by the Environment Agency to EDF in March 2013. The permit allows HPC to operate and, in doing so, discharge trade effluent (comprising of cooling water and various process effluents) and treated sewage. The permit contains 16 pre-operational conditions that must be discharged prior to the commencement of the Hot Functional Testing (HFT) phase of commissioning of HPC. One of the pre-operational conditions requires the installation of an AFD system at the HPC cooling water intake heads.

2.1.22 In February 2019 EDF submitted an application to vary the WDA permit to remove the requirement to install the AFD system on the grounds of reassessed environmental impact, safety concerns, and maintenance difficulties. This followed an extended pre-application consultation period with the Environment Agency, which had been preceded by in depth optioneering, safety analysis, and environmental impact analysis.

2.1.23 Approximately 18 months following the submission of the application to vary the permit, EDF served a notice of deemed refusal on the ground of non-determination on the Environment Agency. Immediately following this, EDF launched an appeal against this non-determination with the Planning Inspectorate in September 2020. The appeal was deemed to require a public inquiry which was held during June 2021.

2.1.24 Following the closure of the public inquiry at the end of June 2021 the Planning Inspectorate commenced preparation of the report and findings which were transmitted to the Secretary of State for Environment for review and decision on the final outcome in late December 2021.

Habitats Regulations Assessment

2.1.25 European sites in the UK are designated and provided protection through The Conservation of Habitats and Species Regulations 2017 when within 12 nautical miles (nm) of mean high-water springs (MHWS), and The Conservation of Offshore Marine Habitats and Species Regulations 2017 for European offshore marine sites (in UK waters between 12 nm and 200 nm of the shore). These items of legislation are commonly and collectively referred to as the "Habitats Regulations", and will be referred to as such hereafter in this report.

- 2.1.26 Following the UK's withdrawal from the European Union, as of 'Exit Day' (31 December 2020) the Habitats Regulations were amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This amendment ensures that the Habitats Regulations retain the same effect as prior to Exit Day. Please see **Section 5.4** for further detail on the effect of these changes on the habitat regime in the UK.
- 2.1.27 The Habitats Regulations define the process for the assessment of the implications of plans or projects on European sites. This process is termed the Habitats Regulations Assessment (HRA) and advice in completing it is outlined in *Guidance on the use of Habitats Regulations Assessment* (July 2019)¹⁵ published by the UK Government, with further relevant advice provided in the Planning Inspectorate's *Habitats Regulations Assessment relevant to National Infrastructure Projects (Advice Note 10)* (Version 8)¹⁶.
- 2.1.28 The original HPC Project Report to Inform HRA¹⁷ accompanied the DCO application in October 2011, considering the construction and operational phases of the project, and associated developments. Throughout this report, that report is referred to as 'the original HRA'.
- 2.1.29 An updated HRA process is being undertaken by the Applicant to allow for the revision of the CWS that will omit installation of an AFD system, as well as undertaking appropriate consideration of other proposed changes. This process, and accompanying reporting, will provide the information required for an Appropriate Assessment by the competent authorities, to determine whether the proposed changes (either alone or in-combination with other plans or projects) would have an adverse effect on the integrity of the relevant designated European and international sites that have been screened into the HRA process.

Marine Licence variation

- 2.1.30 An application to vary the Marine Licence to remove the activity to install an AFD system, and associated conditions, will be prepared. This application will be submitted in due course.

Marine Conservation Zone assessment

- 2.1.31 Marine Conservation Zones (MCZ) are areas of sea, designated to protect a range of nationally important, rare or threatened habitats and species, established under the Marine and Coastal Access Act 2009. Section 126 of the Act places specific duties on the Marine Management Organisation with regards to MCZs. In

¹⁵ UK Government (2019). Guidance on the use of the Habitat Regulations Assessment. [\[Online\]](#). [Accessed 25 February 2022].

¹⁶ The Planning Inspectorate (2017). Advice Note Ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects. [\[Online\]](#). [Accessed 25 February 2022].

¹⁷ EDF Energy (2011). Hinkley Point C Report to Inform Habitats Regulations Assessment. [\[Online\]](#). [Accessed 25 February 2022].

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particular, where the section applies, under Section 126(6) in order to grant a Marine Licence, the Marine Management Organisation must be satisfied that there is no significant risk of the activities being licensed hindering the achievement of the conservation objectives stated for the MCZ. Section 126 only applies where the licensed act is capable of affecting (other than insignificantly):

- The protected features of an MCZ; or
- Any ecological or geomorphological process on which the conservation of any protected feature of an MCZ is (wholly or in part) dependent.

2.1.32 The purpose of the MCZ assessment is to provide sufficient information to satisfy the Marine Management Organisation that the proposed changes to the DCO are not capable of affecting, other than insignificantly, either the protected features or relevant ecological or geomorphological processes, or otherwise whether the statutory test under section 126(6) is met.

Eels Regulations assessment

2.1.33 Under the Eels (England and Wales) Regulations 2009, a series of Eel Management Plans were prepared by the UK in response to EC Regulation EC/1100/2007. The Regulations gave powers to the Environment Agency to implement measures for the recovery of European eel (*Anguilla anguilla*) stocks in UK waters. Under Section 13(1) of the Regulations, there is the requirement to notify the Environment Agency of any construction or maintenance of a structure which 'amounts to, or is likely to amount to' an obstruction to the passage of eels, it being an offence not to comply with the Regulations (Section 13(2)).

2.1.34 Previous reporting in 2018 examined specifically the potential effects of not installing the AFD on such compliance. Neither the UK Regulations nor national or regional Eel Management Plans have been updated since the previous assessment was prepared. However, an updated report is being prepared by the Applicant for submission alongside this impact assessment process to reflect the results of progress in compliance with the Regulations, and the results of implementation of the Plans.

Alternatives Considered

2.1.35 A full assessment of alternatives has been carried out within an AFD Optioneering Report (Summary of Engineering Optioneering Process 2019), including consideration of deterrents such as bubble curtains, strobe lighting, and electric barriers.

2.1.36 Different mitigation scenarios were also considered. These included:

- a no-mitigation scenario;

- a scenario with the Fish Return System and LVSE heads installed but no AFD; and
- a scenario where all three fish protection measures are built.

2.1.37 The technologies and the considerations that influenced selection will be outlined in detail within the updated ES.

Interim Spent Fuel Store

Rationale/Driver

2.1.38 The proposed change is being driven by engineering issues associated with the implementation of an ISFS designed for the wet storage of spent fuel. These issues have been identified as the concept design has developed. The issues include the complexity of the civil design associated with building an aircraft protection shell over a large pool to enable the wet storage of spent fuel.

2.1.39 As outlined in a strategic assessment in 2010¹⁸, both wet and dry storage options could both demonstrate Best Available Technique (BAT) and As Low As Reasonably Practicable (ALARP):

- BAT is the vehicle by which the Environment Agency meets the requirements of the International Basic Safety Standards to keep radiation doses to the public and environment ALARP. This should include all relevant factors, including health and safety, operability cost etc.
- ALARP is the term used by the Office for Nuclear Regulation (ONR) and the Health Safety Executive (HSE) to ensure risks to workers and members of the public from all risks and hazards are mitigated.

2.1.40 By demonstrating both BAT and ALARP, both wet and dry storage options can be considered safe from the perspectives of the Environment Agency, ONR and HSE.

2.1.41 The original decision to proceed with wet storage over dry storage was based on operational experience and ease of inspection of spent fuel. This was an operational preference as there was no clear difference in performance between the two options.

2.1.42 A revised assessment in 2017¹⁹ based on additional information as a result of concept design development found that there was a preference for dry storage.

¹⁸ VT Group Plc (2010). MADA Study Output: Synthesis Report. P0095-10089-002.

¹⁹ Cavendish Nuclear (2017). Hinkley Point C Revised MADA Study for Storage of Spent Fuel. A0551-10113. Issue 002.

NOT PROTECTIVELY MARKED

2.1.43 Due to the practicality of a modular build and the large upfront cost associated with the aircraft protection shell required, wet storage is no longer considered feasible with no safety or environmental performance advantages over dry storage.

Decommissioning

2.1.44 It is acknowledged that comments were raised in response to the application for *the 2018 Amendment Order* in regard to the longer-term impacts of the proposed changes to the ISFS. Spent fuel will remain at the HPC Development Site until such time that the Geological Disposal Facility (GDF) becomes available and is able to receive the spent fuel. Prior to the spent fuel being transferred to the GDF, the fuel is required to be repackaged and encapsulated into containers suitable for disposal.

2.1.45 Towards the End of Generation (EoG) and during decommissioning a number of additional buildings will be constructed to support the dry storage of spent fuel strategy. These include the:

- Spent Fuel Inspection and Repackaging Facility (SFIRF);
- Spent Fuel Encapsulation Facility (itself a conversion and extension of the SFIRF); and
- Redundant Storage Canister Processing Facility.

2.1.46 The proposed SFIRF inspection facility would be needed during decommissioning. For the proposed dry store, the spent fuel is held in a concrete cask which prevents inspection. With the previously approved wet store, it would be possible to inspect the condition of the spent fuel in situ, within the pool, for this reason an inspection facility would not be needed. All three facilities would be subject to obtaining the necessary consents and licenses towards the EoG.

2.1.47 For clarity these structures are not included as part of this material change application and will be applied for in a separate application along with a full EIA towards the EoG, prior to the commencement of decommissioning (see **paragraph 2.1.49**).

2.1.48 Relative to dry storage, the wet store features a large pool of water which would require a higher level of maintenance to ensure safe storage of the spent fuel (e.g. maintaining water clarity and temperature). A dry store removes the maintenance complexities associated with a pool and the casks themselves do not require any form of active management. Therefore, from a decommissioning perspective, it is much less complex to decommission a dry store in comparison to a wet store.

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2.1.49 As stated in paragraph 5.7.1 of original ES Volume 2 Hinkley Point C Development Site²⁰ - Chapter 5: Decommissioning, consent from the ONR under the Nuclear Reactors (EIA for Decommissioning) Regulations 1999 is required to decommission a nuclear reactor. This would include a full EIA and submission of an ES.

Description

2.1.50 The ISFS assessed in the original ES was designed such that spent fuel would be stored underwater in a pool. The key change to the ISFS involves changing the method of storing spent fuel from wet to dry storage, as previously outlined in paragraphs 2.3.29 to 2.3.40 of the Application Statement²¹ for *the 2018 Amendment Order*.

2.1.51 A dry fuel storage system primarily cools fuel through convection using air as the cooling medium. This allows passive cooling rather than active cooling and removes the need for mechanical cooling systems.

2.1.52 As a result of changing the method of storage, fuel assemblies will be stored in concrete and steel canisters (casks) rather than in pools. The casks will be sealed, meaning no gaseous emissions will occur. Therefore, it is proposed that the 55 m gaseous discharge stack is removed from the ISFS.

2.1.53 Dry storage requires more space per unit of fuel stored. Therefore, the ISFS building dimensions need to be increased in size to accommodate more space. Moreover, the ISFS designed for wet storage was partially submerged meaning that part of the structure was below ground level. Dry storage using a cask system requires the casks to be installed at ground level. As a result, the new ISFS needs to also be greater in height than the original building. Therefore, it is proposed that the building dimensions are change as outlined in **Table 2–1**.

Table 2–1: Proposed change in dimensions of the Interim Spent Fuel Store (ISFS)

Building	Dimensions (m) (length x width x height)
ISFS (Original ES design)	150 x 65 x 25
ISFS (proposed revised design)	229 x 73 x 30

2.1.54 It is also proposed that the Access Control Building associated with the ISFS is removed and replaced with a new Equipment Storage building in the same vicinity.

²⁰ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site. [\[Online\]](#). [Accessed 25 February 2022].

²¹ EDF Energy (2017). Application Statement September 2017. [\[Online\]](#). [Accessed 25 January 2022].

NOT PROTECTIVELY MARKED

2.1.55 The proposed changes in dimension of the ISFS and the new Equipment Storage building can be seen on the Tracked Change Plan (drawing reference HINK-A1-SL-00-GA-001) in **Appendix A**.

Other consents

2.1.56 The change from a wet to dry fuel storage system is a change from what was outlined in the original Radioactive Substances Regulation (RSR) Permit application in 2011 and the resultant Permit granted in March 2013. The Applicant has consulted with the Environment Agency which has indicated that a variation to the existing RSR Permit is required.

2.1.57 The Applicant sought an RSR Compliance Assessment Report²² from the Environment Agency. The report concluded that as the change from wet to dry storage does not lead to an increase in radioactive discharges, the change is acceptable and dry storage represents BAT. The report provided a preliminary indication that the Environment Agency is unlikely to have objections to the RSR Permit variation.

Alternatives Considered

2.1.58 When selecting the spent fuel storage method for the HPC Project, the Applicant considered the following options:

- Wet Storage within Pools (Wet Storage);
- Dry Storage in a Cask Storage System;
- Dry Storage within a Vault; and
- Dry Storage in a Canister Storage System.

2.1.59 Each of the above options was assessed against attributes relevant to:

- Health and Safety;
- Technical Performance, Safety and Practicability;
- Environmental; and
- Economic.

2.1.60 As outlined in **paragraphs 2.1.38 to 2.1.43**, the assessment process identified that ALARP and BAT requirements could be fulfilled by either wet or dry storage options and there was no significant advantage of utilising wet storage over dry.

²² Environment Agency (2021). RSR Compliance Assessment Report REV/211208/ZP3690SY.

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Meteorological Mast

Rationale/Driver

2.1.61 The proposed change involves relocating the meteorological station and mast to an area that reduces the potential for interference with measurements due to nearby buildings. The mast itself will also be reduced in height. The Project reviewed the previous location against the World Meteorological Organization (WMO) guidelines²³ and specific issues were identified in the current meteorological station location including:

- Asphalt within the proximity of the road resulting in potential inaccuracies in the measurements of temperature;
- Shadows cast by surrounding buildings leading to potential inaccuracies in the measurements of temperature;
- Buildings too large and too close to the road causing a wind barrier resulting in insufficient wind quality to measure wind velocity and direction; and
- Proximity of buildings meaning SODAR or LIDAR equipment to measure the wind at >70 m could not be installed.

2.1.62 To resolve these issues, it is proposed that the meteorological station equipment and mast are relocated. This new arrangement would not require a separate building to house the equipment. The equipment would instead be located outside within a compound.

Description

2.1.63 The proposed change involves relocating a re-designed meteorological mast to a location outside of current approved parameters which restrict the extent to which a building or structure can be relocated. Current parameters are +/- 5 m in any direction for the meteorological station and +/- 5 m east, west and south and +/- 20 m north for the meteorological mast. This change will also involve removing the meteorological station building.

2.1.64 This proposed change would involve re-locating the meteorological mast to a platform 20 m above ordnance datum (AOD) rather than 14 m AOD, approximately 60 m south-west. The change would also involve reducing the height of the mast from 50 m to 10 m. Overall the height of the mast would be reduced by 34 m in comparison to the original DCO as a result.

²³ World Meteorological Organization (WMO) (2018) Guide to Instruments and Methods of Observation. WMO-No. 8.

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2.1.65 The proposed relocation of the meteorological mast can be seen on the Tracked Change Plan (drawing reference HINK-A1-SL-00-GA-001) in **Appendix A**.

Alternatives Considered

2.1.66 When addressing the issues with the current location of the meteorological station, the Applicant considered the following options:

- Option 1: Slight relocation to the north-east involving a change from asphalt to grass within a 30 m x 30 m area. Reduction of the mast to 10 m; and
- Option 2: Relocation of the whole meteorological station to a 20 m AOD platform. Reduction of the mast to 10 m.

2.1.67 'Do-nothing' was not considered an acceptable option due to the potential interference with measurements as outlined in **paragraph 2.1.61**.

2.1.68 Following WMO guidelines²³, Option 1 was anticipated to result in less accurate measurements in comparison with Option 2. Option 2 was selected in a study as the best option for weather monitoring within the HPC Development Site. On this basis, Option 2 was selected as the preferred option.

Assumptions

2.1.69 That sufficient space is available to locate associated equipment at the appropriate distances adjacent to the mast

Hinkley Point Substation

Rationale/Driver

2.1.70 HPC has an obligation to either provide power to HPA and HPB, or provide them with an alternative like for like supply at least until 2040. To fulfil that obligation EDF Energy and National Grid originally planned to build a new substation and 11 kV overhead line to HPB.

2.1.71 After further consideration (see **paragraph 2.1.74**) and discussions with HPA and HPB, the Applicant has concluded that instead of building a new substation, the optimal solution is to retain the existing 11 kV temporary Hinkley Point substation during the operational phase of the HPC Project as a permanent building. This would avoid the need to design and construct a new substation and overhead line in the future to supply electricity to HPA and HPB.

Description

- 2.1.72 The current temporary Hinkley Point substation imports electricity to HPC via the Construction Electrical Supply. The proposed change involves switching the Hinkley Point substation from importing electricity, to exporting an 11 kV supply to HPA and HPB (to support decommissioning activities) at the end of the construction of HPC. The temporary substation would therefore be retained as a permanent feature during the operation of the HPC Project. The location of the Hinkley Point substation can be seen on the Tracked Change Plan (drawing reference HINK-A1-SL-00-GA-001) in **Appendix A**.
- 2.1.73 The Hinkley Point substation was originally only required during the construction phase of the HPC Project, to feed-in power from the National Grid via HPB's existing 400 kV connection. Despite the relatively short period during which the substation would be required, the building and systems were built with a 60-year design life, due to the critical nature of its function.

Alternatives Considered

- 2.1.74 At the time of the DCO, in 2013, it was anticipated that HPB would have been operating in parallel with HPC for a short period and therefore HPB would have been able to supply power to HPC during construction. However, the construction of the HPC Project has been delayed and HPB's end of operation has been brought forward to 2022. This affected the Applicant's plans for the export of power between HPB and HPC.
- 2.1.75 The Applicant considered establishing a new permanent substation in an alternative location. However, an alternative building or structure would require extensive and costly construction work to reroute the existing cables and construct a new building with a similar footprint and position. Moreover, it would also require relocating or removing the duct bank used to feed the electricity to the Southern Construction Phase Area (see original ES Volume 2 Hinkley Point C Development Site Figure 1.2²⁴) and diverting the main cables between the HPA/HPB/HPC. Re-routing the main cables across the main road would be difficult as there are critical services constraining activities in that area related to nuclear safety.
- 2.1.76 On this basis, the best and most feasible option would be to retain the temporary Hinkley Point substation as a permanent building.

²⁴ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point Development Site - Figures. [\[Online\]](#). [Accessed 25 February 2022].

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Assumptions

- 2.1.77 It is anticipated that the plant layout within the Hinkley Point substation will require very minor internal modification to accommodate the change. The surrounding landscape design to accommodate the retention of the Hinkley Point substation will be amended and set out in the Landscape Masterplan (and subsequently will be submitted for detailed approval pursuant to DCO Requirement MS25). However, the building and extensive underground cabling are pre-existing infrastructure and no construction activities or substantive modifications are required as a result of the proposed change.
- 2.1.78 An amended Proposed Masterplan (drawing reference HINK-A1-MP-00-GA-001) can be found in **Appendix A**.

Sluice Gate Storage Structures

Rationale/Driver

- 2.1.79 Currently there is no provision within the HPC Development Site for the storage of sluice gates for the Forebay and Outfall Pond (surge chamber), their lifting beams and the lifting beams of the Pump House sluice gates.
- 2.1.80 Sluice gate storage structures were not included within the original DCO submission because detailed design of the Forebay and Outfall Pond had not yet been undertaken. During the post-consent detailed design process it has become apparent that a storage solution is required.

Description

- 2.1.81 The proposed change involves four new structures to house sluice gates and lifting beams. Two storage structures are required for each Unit of HPC (Unit 1 and Unit 2). The structures will provide toaster-style storage racks which will be local to each Unit and fixed to a concrete base (see **Plate 2–1** and **Plate 2–2**).

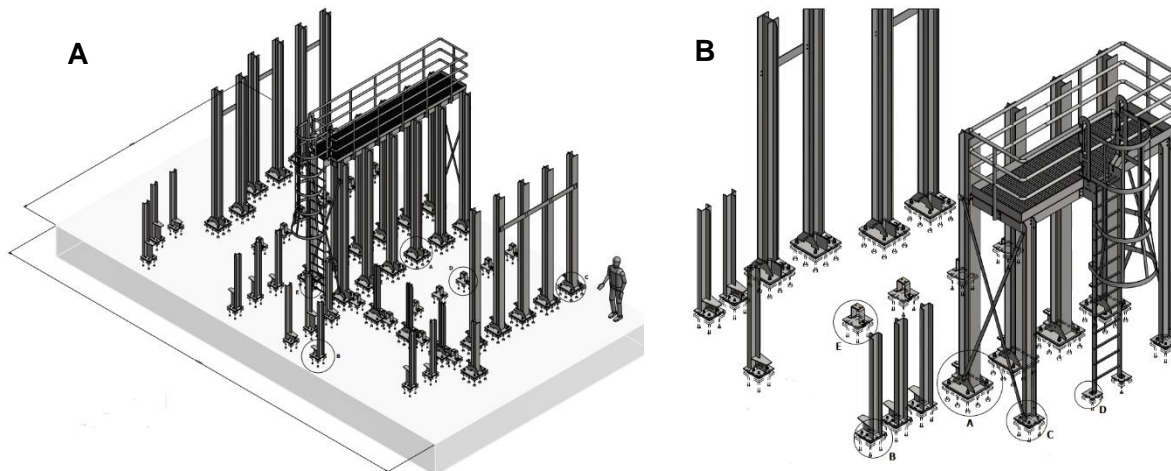


Plate 2–1: Toaster-style storage rack (A: Large rack; B: Small rack)



Plate 2–2: Example of a toaster-style storage rack from Flamanville

2.1.82 There will be two storage locations per Unit that will allow mobile cranes to lift the sluice gates from their storage position in the toaster-style storage racks to their guides within the Forebay and Outfall Pond (surge chamber) buildings.

2.1.83 The proposal includes reducing the total number of sluice gates from 24 to 14 as not all the sluice gates are needed at the same time. However, the storage structures will be designed to hold 24 sluice gates to future proof for expansion if required.

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- 2.1.84 The sluice gates themselves will be used very infrequently. They will spend the majority of their lifetime in storage and will only be used during outages (i.e. maintenance periods).
- 2.1.85 During outages the sluice gates will be moved by crane from the storage structure to either the Outfall Pond or Forebay buildings which are adjacent to the proposed storage structures. The sluice gates will be used to isolate parts of the Secondary CWS such as the Intake Tunnel or forebay to allow water storage areas to be drained and maintenance to be performed. When the maintenance is complete for the outage, the water storage areas will be reflooded and the sluice gates returned to the storage structure.
- 2.1.86 The location of the sluice gate storage structures can be seen on the Tracked Change Plan (drawing reference HINK-A1-SL-00-GA-001) in **Appendix A**.

Alternatives Considered

- 2.1.87 The storage units need to be installed in locations within reach of the cranes used to lift the sluice gates into the adjacent buildings. Therefore, there are no feasible alternative locations for the storage units.

Assumptions

- 2.1.88 For Unit 1 and Unit 2, the total number of sluice gates will not be used at the same time, as due to the configuration of the plant, both Units will not be in maintenance at the same time.

2.2 Construction and Operation

- 2.2.1 The updated ES will consider if the proposed changes impact construction durations. However, it is not anticipated that they will result in any changes to the overall HPC construction programme.
- 2.2.2 All operational lighting will be compliant with the approved Operational Lighting Strategy, assessed as part of the original ES (see original ES Volume 2 Hinkley Point C Development Site - Appendix 2B: Operational Lighting Strategy²⁵) the detailed design of which will be submitted to and approved by Somerset West and Taunton Council in due course via the discharge of DCO Requirement MS29.

²⁵ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site - Appendices. [\[Online\]](#). [Accessed 25 February 2022].

3. HPC DEVELOPMENT SITE AND SURROUNDINGS

3.1 Baseline

Overview

- 3.1.1 In addition to considering the current and future baseline, each aspect of the assessment will consider the baseline identified within the original ES Volume 2 Hinkley Point C Development Site²⁶. This will ensure that the updated EIA takes into consideration any changes to the original baseline that could result in new or materially different assessment outcomes.

Current baseline

- 3.1.2 In accordance with the decisions made by the Secretary of State, the four non-material changes outlined in **paragraph 1.2.4** will form part of the current baseline. This will include consideration of the latest HPC Development Site layout (drawing reference HINK-A1-SL-00-GA-010) in **Appendix A**, which includes all granted changes to date since the original DCO submission.
- 3.1.3 The Applicant has begun construction on the HPC Development Site, both in accordance with the DCO and non-material changes, and in accordance with further planning consents obtained under the Town and Country Planning Act 1990 summarised in **Table 3–1**.

²⁶ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site. [\[Online\]](#). [Accessed 25 January 2022].

Table 3–1: Planning permissions for the HPC Development Site and associated off-site developments granted since the DCO application

Reference	Description	Date approved	Status	Council
52/21/00026	Retrospective application for the erection of a signage/information board for the public using the coastal path. Erection of a post and wire fence line along the landward side of the saltmarsh and flood defence bank.	Not yet determined	Not yet determined	Sedgemoor District Council
36/21/00012	Retention of existing car park to be used as a 160-space park and ride facility until 31 December 2025.	03/11/2021	Approved	Sedgemoor District Council
3/33/21/001	Erection of a 1.4m high observation point.	27/10/2021	Approved	Somerset West and Taunton Council
31/21/0008	Change of use of part of the park and ride, for a temporary period, for the purposes of Hinkley Point C construction workforce car parking and associated bus parking with erection of a temporary welfare building and amendments to height restrictions and white lining at Taunton Gateway Park and Ride, Ilminster Road, Ruishton (retention of part works already undertaken).	28/06/2021	Approved	Somerset West and Taunton Council
36/20/00011	Retention of existing car park to be used as a 160-space park and ride facility for a further 12 months.	18/09/2020	Approved	Sedgemoor District Council
13/19/00047	Change of use from C2 use (Residential Institutions) to Sui Generis, to retain the existing use and add a visitor facility, commercial event use and extension of the existing ancillary office use.	09/06/2020	Approved	Sedgemoor District Council

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Reference	Description	Date approved	Status	Council
39/19/00012	Relocation of existing bird-hide and provision of two lengths of post and wire fencing, signage and information boards.	05/11/2019	Approved	Sedgemoor District Council
39/19/00009	Provision of Shelduck mitigation works to include additional information boards, board walk, replacement bird hide, new fence, and signage.	26/09/2019	Approved	Sedgemoor District Council
36/19/00014	Siting of 30 static caravans within area consented for touring caravans and continued temporary change of use of caravan park for Hinkley Point C workers for a further 3 years.	24/07/2019	Approved	Sedgemoor District Council
13/19/00023	Construction of temporary laydown area for abnormal indivisible loads adjacent to the existing Combwich Wharf access road, including construction of hardstanding, erection of fencing, gates, lighting, CCTV cameras, mobile welfare facilities, landscaping, earthworks and all other associated works in connection with construction of HPC power station.	19/07/2019	Approved	Sedgemoor District Council
37/18/00085	Change of use of existing building to a warehouse for the storage and distribution of free-issue mechanical and electrical equipment for Hinkley Point C (Use Class B8).	11/01/2019	Approved	Sedgemoor District Council
36/18/00012	Retention of existing car park to be used as a 160-space park and ride facility for a further 24 months.	19/09/2018	Approved	Sedgemoor District Council
37/17/00077	Erection of a temporary 3 storey building to be used as office and welfare facilities and use of an existing building as a Vehicle Maintenance Unit.	07/12/2017	Approved	Sedgemoor District Council
3/32/17/011	Retention of works already undertaken - Construction of a 225 space car park and access for Hinkley Point B outages.	21/09/2017	Approved	Somerset West and Taunton Council

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Reference	Description	Date approved	Status	Council
36/17/00010	Variation of Condition 4 of Planning Permission 36/14/00011 (Change of use of land from agricultural to camping and touring caravan site) to allow for the temporary use of caravan site as accommodation for Hinkley Point workers.	05/09/2017	Approved	Sedgemoor District Council
36/17/00001/AGE	Temporary change of use of existing car park to be used as a 160-space park and ride facility for 24 months (Quantock Lakes).	27/03/2017	Approved	Sedgemoor District Council
13/12/00036	Erection of single storey building to form Brassage Building on site of existing (to be demolished), extensions to the former Dairy Building including two storey link extension to Priory Lodge, erection of single storey plant room, partly on site of existing (to be demolished), formation of car park on site of former tennis court, repairs to boundary wall and refurbishment of Priory Lodge, Cannington Court and Priory Bar.	05/12/2012	Approved	Sedgemoor District Council

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3.1.4 Planning permissions have been granted in relation to HPC's off-site associated development, and further changes have been made to the HPC Development Site. However, as these consents (as outlined in **Table 3-1**) are either off-site, temporary or minor in scale, no consents introduce any new or materially different receptors or impacts than those identified in the original ES. The planning permissions outlined in **Table 3-1** will be considered when assessing against the baseline for the aspects scoped into the ES.

Updated Cumulative Developments

3.1.5 New major applications within the locality since the DCO was submitted will be identified within the Preliminary Environment Information Report. A preliminary assessment will be undertaken to determine whether there are any pathways to wider cumulative effects (the HPC Project and other unrelated developments in the surrounding area) with these applications as a result of the proposed changes. This will determine whether a wider cumulative effects assessment is required.

4. ENGAGEMENT AND CONSULTATION

4.1 Overview

4.1.1 This chapter outlines the engagement and consultation undertaken to date that is relevant to this application for a material change.

4.2 Material change

4.2.1 The Applicant met with the Environment Agency on 3 December 2021 to discuss the scope of the application. The Applicant presented details on the relationship between the application and the WDA Permit, and the timing of the submission of the application to vary the RSR Permit.

4.2.2 The Applicant met with the Local Authorities (Somerset West and Taunton Council, Sedgemoor District Council and Somerset County Council) on 7 January 2022 to discuss the scope and procedure of the application. The local authorities provided feedback that will be considered within the relevant chapters of the Preliminary Environmental Information report and updated ES.

4.2.3 The Applicant presented and discussed the scope of the application at the HPC Community Forum on 20 January 2022, which is a public meeting that provides project updates to representatives of local communities and organisations from the local area.

4.2.4 The Applicant met with the Marine Technical Forum on 24 February 2022. Marine Technical Forum members present at the meeting were:

- Natural England;
- Marine Management Organisation;
- Natural Resources Wales
- Environment Agency; and
- Devon and Severn Inshore Fisheries and Conservation Authorities (IFCA).

4.2.5 On 24 February 2022 the Applicant also presented and discussed the scope of the application at the HPC Main Site Forum, which is a public meeting that provides project updates to representatives of local communities and organisations from the local area immediately adjacent to the Main HPC site.

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4.3 Other consents

- 4.3.1 The Applicant has consulted with the Environment Agency in regard to the proposed change to the ISFS and the potential implications on the original RSR Permit determination. The Environment Agency indicated that a variation to the existing RSR Permit is required.
- 4.3.2 As outlined in **paragraph 2.1.57**, the Applicant has sought an RSR Compliance Assessment Report²² that provided a preliminary indication that the Environment Agency is unlikely to have any objections to the RSR Permit variation.
- 4.3.3 As outlined in **paragraphs 2.1.21 to 2.1.24**, there has been engagement with the Environment Agency, Secretary of State and Planning Inspectorate on the WDA permit variation.

4.4 Non-Material Change Applications

- 4.4.1 This Scoping Report has taken into consideration comments from the Secretary of State and other consultation bodies raised in response to previous non-material change applications that are relevant to the changes being proposed. This is of particular relevance to the ISFS proposals that were initially included in the application for *the 2018 Amendment Order*²¹ but not granted as the Secretary of State was concerned that the changes may not be non-material.

5. LEGISLATIVE AND REGULATORY REGIME

5.1 Introduction

5.1.1 This chapter identifies the changes in legislation, planning policy and guidance of relevance to the HPC Project since the submission of the original ES prepared for the DCO application in 2013.

5.2 Planning Context

5.2.1 The terrestrial areas of the HPC Development Site now lie within the administrative boundaries of Somerset West and Taunton Council, (formerly in West Somerset in the original ES). Following a successful submission by the Councils to the Government, legislation was passed which dissolved Taunton Deane Borough and West Somerset councils from 1 April 2019 and replaced them with a single district-level council called Somerset West and Taunton Council, to cover the combined administrative areas of Taunton Deane and West Somerset. The legislation which made this change is The Somerset West and Taunton (Local Government Changes) Order 2018. The Government then made regulations to ensure the smooth transition from Taunton Deane Borough Council and West Somerset Council to Somerset West and Taunton Council. These are The Local Government (Boundary Changes) Regulations 2018.

5.2.2 On 1 April 2023, Somerset will become a unitary authority, replacing the current County Council and four District Councils with a single council governing the whole area.

5.2.3 The Localism Act 2011 decentralised local planning policy thus abolishing regional strategies. Therefore, the *Regional Planning Guidance for the South West (RPG 10)*²⁷ was revoked.

5.2.4 Changes to local planning policy since the original ES will be considered for Somerset West and Taunton Council.

5.3 Infrastructure Planning

5.3.1 The Infrastructure Planning (Changes to, and Revocation of, Development Consent Orders) (Amendment) Regulations 2015, amended The Infrastructure Planning (Changes to, and Revocation of, Development Consent Orders) Regulations 2011, which set out procedures for applications to make changes to,

²⁷ Government Office for the South West (2001). Regional Planning Guidance for the South West (RPG 10). [\[Online\]](#). [Accessed 8 February 2022].

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or to revoke, a DCO for a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008. The amendments were made to provide a more streamlined and proportionate process for making such changes.

Environmental Impact Assessment

- 5.3.2 The 2017 EIA Regulations came into force on 16 May 2017 and supersede the EIA Regulations utilised to undertake the original ES and assess the DCO.
- 5.3.3 The 2017 EIA Regulations included the introduction of new aspects for consideration within EIAs, including Infrastructure, Waste, Population and Human Health, Climate and Carbon Balance, and Risks of Major Accidents and/or Disasters.
- 5.3.4 This Scoping Report has considered the requirements of the more recently adopted Regulations and duly complies with the requirements laid out therein.

5.4 Habitats Regulations Assessment

- 5.4.1 The Conservation of Habitats and Species Regulations 2010 were updated in 2017, and then again in 2019 to make the Regulations operable from 1 January 2021, with functions transferred to ministers from the European Commission. The changes are made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 ('the 2019 Regulations'). The Conservation of Habitats and Species Regulations 2017 are one of the pieces of domestic law that transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives).
- 5.4.2 Given that the HPC Development Site is within close proximity to multiple designated sites including the Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar Site, there is the obligation to undertake a further assessment process under the Conservation of Habitats and Species Regulations 2017.
- 5.4.3 One of the changes introduced by the 2019 Regulations is that SACs and SPAs in the UK no longer form part of the EU's Natura 2000 ecological network. Under the 2019 Regulations, a "*national site network*" on land and at sea has been created which includes existing SACs and SPAs and new SACs and SPAs designated under the 2019 Regulations.

5.5 Planning Policy and Guidance

5.5.1 This section duly outlines the changes in Planning Policy of relevance to the proposed changes to the DCO and updated ES. It does not seek to repeat the policies verbatim but should be used as a guide to the changes of relevance to the DCO. Further information regarding specific policies will be contained within the individual aspect chapters of the updated ES.

National Planning Policy

5.5.2 The *National Planning Policy Framework (NPPF)*²⁸ was revised on 20 July 2021 and sets out the Government's planning policies for England and how these are expected to be applied. This revised framework replaces the previous *NPPF* published in March 2012, revised in July 2018 and updated in February 2019.

5.5.3 National Policy Statements (NPSs) are designated under the Planning Act 2008 to provide guidance for decision-makers on the application of government policy when determining development consent for major infrastructure. Their function is to state clearly how existing policy applies to applications for development consent, removing discussion of the merits of government policy from the examination process so that decisions can be made on the basis of planning considerations alone. NPSs apply to infrastructure that is defined as an NSIP under the Planning Act 2008.

5.5.4 *The energy white paper: Powering our net zero future*²⁹, published in December 2020, presents a vision of how to make the transition to clean energy by 2050. In the white paper the Government committed to completing a review of the existing energy NPSs to ensure they reflect current energy policy, and that the planning policy framework can deliver investment in the infrastructure needed for the transition to net zero. The current suite of energy NPSs were designated by the Department of Energy and Climate Change (DECC) in 2011 and are in the process of being updated. To this end, a consultation ran from 6 September to 29 November 2021³⁰ seeking views on whether the revised draft overarching NPS for Energy (EN-1) provides a suitable framework to support decision-making for energy NSIPs. The technology-specific NPSs (EN-2 to EN-5) were also consulted on, but the nuclear-specific NPS (EN-6) did not form part of the consultation and so for the time being EN-6 will continue to have the role set out in the 2017 Written Ministerial Statement³¹.

²⁸ Ministry of Housing, Communities and Local Government (2021). National Planning Policy Framework. [\[Online\]](#). [Accessed 8 February 2022].

²⁹ Secretary of State for Business, Energy and Industrial Strategy (2020). The energy white paper: Powering our net zero future. [\[Online\]](#). [Accessed 8 February 2022].

³⁰ Department for Business, Energy and Industrial Strategy (2021). Planning for new energy infrastructure: review of energy National Policy Statements. [\[Online\]](#). [Accessed 28 February 2022].

³¹ Department for Business, Energy and Industrial Strategy (2017). Statement on Energy Infrastructure. Statement UIN HLWS316.

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5.5.5 **Table 5–1** sets out the previous planning policy that was considered in the original ES and sets out any new policy that it has replaced.

Table 5–1: Review of planning policy

National Planning Policy considered in the original ES	Has it been updated/ superseded?	If changed, what is the latest National Planning Policy?
Office of the Deputy Prime Minister (ODPM) <i>Planning Policy Statement 1: Delivering Sustainable Development</i> (2005).	Superseded	Department for Levelling Up, Housing and Communities (DLUHC) <i>National Planning Policy Framework (NPPF) 2021</i> ²⁸ - Chapter 2 Achieving sustainable development
Department of Energy and Climate Change (DECC) <i>Appraisal of Sustainability of the revised draft Nuclear National Policy Statement</i> (2010).	Updated	DECC <i>Appraisal of Sustainability of the revised draft Nuclear National Policy Statement: Main Report 2010</i> ³² .
Department for Communities and Local Government (DCLG) <i>Draft National Planning Policy Framework</i> (2010).	Updated	<i>NPPF 2021</i> ²⁸
DCLG <i>Planning Policy Statement 4: Planning for Sustainable Economic Growth</i> (2009).	Superseded	<i>NPPF 2021</i> ²⁸ - Chapter 6 Building a strong, competitive economy
DCLG <i>Planning Policy Statement 5: Planning for the Historic Environment</i> (2010).	Superseded	<i>NPPF Planning Practice Guidance (PPG): Historic Environment</i> ³³
ODPM <i>Planning Policy Statement 7: Sustainable Development in Rural Areas</i> (2004).	Superseded	<i>NPPF 2021</i> ²⁸ - Chapter 2 Achieving sustainable development
ODPM <i>Planning Policy Statement 9: Biodiversity and Geological Conservation</i> (2005).	Superseded	<i>NPPF PPG: Natural Environment</i> ³⁴
ODPM <i>Planning Policy Statement 10: Planning for Sustainable Waste Management</i> (2005).	Superseded	<i>National Planning Policy for Waste</i> ³⁵
DCLG <i>Planning Policy Guidance 13: Transport</i> (2011).	Superseded	<i>NPPF PPG: Transport Evidence Bases in Plan Making and Decision Taking</i> ³⁶

³² Department for Energy and Climate Change (2010). *Appraisal of Sustainability of the revised draft Nuclear National Policy Statement: Main Report*. [\[Online\]](#). [Accessed 10 February 2022].

³³ Department for Levelling Up, Housing and Communities (DLUHC) (2019). *National Planning Policy Framework Planning Practice Guidance: Historic Environment*. [\[Online\]](#). [Accessed 10 February 2022].

³⁴ Department for Levelling Up, Housing and Communities (DLUHC) (2019). *National Planning Policy Framework Planning Practice Guidance: Natural Environment*. [\[Online\]](#). [Accessed 10 February 2022].

³⁵ Department for Levelling Up, Housing and Communities (DLUHC) (2014). *National planning policy for waste*. [\[Online\]](#). [Accessed 10 February 2022].

³⁶ Department for Levelling Up, Housing and Communities (DLUHC) (2015). *National Planning Policy Framework Planning Practice Guidance: Transport Evidence Bases in Plan Making and Decision Taking*. [\[Online\]](#). [Accessed 10 February 2022].

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National Planning Policy considered in the original ES	Has it been updated/ superseded?	If changed, what is the latest National Planning Policy?
ODPM Planning Policy Guidance 17: Planning for Open Space, Sport and Recreation (2002).	Superseded	NPPF PPG: Open Space, Sports and Recreation Facilities, Public Rights of Way and Local Green Space ³⁷
Department of Energy (DoE) Planning Policy Guidance 20: Coastal Planning (1992).	Superseded	NPPF PPG: Flood Risk and Coastal Change ³⁸
DCLG Consultation Paper on a New Planning Policy Statement - Planning for a Natural and Healthy Environment (2010).	Superseded	NPPF PPG: Natural Environment ³⁴
ODPM Planning Policy Statement 22: Renewable Energy (2004).	Superseded	NPPF PPG: Renewable and Low Carbon Energy ³⁹ . 2015.
ODPM Planning Policy Statement 23: Planning and Pollution Control (2004).	Superseded	NPPF 2021 ²⁸ - Chapter 15 Conserving and enhancing the natural environment
DoE Planning Policy Guidance: Planning and Noise (1994).	Superseded	NPPF PPG: Noise ⁴⁰ . 2019.
DCLG Planning Policy Statement 25: Development and Flood Risk (2010).	Superseded	NPPF PPG: Flood Risk and Coastal Change ³⁸
DCLG Planning Policy Statement 25 Supplement: Development and Coastal Change (2010).	Superseded	NPPF PPG: Flood Risk and Coastal Change ³⁸
Planning and Compulsory Purchase Act 2004.	Updated	Planning and Compulsory Purchase Act 2004

Local Planning Policy

5.5.6 The local development plan for the HPC Development Site comprises:

- West Somerset Local Plan to 2032⁴¹ (Adopted, November 2016);
- West Somerset District Local Plan⁴² (Adopted, April 2006) – retained ‘saved’ policies;

³⁷ Department for Levelling Up, Housing and Communities (DLUHC) (2014). National Planning Policy Framework Planning Practice Guidance: Open Space, Sports and Recreation Facilities, Public Rights of Way and Local Green Space. [\[Online\]](#). [Accessed 10 February 2022].

³⁸ Department for Levelling Up, Housing and Communities (DLUHC) (2021). National Planning Policy Framework Planning Practice Guidance: Flood Risk and Coastal Change. [\[Online\]](#). [Accessed 10 February 2022].

³⁹ Department for Levelling Up, Housing and Communities (DLUHC) (2015). National Planning Policy Framework Planning Practice Guidance: Renewable and Low Carbon Energy. [\[Online\]](#). [Accessed 10 February 2022].

⁴⁰ Department for Levelling Up, Housing and Communities (DLUHC) (2019). National Planning Policy Framework Planning Practice Guidance: Noise. [\[Online\]](#). [Accessed 10 February 2022].

⁴¹ West Somerset Council (2016). West Somerset Local Plan to 2032. [\[Online\]](#). [Accessed 8 February 2022].

⁴² West Somerset Council (2006). West Somerset District Local Plan saved policies. [\[Online\]](#). [Accessed 11 February 2022].

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- *Somerset Minerals Plan: Development Plan Document to 2030*⁴³ (Adopted, February 2015); and
- *Somerset Waste Core Strategy: Development Plan Document to 2028*⁴⁴ (Adopted, February 2013).

5.5.7 The *West Somerset Local Plan to 2032*⁴¹ was adopted in November 2016 and includes a set of planning policies for the parts of the local authority area outside Exmoor National Park. It replaces most of the policies of the *Saved West Somerset District Local Plan* adopted in 2006. Notwithstanding, there are a range of saved policies from the 2006 Local Plan which remain extant and should be given due consideration in the decision-making process.

5.5.8 There are supplementary planning documents (SPDs) considered relevant and are set out below:

- *The West Somerset Council and Sedgemoor District Council, Hinkley Point C Supplementary Planning Document (2011)*⁴⁵.
- The Somerset West and Taunton Council, Districtwide Design Guide should be available from early 2022. At the time of writing this report, it is not yet available.

Marine Planning Policy

5.5.9 Following the enactment of the Marine and Coastal Access Act 2009, the UK Government introduced a marine planning system which established the Secretary of State as the marine planning authority for the English Inshore and English Offshore marine planning regions. The Secretary of State delegated these functions to the Marine Management Organisation in April 2010. Marine Plans together with the *Marine Policy Statement (MPS)*⁴⁶ constitute the planning system for England's seas.

5.5.10 The HPC Development Site lies within the jurisdiction of The South West Marine Plan⁴⁷ (covering inshore and offshore areas), adopted in 2021.

5.5.11 The MPS⁴⁶ was published on 18 March 2011 and it provides a framework for the preparation of regional marine plans and taking decisions affecting the marine environment. The Guidance to the UK Marine Policy Statement from January

⁴³ Somerset City Council (2015). *Somerset Minerals Plan: Development Plan Document to 2030*.

⁴⁴ Somerset City Council (2013). *Waste Core Strategy: Development Plan Document to 2028*.

⁴⁵ West Somerset Council and Sedgemoor District Council (2011). *West Somerset Council and Sedgemoor District Council, Hinkley Point C Supplementary Planning Document*. [Online]. [Accessed 8 February 2022].

⁴⁶ Department for Environment, Food and Rural Affairs (2020). *UK Marine Policy Statement*. [Online]. [Accessed 8 February 2022].

⁴⁷ Marine Management Organisation (2021). *South West Marine Plans*. [Online]. [Accessed 8 January 2022].

2021⁴⁸ explains how the references to EU Law within the MPS should be interpreted from 1 January 2021 following the UK's withdrawal from the European Union on the 31 of January 2020.

⁴⁸ Department for Environment, Food and Rural Affairs (2020). Guidance to the UK Marine Policy Statement from January 2021. [\[Online\]](#). [Accessed 8 February 2022].

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6. EIA APPROACH AND METHODOLOGY

6.1 Environmental Impact Assessment

- 6.1.1 In accordance with the 2017 EIA Regulations, an updated EIA of the proposed changes will be undertaken, the results of which will be presented in an updated ES and other supporting documents. The updated EIA will consider the “*direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development*” under Schedule 4 Section 5 of the 2017 EIA Regulations. In the context of this application, “*the development*” constitutes the changes proposed.
- 6.1.2 In line with The Infrastructure Planning (Changes to, and Revocation of, Development Consent Orders) Regulations 2011, Part 2 Regulation 17(1), a material change application for an EIA development would need to be submitted as a “*subsequent application*”.
- 6.1.3 This Scoping Report aims to identify the proposed scope of the updated EIA to inform the Secretary of State’s Scoping Opinion.
- 6.1.4 Throughout this Scoping Report, reference will be made to volumes of the original ES. Taking into consideration changes in legislation and guidance, this report will outline where the approach to the EIA differs from that reported in the original ES and where it is proposed the approach will remain the same.

Flexibility

- 6.1.5 In accordance with Requirement PW3 of the DCO, the exact design of the proposed changes set out in this application will be in accordance with the approved plans, including the Parameter Plan, which defines the maximum movement for a building. An updated Parameter Plan (drawing reference HINK-A1-SL-00-GA-002) can be found in **Appendix A**.

Determining Significance

- 6.1.6 The approach to the assessment of significance remains unchanged from that outlined in Section 7.6 of Volume 1 Introduction of the original ES⁴⁹ (Chapter 7 Environmental Impact Assessment Approach and Methodology) unless stated otherwise in **Chapters 7 to 11** of this Scoping Report.

⁴⁹ EDF Energy (2011). Environmental Statement - Volume 1 Introduction. [[Online](#)]. [Accessed 25 January 2022].

6.2 Scope of the Environmental Impact Assessment

- 6.2.1 One of the aims of this Scoping Report is to ensure the updated EIA remains proportionate relative to the changes proposed. It is acknowledged that not all aspects captured within the original ES Volume 2 Hinkley Point C Development Site⁵⁰ will be scoped into the updated EIA.
- 6.2.2 The aspects proposed to be scoped out of the updated EIA are outlined in **Chapter 7**.
- 6.2.3 The aspects proposed to be scoped into the updated EIA are summarised in **Chapter 8** and discussed in more detail in **Chapters 9 to 10**.

⁵⁰ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site. [\[Online\]](#). [Accessed 25 February 2022].

7. ASPECTS TO BE SCOPED OUT OF THE UPDATED EIA

7.1 Overview

7.1.1 **Table 7–1** outlines which environmental aspects are to be scoped out of the updated EIA along with a justification as to why no new or materially different likely significant effects are anticipated as a result of the proposed changes.

7.1.2 The following environmental aspects have been discussed in more detail after **Table 7–1** to provide further evidence to justify scoping out of further assessment:

- Spent Fuel and Radioactive Waste Management;
- Radiological;
- Climate Change;
- Major Accidents and Disasters; and
- Transboundary Effects.

Table 7–1: Summary of the aspects to be scoped out of further assessment

Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
7	Spent Fuel and Radioactive Waste Management	<p>The changes to the ISFS building size are due to the storage of spent fuel in casks being a lower density technique than the previous wet storage solution in pools. The ISFS will hold the same overall volume of spent fuel as in the original ES, as this volume is determined by the reactor type and design life. There are no changes to the overall activity to be stored within the ISFS, the only change is to the physical sizing of the store itself.</p> <p>Therefore, it is proposed that spent fuel and radioactive waste management is scoped out of the updated EIA. As this aspect is of particular relevance to the ISFS, further justification has been provided in Section 7.2.</p>
8	Conventional Waste Management	<p>This aspect covers Conventional Waste only. Potential impacts in relation to the proposals for management of dry spent fuel as opposed to wet spent fuel are covered under Spent Fuel and Radioactive Waste Management (see Section 7.2).</p> <p>Construction – There is not likely to be a significant change to the impacts during the construction phase. The proposed additional and revised building footprints are likely to result in a slight increase in excavated material generation, for example the increase in building size for the ISFS, the installation of the new sluice gate storage structures, . However, where buildings are removed, or decreased in size these design changes are likely to reduce the amount of excavated waste generated by the HPC Project. For example, dry spent fuel storage means below ground storage pools are not required which could reduce the generation of excavated waste. Similarly, retaining the Hinkley Point substation could potentially reduce the generation of demolition wastes.</p> <p>The targets proposed by EDF Energy within the original DCO application will apply to any additional wastes generated as a result of the proposed design changes during construction. This is for a target of re-using, recycling or recovering 90 % of the waste, and a target of re-using, as far as is practicable, 100 % of the</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>excavated clean soils. This would minimise the quantities of waste generated which would require onward treatment or disposal and potentially impact receptors such as local waste management facilities. This is being implemented through Waste Management Implementation Strategies (WIMS) during the construction of the HPC Project.</p> <p>The original DCO application was based on a conservative ‘worst case’ assessment of the amounts of construction waste to be generated, which included ‘contingency’ of an additional 10 % waste arising over that from benchmarking against similar built nuclear developments. Considering the scale of the proposed changes compared to the overall scale of the construction of the HPC Project, it is considered that the assumptions used for forming the ‘worst case’ assessment are likely to be representative of the influence of the proposed design changes on waste generation.</p> <p>Based on the above, it is not anticipated that there would be any material differences in the likely significance of effects from conventional waste during construction.</p> <p>Operation – The original DCO application estimated operational conventional waste quantities by benchmarking against other operational facilities. The proposal for both the ISFS and introduction of the sluice gate storage structures may result in slight changes to the type and quantity of conventional wastes being generated through construction. However, this is expected to be insignificant compared to the quantity of operational conventional waste arising from the HPC Project as a whole as assessed within the original DCO application. Waste which is produced is proposed to be managed in accordance with the Waste Hierarchy thus promoting reduction, then reuse and recycling prior to disposal. This will reduce impacts on local waste management infrastructure.</p> <p>Based on the above, it is not anticipated that there would be any material differences in the likely significance of effects from conventional waste during operation.</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>Post-Operation – Within the original DCO application post-operational impacts for conventional waste were considered for the Associated Developments only (i.e. the off-site developments such as Bridgwater A and C remediation, and the accommodation campuses). The scope of the proposed changes do not affect the Associated Developments, and therefore no new or materially different likely significant effects from conventional waste post-operation are anticipated.</p>
9	<p>Socio-economics</p> <p>Construction employment, labour market and supply chain;</p> <p>Accommodation supply;</p> <p>Owner occupied housing;</p> <p>Private rented sector;</p> <p>Tourist sector;</p> <p>Latent sector;</p> <p>Population dynamics;</p>	<p>The proposed changes which are the subject of the material change application will not give rise to a change in the number of workforce personnel, or the workforce profile, and therefore no new or different socio-economic effects from those reported in the original ES are anticipated. Separately, the Applicant has recently set out the potential implications for additional workforce personnel at the peak of construction but the need for additional personnel is not as a result of the proposed material change and is being addressed through the agreement of changes to relevant strategies and the provision of additional mitigation. Where this additional mitigation involves development, this will be consented separately via planning applications outside the scope of this material change application.</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
	Public services; and Operational employment, supply chain and multiplier	
	Agricultural land use impacts	No additional permanent or temporary land take is required to accommodate the proposed changes, therefore there will be no new or different effects on agricultural businesses to that reported in the original ES.
	Specific locational impacts	<p>Disturbance effects on business receptors can arise as a result of in-combination impacts, from changes in air quality, noise and vibration, views and/or traffic and transport. Air quality, noise and vibration, and traffic effects have been scoped out of the EIA; therefore, there is no combination of environmental effects that could create a disturbance effect for business receptors.</p> <p>In some cases, a single (direct) environmental effect in isolation could result in commercial disturbance if a business has a particular sensitivity, e.g. hospitality venues can be sensitive to changes in visual amenity. Landscape and visual effects have been scoped into the EIA. In the event that a new or different significant effect on visual receptors is identified, potential disturbance effects on business receptors would be assessed as part of the landscape and visual assessment and the socio-economic aspect would remain scoped out.</p>
10	Transport	<p>The removal of the acoustic fish deterrent system will have a negligible impact on construction traffic as it is unlikely to have any significant impact on the number of people working on the HPC Development Site and number of HGV deliveries.</p> <p>Although there is an increase in the dimensions of the ISFS building, the materials and the construction technique used for the dry fuel store mean that the size of the ISFS will be off set against the materials to be</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>used and the complexity of the construction for a wet store. It is unlikely that the size of the workforce will significantly change due to the increase in the dimensions of the proposed building.</p> <p>The magnitude of the change associated with the re-location and redesign of the meteorological mast will have no significant impact on the level of construction traffic and the size of the workforce.</p> <p>The Hinkley Point substation is already constructed and the proposed changes will have no significant change on the level of HGV traffic generated by all construction activities and the overall number of workforce on the HPC Development Site.</p> <p>The new sluice gate storage structures are unlikely to generate any significant changes in the overall numbers of workforce on the HPC Development Site and the number of HGV deliveries.</p> <p>On this basis, it is not anticipated that the proposed changes will result in any new or materially different likely significant effects associated with the construction workforce on the HPC Development Site and the level of HGV deliveries per day.</p>
11	Noise and Vibration	<p>There would be no introduction of new noise or vibration sources associated with the changes to the ISFS, meteorological mast or the new sluice gate storage structures. Taking into account the locations of the operational noise sources and receptors (described on Plate 11F.8 of original ES Volume 2 Hinkley Point C Development Site - Appendix 11F: Detailed Operational Noise Modelling⁵¹), the proposed changes to buildings and structures have no potential to change operational noise levels at the nearest receptors through increased reflection or the reduction of screening. Therefore, there is no potential for new or materially different noise or vibration effects associated with the proposed changes.</p>

⁵¹ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site - Appendices. [\[Online\]](#). [Accessed 25 February 2022].

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>Retaining the Hinkley Point substation during the operational phase would involve the operation of new noise sources not previously considered in the operational noise assessment. However, noise associated with the operation of the substation does not have the potential to cause a material increase in the overall predicted operational noise levels (set out in Table 11F.6 of original ES Volume 2 Hinkley Point C Development Site - Appendix 11F: Detailed Operational Noise Modelling⁵¹), for the following reasons:</p> <p>Noise from the Hinkley Point substation sources (i.e. electrical transformers) is mitigated by the location of the transformers within a building;</p> <p>The Hinkley Point substation is either partially or fully screened from the closest residential receptors by other buildings and structures located to the south and west; and</p> <p>In the context of the ‘worst case’ basis for the operational noise assessment (described in Volume 2 Appendix 11F), the sound power radiated by the 11 kV Hinkley Point substation does not have the potential to materially increase the overall sound power radiated by the overall development.</p> <p>The proposed changes may be associated with some temporary noise during construction. However, this is not expected to be materially different compared to noise generated during the construction of the original ISFS and Meteorological Mast and the scale of construction activities associated with the changes would likely be negligible compared to overall construction activities described in original ES Volume 2 Hinkley Point C Development Site - Appendix 11E: Detailed Construction Noise Modelling⁵¹.</p>
12	Air Quality	<p>There would be no new operational emission points to air associated with the changes to the acoustic fish deterrent, ISFS, meteorological mast, Hinkley Point substation or the new sluice gate storage structures other than the potential change in radioactive emissions. Radioactive emissions are covered under the aspects Spent Fuel and Radioactive Waste Management (see Section 7.2) and Radiological (see Section 7.3).</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>The proposed changes may generate temporary emissions to air and fugitive dust emissions during construction. However, the scale of construction activities associated with the changes would likely be negligible compared to overall construction activities at HPC.</p> <p>The changes to the ISFS involve the construction of a slightly larger building compared to the building originally proposed. However, the quantity of earthworks required would be reduced as there would no longer be a requirement to have part of the structure below ground level. This would reduce the potential for fugitive dust releases from the earthworks associated with excavation below ground level.</p> <p>Similarly, retaining the existing Hinkley Point substation would reduce earthworks and construction activities associated with building a new substation. This would reduce the potential for fugitive dust releases from the earthworks.</p> <p>Measures to minimise fugitive dust and emissions to air for all construction activities at HPC, which would include the proposed changes, are set out in the Air Quality Management Plan (AQMP) (see original ES Annex 3 Hinkley Point C Development Site - Environmental Management and Monitoring Plans⁵²).</p> <p>In addition, the proposed changes are relatively small scale and are not likely to impact on the dispersion of pollutants from the proposed stacks associated with the operation of HPC.</p> <p>Based on the above, the proposed changes would not lead to any new or materially different significant effects on air quality.</p>
13	Soils and Land Use	<p>The proposed changes will not result- in additional temporary or permanent land take, and the expansion of the ISFS, change of purpose to an equipment storage building and the sluice gate storage structures are in areas which would already have been developed and that agricultural land lost under the original design.</p>

⁵² EDF Energy (2011). Environmental Statement - Annex 3 Hinkley Point C Development Site - Environmental Management and Monitoring Plans. [\[Online\]](#). [Accessed 25 February 2022].

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>Furthermore, the proposed changes remain within two of the three previously defined areas of land, namely Building Development Area East and Building Development Area West (see original ES Volume 2 Figure 1.2⁵³). Therefore, no new location-specific sensitivities in relation to soils and land use have been introduced.</p> <p>No new or materially different significant effects to soil and land use are anticipated as a result of the proposed changes.</p>
14	Geology and Land Contamination	<p>The proposed changes remain within two of the three defined areas of land, Building Development Area East and Building Development Area West (see original ES Volume 2 Figure 1.2⁵³). Therefore, no new location-specific sensitivities in relation to geology and land contamination have been introduced.</p> <p>The meteorological mast and sluice gate storage structures are located in Building Development Area West which had limited deposits of made ground, a low risk of significant contamination, a low risk from ground gases and no evidence of anthropological radionuclides.</p> <p>The ISFS expansion, equipment storage building and Hinkley Point substation remain within Building Development Area East. Areas of historical development are in Building Development Area East and the ground investigations in this area identified asbestos containing material in several locations associated with construction and demolition made ground, isolated exceedances of screening criteria for certain contaminants, free phase hydrocarbon contaminated shallow made ground, a low risk from ground gases, and no evidence of anthropological radionuclides.</p> <p>The increased footprint of the ISFS may encounter additional quantities of contaminated and chemically unsuitable soil. However, with the adoption of legislative compliance and standard good practice measures as detailed in the Materials Management Plan, Soil Management Plan and Land Contamination Management</p>

⁵³ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site - Figures. [\[Online\]](#). [Accessed 25 February 2022].

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>Plan (see original ES Annex 3 Hinkley Point C Development Site - Environmental Management and Monitoring Plans⁵²), there will be no moderate or adverse impacts to identified receptors during the construction and operational phases following mitigation as a result of the proposed change.</p> <p>The change from wet to dry storage of spent fuel within the ISFS building represents BAT and would not lead to an increased risk of radioactive discharges. Therefore there will not be an additional risk of land contamination as a result of this change during operation.</p> <p>No new or materially different significant effects to geology and land contamination are anticipated as a result of the proposed changes.</p>
15	Groundwater	<p>Removal of the acoustic fish deterrent has no relevance to groundwater receptors due to its location at the intake structures.</p> <p>The change in the concept design for the ISFS from wet to dry storage is relevant to groundwater. The updated design is of a greater footprint, in particular the building length is increased. This change can be considered under the project activities related to the HPC Development Site construction and ground preparation identified in the original ES. The change in plan dimensions and footprint are not of sufficient change within the overall context of the HPC Project construction and operation to generate a new impact or cause an increase to the magnitudes of changes that were identified in the original ES. Hence the significance of effects remain valid.</p> <p>The other key design change of relevance to groundwater is that the ISFS dry storage concept no longer requires the structure to be subsurface (aside from the building foundations) and hence the project activity of construction dewatering will be modified and thus reconsideration of the potential impacts on controlled waters (groundwater levels and quality) and impact on buildings and structures in relation to differential pressures and settlement is warranted. The design change shall result in less drawdown and dewatering at the ISFS location, but within the context of the overall HPC Project, a reduction of the magnitude of change is not</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>readily apparent as other structures still require dewatering. It is assumed that there is embedded mitigation in that the HPC Project dewatering scheme will be reviewed to account for this change so that the risk of potential structural impact is managed and hence the magnitude of change is consistent with the original ES. In summary there is no basis to adjust the significance of effects in relation to the ISFS.</p> <p>The changes to the location and the overall height of the meteorological mast and the retention of the Hinkley Point substation for permanent use will not alter any project activities in such a way to cause a change to the significance of effects identified in the original ES.</p> <p>The introduction of the sluice gate storage structures are relevant to the project activities in relation to groundwater. However, their location and relative size within the overall HPC Project context shall not alter the magnitude of change and hence the significance of effects in the original ES are still applicable.</p>
16	Surface Water	<p>As the acoustic fish deterrent was to be located with the intake heads on the sea bed at HPC, its removal would not impact upon surface waters.</p> <p>Modifications to the ISFS would not result in any materially different significant effects. The mitigation measures proposed within the original ES would remain effective for the revised design. The potential increase in runoff as a result of the increased building footprint would not require attenuation prior to discharge to the Bristol Channel and would therefore not affect surface waters.</p> <p>The relocation of the meteorological mast and removal of the station building would not result in any materially different significant effects. The risk of flooding is the same for both old and new locations. The removal of the station would not affect the predicted runoff as both the building and land cover are impermeable.</p> <p>The retention of the previously temporary Hinkley Point substation would not result in any materially different significant effects. Any increase in runoff associated with an increase in impermeable area would be</p>

Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>inconsequential as attenuation storage would not be required as surface water drainage would discharge directly to the Bristol Channel.</p> <p>The locations of the new sluice gates storage structures are within Flood Zone 1 and on already proposed impermeable areas so would therefore not alter the previous assessment of surface water effects.</p>
17	Coastal Hydrodynamics and Geomorphology	<p>The proposed changes in the marine environment, associated with the acoustic fish deterrent, do not change the original assessment of impacts to coastal hydrodynamics or geomorphology, as presented in the 2011 ES. Further, there is no pathway of effects between land-based changes associated with the ISFS, meteorological mast, Hinkley Point substation or sluice gate storage structures and the marine environment, therefore no effects on coastal hydrodynamics and geomorphology are anticipated.</p>
18	Marine Water and Sediment Quality	<p>The proposed changes in the marine environment, associated with the acoustic fish deterrent, do not change the original assessment of impacts to marine water and sediment quality, as presented in the 2011 ES. Further, there is no pathway of effects between land-based changes associated with the ISFS, meteorological mast, Hinkley Point substation or sluice gate storage structures and the marine environment, therefore no effects on marine water and sediment quality are anticipated.</p>
20	Terrestrial Ecology and Ornithology	<p>The proposed changes to the ISFS, meteorological mast, Hinkley Point substation and sluice gate storage structures do not change the original assessment of impacts to terrestrial ecology and ornithology receptors undertaken in the original ES Volume 2 - Chapter 20: Terrestrial Ecology and Ornithology⁵⁰. Similarly, the assessment of likely significant effects undertaken for the original HRA remain unchanged.</p> <p>Levels of noise and visual disturbance to terrestrial plants, habitats, invertebrates, amphibians, reptiles, birds or mammals during construction and operation would not be materially different as a result of the proposed changes. The assessment of effects on the bird species using the terrestrial and the intertidal areas would</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>therefore not change. Associated implications to the nearby Designated Sites Severn Estuary SPA/Ramsar and the Bridgwater Bay Site of Special Scientific Interest (SSSI) would consequently be negligible.</p> <p>The proposed changes will not result in additional temporary or permanent land take. Areas of change such as the increased footprint of the ISFS show the new footprint to be overlying land which would already have been lost under the original design – therefore there are no new or materially different effects on terrestrial plants, habitats, invertebrates, amphibians, reptiles, birds or mammals.</p> <p>On this basis, the effects arising from the proposed changes on terrestrial ecology and ornithology can therefore be scoped out of further assessment.</p> <p>In regard to the removal of the AFD, a potential effect on fish-eating bird species has been identified. The absence of the AFD could lead to increased impingement and entrainment of fish, thereby reducing the abundance of fish prey available to fish-eating species, including birds.</p> <p>The bird species which are qualifying features of the Severn Estuary SPA and features of the Bridgwater Bay SSSI do not eat fish. Therefore there will be no new or materially different significant effects to those designated sites.</p> <p>Some of the bird species which are listed as ‘Noteworthy fauna’ (not qualifying species) of the Severn Estuary Ramsar do eat fish (e.g. little egret, herring gull). Similarly, there are other fish-eating bird species in the region (e.g. cormorant), which do not appear on the lists of birds for the designated sites. Consequently there is a potential for effects on the Ramsar site and these fish-eating species.</p> <p>Additionally, there are wide-ranging species of fish-eating birds (e.g. lesser black-backed gull, fulmar) which are features of distant SPAs but which could conceivably forage in the region of the HPC Project. Consequently, there is a potential for effects on these species also.</p> <p>However, the extent of additional impingement and entrainment of fish as a result of removing the AFD is assessed as 0.1% of relevant fish stocks in the region, which is sufficiently small to represent negligible</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		implications to fish-eating birds. Therefore, no new or materially different significant effects are anticipated as a result of the removal of the AFD.
21	Radiological	In relation to the ISFS, given that there are no proposed changes to aqueous or gaseous discharge limits within the Radioactive Substances Regulation (RSR) Permit and external radiation dose rates have been assessed by HPC to remain negligible, it is proposed that the Radiological aspect is scoped out of the updated EIA. As this aspect is of particular relevance to the ISFS, further justification has been provided in Section 7.3 .
23	Historic Environment	The proposed changes do not change the original assessment of impacts to the Historic Environment receptors undertaken in the original ES Volume 2 – Chapter 23: Historic Environment ⁵⁰ . All existing mitigation proposals would encompass any areas of increased land take which is considered to be negligible.
24	Offshore and Intertidal Archaeology	The proposed changes in the marine environment do not alter the assessment of impacts to offshore or intertidal archaeology as presented in the original ES. Further, there is no pathway of effects between land-based changes associated with the ISFS, meteorological mast, Hinkley Point substation or sluice gate storage structures and the marine environment, therefore no effects on offshore and intertidal archaeology are anticipated.
25	Amenity and Recreation	
	PRoW (HPC Development Site, C182 Wick Moor Drove, off-site)	The proposed changes would not inhibit public access to Public Rights of Way (PRoWs), sports and recreation facilities or Open Access Land and Public Open Space in a new or materially different way to that

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
	<p>highway improvements)</p> <p>Sports and recreation facilities (HPC Development Site, C182 Wick Moor Drove, off-site highways improvements)</p> <p>Open Access Land and Public Open Space (HPC Development Site, C182 Wick Moor Drove, off-site highway improvements)</p>	<p>reported in the original ES. Existing mitigation includes diversions to PRoW and alternative routes during construction and network enhancements during operation.</p> <p>Amenity effects can arise due to a combination of two or more significant effects from air quality, noise and vibration, landscape and visual and transport. No new or materially different significant effects on air quality, noise or transport are expected as a result of the proposed changes that could result in an adverse amenity impact.</p> <p>Landscape and visual effects have been scoped into the EIA (see Table 8–1 and Chapter 10). As landscape and visual is the only amenity aspect scoped into the EIA, there is no potential for in-combination effects to occur. Potential effects on landscape and visual receptors will be assessed as part of the landscape and visual assessment. In the event that a new or materially different significant effect on visual receptors using amenity / recreational areas (e.g. on PRoWs) is identified, this would be assessed as part of the landscape and visual assessment and the amenity and recreation aspect would remain scoped out.</p>
26	Shipping and Navigation	<p>The proposed changes in the marine environment do not alter the assessment of impacts to shipping and navigation as presented in the original ES.</p> <p>Further, there is no pathway of effects between land-based changes associated with the ISFS, meteorological mast, Hinkley Point substation or sluice gate storage structures and the marine environment, therefore no effects on shipping and navigation are anticipated</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
New	Population and Human Health	<p>The original ES was submitted prior to the 2017 EIA Regulations coming into effect. Therefore, population and human health was not scoped into the EIA as a separate aspect. While no separate assessment was undertaken as part of the EIA, impacts on population and on human health were covered in the following assessments:</p> <ul style="list-style-type: none"> • Spent Fuel and Radioactive Waste Management; • Radiology; • Socio-Economics; • Noise and Vibration; • Transport; • Geology and Land Contamination; • Amenity and Recreation; and • Landscape and Visual. <p>A stand-alone Health Impact Assessment (HIA)⁵⁴ was produced alongside the original ES which considered potential health pathways associated with the above aspects. While some adverse impacts on human health were identified in the HIA, it was determined that these would be adequately mitigated through the measures proposed in the EIA and through a Health Action Plan (HAP). The HAP also sets out an appropriate monitoring programme that draws from and complements the wide range of monitoring outlined in the original</p>

⁵⁴ EDF Energy (2011). Health Impact Assessment. [\[Online\]](#). [Accessed 16 February 2022].

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
		<p>ES to protect the environment and community health and to provide necessary feedback to address local community concerns and needs.</p> <p>With the exception of Landscape and Visual, the aspects listed above have been scoped out of the EIA for the proposed changes. In the event that a new or materially different significant effect for Landscape and Visual is identified, potential population and human health effects would be considered further as part of the Landscape and Visual Impact Assessment. However, Population and Human Health as a stand-alone aspect assessment remains scoped out.</p>
New	Climate Change	<p>Given the nature and scale of the proposed changes, it is proposed that Climate is scoped out of the updated EIA. As this aspect was not assessed in the original ES, further justification has been provided in Section 7.4. Section 7.4 sets out why no new or materially different likely significant effects than those already identified in the original ES are anticipated as a result of the proposed changes.</p>
New	Major Accidents and Disasters	<p>Given the nature and scale of the proposed changes, it is proposed that an assessment of Major Accidents and Disasters is scoped out of the updated EIA. As this aspect was not assessed in the original ES, further justification has been provided in Section 7.5. Section 7.5 sets out why no significant effects are anticipated as a result of the proposed changes.</p>

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Original ES Volume 2 - Chapter ⁵⁰	Aspect	Justification
Assessed in original ES Volume 11 Cumulative Effects ⁵⁵	Project-wide Cumulative Effects	<p>The original ES assessed project-wide cumulative impacts (the main HPC development and the associated on-site and off-site developments). The scope of the proposed changes does not affect the associated off-site developments.</p> <p>Due to the nature and scale of the proposed changes, it is not anticipated that the changes would result in any new or materially different project-wide cumulative effects that would require updating the cumulative effects assessments.</p>

⁵⁵ EDF Energy (2011). Environmental Statement - Volume 11 Cumulative Effects. [\[Online\]](#). [Accessed 25 February 2022].

7.2 Spent Fuel and Radioactive Waste Management

Introduction

7.2.1 The aim of this section is to provide sufficient evidence to justify scoping out spent fuel and radioactive waste management from the updated EIA. Spent fuel and radioactive waste management is only relevant to the proposed changes to the ISFS. Therefore, the other changes proposed have not been considered further. This section should be read in conjunction with original ES Volume 2 Hinkley Point C Development Site - Chapter 7: spent fuel and radioactive waste management⁵⁰.

Legislation and Planning Policy Context

7.2.2 Legislation and planning policy relevant to the assessment of spent fuel and radioactive waste management is outlined in **Table 7–2** and **Table 7–3** below.

Table 7–2: Legislation relevant to the assessment of spent fuel and radioactive waste management

Legislation	Relevance to assessment
The Environmental Permitting (England and Wales) Regulations 2016	A legal framework for radioactive substances regulation and the basis for the environmental permit controlling releases from the ISFS.
The Nuclear Installations Act 1965	A legal framework for the Nuclear Site Licence to be issued, which includes conditions related to the storage and accumulation of radioactive waste, and the management of spent fuel at the facility.
Energy Act 2008	Lays out the requirements for the Funded Decommissioning Programme for nuclear power facilities including the funding of spent fuel disposal.

Table 7–3: Planning policy relevant to the assessment of spent fuel and radioactive waste management

Policy	Relevance to assessment
National	
<i>Long-term Nuclear Energy Strategy</i> 2013 ⁵⁶	Government policy for the handling and treatment of spent nuclear fuel and radioactive waste.
<i>Overarching NPS for Energy (EN-1)</i> 2011 ⁵⁷	This NPS, taken together with the <i>Overarching NPS for Energy (EN-6)</i> , provides the primary basis for decisions taken by the

⁵⁶ Department for Business, Innovation and Skills., and Department of Energy and Climate Change (2013). Long-term Nuclear Energy Strategy. [Online]. [Accessed 15 February 2022].

⁵⁷ Department for Energy and Climate Change (2011). Overarching National Policy Statement for Energy (EN-1). [Online]. [Accessed 15 February 2022].

Policy	Relevance to assessment
	Planning Inspectorate on applications it receives for nuclear power stations.
<i>Draft Overarching NPS for Energy (EN-1) 2021</i> ⁵⁸	This draft NPS sets out national policy for the energy infrastructure. <i>The Energy White Paper, Powering our Net Zero Future</i> ⁵⁹ , was published on 14 December 2020. It announced a review of the suite of energy NPSs but confirmed that the current NPSs were not being suspended in the meantime. The review of the energy NPSs is currently underway and draft versions of NPSs EN-1 to EN-5 have been published.
<i>National Policy Statement (NPS) for Nuclear Power Generation (EN-6) 2011</i> ⁶⁰	This NPS, taken together with the <i>Overarching NPS for Energy (EN-1)</i> , provides the primary basis for decisions taken by the Planning Inspectorate on applications it receives for nuclear power stations .
<i>The Energy White Paper, Powering our Net Zero Future 2020</i> ⁶¹	This sets out the Governments strategy to move towards a net zero carbon future, through the replacement of fossil fuel sources of energy with lower carbon cost options, including new nuclear facilities.
<i>A White Paper on Nuclear Power 2008</i> ⁶²	This lays out the Government view that in the absence of industry proposals, there is an assumption that spent fuel will be disposed of, rather than reprocessed. Consequently, planning and finance for nuclear new build should proceed on this assumption.

Guidance

7.2.3 Joint guidance from the Office for Nuclear Regulation (ONR), the Environment Agency, the Scottish Environment Protection Agency and Natural Resources Wales to nuclear licensees *The management of higher activity radioactive waste on nuclear licensed sites*⁶³ has been used to inform this report.

⁵⁸ Department for Business, Energy and Industrial Strategy (2021). Draft Overarching National Policy Statement for Energy (EN-1). [\[Online\]](#). [Accessed 15 February 2022].

⁵⁹ Secretary of State for Business, Energy and Industrial Strategy (2020). The energy white paper: Powering our net zero future. [\[Online\]](#). [Accessed 8 February 2022].

⁶⁰ Department for Energy and Climate Change (2011). National Policy Statement for Nuclear Power Generation (EN-6). [\[Online\]](#). [Accessed 15 February 2022].

⁶¹ Department for Business, Energy & Industrial Strategy (2020). The Energy White Paper, Powering our Net Zero Future [\[Online\]](#). Accessed 22 February 2022.

⁶² Department for Business, Enterprise and Regulatory Reform (2008). Meeting the Energy Challenge, a white paper on nuclear power. [\[Online\]](#). Accessed 22 February 2022.

⁶³ Office for Nuclear Regulation, Environment Agency, Scottish Environment Protection Agency., and Natural Resources Wales (2021). The management of higher activity radioactive waste on nuclear licensed sites.

Baseline

Baseline Sources

7.2.4 In addition to the original ES, the following sources have been used to inform a preliminary understanding of the context behind the proposed changes to the ISFS in relation to spent fuel and radioactive waste management:

- 2018 Amendment Order Application Statement⁶⁴;
- 2018 Amendment Order Decision Letter⁶⁵;
- Hinkley Point C Integrated Waste Strategy, June 2021⁶⁶; and
- Environmental Permit EPR/ZP3690SY.

7.2.5 The proposed changes to the ISFS were previously included within the application for *the 2018 Amendment Order*. Feedback on that application indicated that the proposed changes to the ISFS were not granted as the Secretary of State was concerned that the changes may not be non-material.

Original ISFS

7.2.6 Government policy is currently that there will be no reprocessing of spent fuel within the UK, and the long term fate of spent fuel will be geological disposal in the proposed geological disposal facility (GDF)⁶⁷.

7.2.7 While there is a Government programme in place to develop the GDF, there is currently no disposal facility for spent fuel and the GDF is unlikely to be available until many years after HPC has started to generate spent fuel. The HPC strategy is therefore to store spent fuel within the HPC Development Site pending the availability of the GDF. It should be noted that only spent fuel arising from the operation of HPC will be stored within the ISFS. There is no plan or intention to accept spent fuel or waste from any other operator or source.

7.2.8 Once removed from the reactor, spent fuel requires cooling for an initial period of time under water, before it may be placed into interim storage. This initial cooling is undertaken in the spent fuel pool within the fuel building, with cooled spent fuel being transferred to the ISFS for storage pending the availability of the GDF and the spent fuel being in a condition suitable for disposal. The updated Integrated Waste Strategy⁶⁶ assumes that, following packaging of spent fuel for storage, all liquid and gaseous discharges from the drying and packaging processes will be

⁶⁴ EDF Energy (2017). Application Statement September 2017. [\[Online\]](#). [Accessed 25 January 2022].

⁶⁵ Department for Business, Energy and Industrial Strategy (BEIS) (2018). Decision Letter. Application for a Non-material change to the Hinkley Point C (Nuclear Generating Station) Order 2013; dated 23 March 2018.

⁶⁶ NNB Generation Company (HPC) Limited (2021). 100780381 - Hinkley Point C Integrated Waste Strategy, Rev 4.0.

⁶⁷ Department for Business, Enterprise and Regulatory Reform (2008). Meeting the Energy Challenge, a white paper on nuclear power.

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discharged via the same route as other similar emissions from the fuel building. This is either via the effluent plant on the HPC Development Site or the stack for the fuel building. The ISFS may be required for at least 100 years until around 2130 when the GDF is available under current planning assumptions.

7.2.9 The size and nature of the ISFS is based upon a series of assumptions:

- Size of individual fuel assemblies;
- Lifespan of fuel assemblies;
- Reactor lifespan; and
- Storage methodology in the ISFS.

7.2.10 The baseline design in the original ES was for the wet storage of spent fuel. This involves the spent fuel being stored within pools of water within the store building. It was determined within the original ES to be the most appropriate technique, based upon a Multi-Attribute Decision Analysis (MADA process), which acknowledged that the wet storage approach would be flexible enough to enable updating where additional evidence was available on alternatives.

7.2.11 Spent fuel storage is in addition, covered by the requirements of the HPC Nuclear Site Licence, issued by the ONR and the radioactive disposal environmental permit issued by the Environment Agency.

Proposed changes to the ISFS

7.2.12 The current Government planning assumption is that the GDF will begin to accept waste in the 2040s, primarily legacy wastes at this point. The proposed lifespan of the ISFS, therefore, remains as presented in the original ES.

7.2.13 The assumptions around the sizing of the ISFS relating to the volume of spent fuel to be handled during the lifetime of HPC remain as within the original ES, as these are determined by the reactor design and design life. However, the storage methodology to be used, has been changed from a wet, to a dry system which changes the building volume required.

7.2.14 In the time period between the original ES and today, additional information, including operational experience from the Sizewell B site, has changed the evidence base for the MADA and a change in storage methodology has been determined to be more suitable.

7.2.15 This has the impact of changing the overall size and volume of the ISFS within the original ES as detailed in **Table 2-1**.

7.2.16 This change is a result of the dry store having a lower density of fuel storage within the robust containers, in comparison to the previously proposed wet storage

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system. However, the change to dry storage means that the building will no longer need to be a semi-embedded design into the ground, which has led to an overall above ground structure size increase.

- 7.2.17 In addition to the change in size of the building envelope, it is proposed that the 55 m stack which was included within the wet ISFS outline design is removed. This stack was a release point for the discharge of gaseous radioactive waste to the environment, from the active ventilation system required for the wet storage process.
- 7.2.18 The proposed change to a dry ISFS means this stack is no longer needed, and hence will be removed from the building envelope. The removal of the stack will also remove a gaseous radiological release point.
- 7.2.19 These changes have been reflected within the latest version of the HPC Integrated Waste Strategy⁶⁶. This confirms the volumes of spent fuel to be handled and the storage technology.
- 7.2.20 The current, updated, HPC Integrated Waste Strategy⁶⁶ has been subject to an assessment by the Environment Agency which concluded that because there would be no increase in radioactive discharges they found the change in storage type to be acceptable. The Environment Agency assessment confirmed that they believe that dry storage would represent BAT (Best Available Techniques).

Assumptions and Limitations

- 7.2.21 It has been assumed that the underlying assumptions for the reactor lifespan, required number of spent fuel assemblies and the volume of the individual units remains as within the original ES.
- 7.2.22 The ISFS has been designed around the assumption that the underlying Government policy on spent fuel disposal (that it will be subject to storage prior to disposal in the GDF, with no reprocessing), remains in place.
- 7.2.23 The proposed change to the ISFS storage methodology will be subject to regulatory scrutiny by the ONR and the Environment Agency through the Nuclear Site Licence regulatory process in relation to the safety case and reviewed as part of any required variation to the RSR environmental permit. These review processes will include a consideration of the potential reduction in radiological releases from the storage process and stand outside the scope of this application.

Proposed Scope

- 7.2.24 The visual impact of the proposed change to the ISFS will be assessed within the Landscape and Visual Impact Assessment within the updated ES. For further information on this, see **Chapter 10** of this report.

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- 7.2.25 The change in ISFS storage will be assessed by the Environment Agency and ONR as part of the RSR Permit variation. An extensive engagement process with the ONR and the Environment Agency will follow to determine the operating parameters of the dry store, and how BAT will be applied.
- 7.2.26 The changes to the ISFS building size are due to the storage of spent fuel in casks being a lower density technique than the previous wet storage solution in pools. The ISFS will hold the same overall volume of spent fuel as in the original ES, as this volume is determined by the reactor type and design life. There are no changes to the overall activity to be stored within the ISFS, the only change is to the physical sizing of the store itself.
- 7.2.27 On this basis, it is proposed that further assessment of spent fuel and radioactive waste management is scoped out of the updated EIA.

7.3 Radiological

Introduction

- 7.3.1 The aim of this section is to provide sufficient evidence to justify scoping out radiological impacts from the updated EIA. Radiological impacts are only relevant to the proposed changes to the ISFS. Therefore, the other changes proposed have not been considered further. This section should be read in conjunction with original ES Volume 2 Hinkley Point C Development Site - Chapter 21: Radiological⁵⁰.

Legislation and Planning Policy Context

- 7.3.2 Legislation and planning policy relevant to the assessment of radiological impacts is outlined in **Table 7-4** and **Table 7-5** below.

Table 7-4: Legislation relevant to the assessment of radiological impacts

Legislation	Relevance to assessment
The Ionising Radiations Regulations 2017	Providing statutory dose limits for employees, trainees and members of the public.
The Environmental Permitting (England and Wales) Regulations 2016	Permitting in relation to Radioactive Substances Regulation (RSR).
The Nuclear Installations Act 1965	A legal framework for the Nuclear Site Licence to be issued, which includes conditions related to the storage and accumulation of radioactive waste, and control of any ionising radiations emitted from the HPC Development Site.

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Table 7-5: Planning policy relevant to the assessment of radiological impacts

Policy	Relevance to assessment
National	
<i>Overarching NPS for Energy (EN-1) 2011</i> ⁶⁸	This NPS, taken together with the <i>Overarching NPS for Energy (EN-6)</i> , provides the primary basis for decisions taken by the Planning Inspectorate on applications it receives for nuclear power stations.
<i>Draft Overarching NPS for Energy (EN-1) 2021</i> ⁶⁹	This draft NPS sets out national policy for the energy infrastructure. <i>The Energy White Paper, Powering our Net Zero Future</i> ⁷⁰ , was published on 14 December 2020. It announced a review of the suite of energy NPSs but confirmed that the current NPSs were not being suspended in the meantime. The review of the energy NPSs is currently underway and draft versions of NPSs EN-1 to EN-5 have been published.
<i>National Policy Statement (NPS) for Nuclear Power Generation (EN-6) 2011</i> ⁷¹	This NPS, taken together with the <i>Overarching NPS for Energy (EN-1)</i> , provides the primary basis for decisions taken by the Planning Inspectorate on applications it receives for nuclear power stations.
<i>The Energy White Paper, Powering our Net Zero Future 2020</i> ⁷²	This sets out the Governments strategy to move towards a net zero carbon future, through the replacement of fossil fuel sources of energy with lower carbon cost options, including new nuclear facilities.
<i>A White Paper on Nuclear Power 2008</i> ⁷³	This lays out the Government view that in the absence of industry proposals, there is an assumption that spent fuel will be disposed of, rather than reprocessed. Consequently, planning and finance for nuclear new build should proceed on this assumption.

Guidance

7.3.3 Environment Agency guidance *Radiological protection of people and the environment: generic developed principles* (RPDP1 – 4)⁷⁴ provides guidance on the protection of people and the environment against radioactivity in a set of

⁶⁸ Department for Energy and Climate Change (2011). *Overarching National Policy Statement for Energy (EN-1)*. [\[Online\]](#). [Accessed 15 February 2022].

⁶⁹ Department for Business, Energy and Industrial Strategy (2021). *Draft Overarching National Policy Statement for Energy (EN-1)*. [\[Online\]](#). [Accessed 15 February 2022].

⁷⁰ Secretary of State for Business, Energy and Industrial Strategy (2020). *The energy white paper: Powering our net zero future*. [\[Online\]](#). [Accessed 8 February 2022].

⁷¹ Department for Energy and Climate Change (2011). *National Policy Statement for Nuclear Power Generation (EN-6)*. [\[Online\]](#). [Accessed 15 February 2022].

⁷² Department for Business, Energy & Industrial Strategy (2020). *The Energy White Paper, Powering our Net Zero Future* [\[Online\]](#). Accessed 22 February 2022.

⁷³ Department for Business, Enterprise and Regulatory Reform (2008). *Meeting the Energy Challenge, a white paper on nuclear power*. [\[Online\]](#). Accessed 22 February 2022.

⁷⁴ Environment Agency (2021). *Radiological protection of people and the environment: generic developed principles*. [\[Online\]](#). [Accessed 15 February 2022].

radiological protection developed principles. This guidance has been used to inform this report.

- 7.3.4 Environment Agency guidance *Radioactive Substances Regulation: Principles of optimisation in the management and disposal of radioactive waste*⁷⁵ sets out the principles and framework for undertaking studies on optimisation and the identification of Best Available Techniques (BAT).
- 7.3.5 Joint Environmental Agencies guidance *Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment*⁷⁶ which provides guidance on the assessment of public doses for the purposes of determining radioactive waste discharge permits has also been used to inform this report..
- 7.3.6 Environment Agency guidance *Criteria for setting limits on the discharge of radioactive waste from nuclear sites*⁷⁷ follows the statutory guidance concerning the regulation of gaseous and liquid radioactive discharges into the environment from nuclear licensed sites in England and Wales.

Baseline

Baseline Sources

- 7.3.7 In addition to the original ES, the following sources have been used to inform a preliminary understanding of the context behind the proposed changes to the ISFS in relation to radiological impacts:
- Environmental Permit EPR/ZP3690SY; and
 - Environment Agency *Radioactive Substances Regulation (RSR) Compliance Assessment Report, REV/211208/ZP3690SY, 8 December 2021*⁷⁸.
- 7.3.8 The proposed changes to the ISFS were previously included within the application for *the 2018 Amendment Order*. Feedback on that application indicated that the proposed changes to the ISFS were not granted as the Secretary of State was concerned that the changes may not be non-material.

⁷⁵ Environment Agency (2020). Radioactive Substances Regulation: Principles of optimisation in the management and disposal of radioactive waste. [\[Online\]](#). [Accessed 24 February 2022].

⁷⁶ Environment Agency (2012). Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment. [\[Online\]](#). [Accessed 24 February 2022].

⁷⁷ Environment Agency (2012). Criteria for setting limits on the discharge of radioactive waste from nuclear sites. [\[Online\]](#). [Accessed 24 February 2022].

⁷⁸ Environment Agency (2021). RSR Compliance Assessment Report REV/211208/ZP3690SY.

Original ISFS

- 7.3.9 The baseline design in the original ES was for a wet storage methodology. This involves the spent fuel being stored in pools of water within the store building. It was determined in the original ES to be the most appropriate technique, based upon a Multi-Attribute Decision Analysis (MADA process), which acknowledged that the wet storage approach would be flexible enough to enable updating where additional evidence was available on alternatives.
- 7.3.10 The accumulation of radioactive material on the HPC Development Site and any associated radioactive discharges from buildings is covered by the requirements of the HPC Nuclear Site Licence and the RSR Permit (EPR/ZP3690SY) issued by the Environment Agency.

Proposed changes to the ISFS

- 7.3.11 The original MADA was re-assessed by the Applicant following concept design of the wet store and the conclusion drawn that dry storage provided similarly high levels of safety and environmental performance whilst benefiting from recent Operational Experience from the UK.
- 7.3.12 A review of the radiological impact by HPC concluded that a move to a dry fuel store would negate the requirement for a stack or a High Efficiency Particulate Air (HEPA) filtration system for aerial releases. The Applicant recognises that there will be new additional waste streams associated with fuel handling and processing, e.g. secondary waste from packaging, but overall discharges from the dry store will not exceed those from the wet store. No change in permitted discharge limits is proposed.
- 7.3.13 A change from wet to dry storage will result in increased levels of indirect radiation reflected and scattered back to the earth's surface (sky-shine) and therefore marginally increased external radiation dose rates. However, external dose rates from both wet and dry store options have been calculated by HPC to be negligible.
- 7.3.14 There will be no impact on the assessments made against the public dose constraints used by the Environment Agency when assessing proposed radioactive discharges and direct radiation from new facilities. These doses were assessed as part of the original permit application and found by the Environment Agency to be acceptable.
- 7.3.15 Since there are no proposed changes to aqueous or gaseous discharge limits and external radiation dose rates remain negligible, the Environment Agency concluded in 2021 that there are no impacts on radiological dose as a result of the proposed changes to the ISFS as reported in the *RSR Compliance Assessment Report*⁷⁸.

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- 7.3.16 Although a simple variation to the RSR Permit is required to remove the discharge points associated with the wet store, the application will note that no change to permit limits is proposed.
- 7.3.17 Provided that discharge limits are not increased, any subsequent variation to the RSR Permit will not trigger further requirements under the *Transboundary Radioactive Contamination (England) Direction 2020*⁷⁹, a position confirmed in a recent RSR Level 4 meeting between the Applicant and the Environment Agency.

Assumptions and Limitations

- 7.3.18 The proposed change to the ISFS storage methodology was subject to regulatory scrutiny by the ONR and the Environment Agency through the Nuclear Site Licence regulatory process in relation to the safety case and will be reviewed as part of any required variation to the RSR environmental permit. These review processes will include a consideration of the potential reduction in radiological releases from the storage process and stand outside the scope of this application.

Proposed Scope

- 7.3.19 The reduction in potential releases and any variation in external radiation dose rates from the change in ISFS storage will be reviewed by the Environment Agency and ONR as part of the RSR Permit variation. An extensive engagement process with the ONR and the Environment Agency will follow to determine the operating parameters of the dry store, and how BATs will be applied to ensure that radiological risks are as low as reasonably achievable.
- 7.3.20 In relation to the ISFS, given that there are no proposed changes to aqueous or gaseous discharge limits within the RSR Permit and external radiation dose rates have been assessed by HPC to remain negligible, it is proposed that the Radiological aspect is scoped out of the updated EIA.
- 7.3.21 On this basis, it is proposed that further assessment of radiological impacts is scoped out of the updated EIA.
- 7.3.22 The visual impact of the proposed change to the ISFS will be assessed within the Landscape and Visual Impact Assessment within the updated ES. For further information on this, see **Chapter 10** of this report.

⁷⁹ The Transboundary Radioactive Contamination (England) Direction 2020. [[Online](#)]. [Accessed 15 February 2022].

7.4 Climate Change

Introduction

7.4.1 The aim of this section is to provide sufficient evidence to justify scoping out climate change from the updated EIA and covers two key elements: the vulnerability to anticipated climate change and the impact on climate change (i.e. greenhouse gas emissions).

Legislation and Planning Policy Context

7.4.2 Legislation and planning policy relevant to the assessment of climate change is outlined in **Table 7–6** and **Table 7–7** below.

Table 7–6: Legislation relevant to the assessment of climate change

Legislation	Relevance to assessment
The 2017 EIA Regulations	<p>The legislation sets out the requirement for an ES to identify, describe and assess the “<i>direct and indirect significant effects of the proposed development</i>” on factors including climate, as well as the interaction between this factor and others.</p> <p>Under Schedule 4 Paragraph 5(f), an ES must provide “<i>a description of the likely significant effects of the development on the environment</i>” resulting from “<i>the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change</i>”.</p>
Climate Change Act 2008	<p>Introducing targets for carbon reduction. By 2050, the UK pledges an at least 100 % reduction in carbon emissions against the 1990 baseline. The Climate Change Act 2008 requires the government to set legally binding carbon budgets to enable the achievement of 2050 target. A carbon budget is a cap on the amount of greenhouse gases emitted in the UK over a 5-year period.</p>
Planning Act 2008. Part 9. Chapter 2. Climate change	<p>Development plan documents must (taken as a whole) include policies designed to secure that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change.</p>

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Table 7–7: Planning policy relevant to the assessment of climate change

Policy	Relevance to assessment
National	
<i>Overarching NPS for Energy (EN-1)</i> 2011 ⁸⁰	This NPS, taken together with the <i>Overarching NPS for Energy (EN-6)</i> , provides the primary basis for decisions taken by the Planning Inspectorate on applications it receives for nuclear power stations.
<i>NPS for Nuclear Power Generation (EN-6)</i> 2011 ⁸¹	This NPS, taken together with the <i>Overarching NPS for Energy (EN-1)</i> , provides the primary basis for decisions taken by the Planning Inspectorate on applications it receives for nuclear power stations.
<i>Draft Overarching National Policy Statement (NPS) for Energy (EN-1)</i> ⁸²	Part 2 of the NPS covers the government’s energy and climate change strategy, including policies for mitigating climate change and its impacts. The NPS sets out how applicants and the Secretary of State should take the effects of climate change into account when developing and consenting infrastructure
<i>National Planning Policy Framework 2021</i> ⁸³ . Section 14 Meeting the challenge of climate change, flooding and coastal challenge	Taking a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.
Local	
<i>West Somerset Local Plan to 2032</i> ⁸⁴ Climate Change: CC1 – CC6	The management of flood risk, the efficient use of water supplies, encouraging the creating of a low/zero carbon economy and mitigating the effects of climate change.

Guidance

7.4.3 The following guidance is relevant to the assessment of climate change and has been considered in this preliminary assessment:

- *UK Climate Projections 2018 (UKCP18)*⁸⁵;
- Environment Agency, *Flood Risk Assessment: Climate Change Allowances*⁸⁶; and

⁸⁰ Department for Energy and Climate Change (2011). *Overarching National Policy Statement for Energy (EN-1)*. [\[Online\]](#). [Accessed 15 February 2022].

⁸¹ Department for Energy and Climate Change (2011). *National Policy Statement for Nuclear Power Generation (EN-6)*. [\[Online\]](#). [Accessed 15 February 2022].

⁸² BEIS *Draft Overarching National Policy Statement for Energy* (2021). [\[Online\]](#). [Accessed 17 February 2022].

⁸³ Ministry of Housing, Communities and Local Government (2021). *National Planning Policy Framework*. [\[Online\]](#). [Accessed 8 February 2022].

⁸⁴ West Somerset Council (2016). *West Somerset Local Plan to 2032*. [\[Online\]](#). [Accessed 8 February 2022].

⁸⁵ Met Office (2018). *UK Climate Projections (UKCP)*. [\[Online\]](#). [Accessed 9 February 2022].

⁸⁶ Environment Agency (2016). *Flood risk assessments: climate change allowances*. [\[Online\]](#). [Accessed 9 February 2022].

- *PAS 2080:2016 Carbon Management in Infrastructure*⁸⁷.

Study Area

7.4.4 Under Schedule 4 Paragraph 5(f) of the 2017 EIA Regulations, an ES must provide “a description of the likely significant effects of the development on the environment” resulting from “the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change”.

7.4.5 Regarding the vulnerability to climate change, the following key factors are relevant to the HPC Project:

- Sea level rise and wave activity due to the coastal location of the HPC;
- Change in wind speed to ensure the safety and stability of structures;
- Extreme temperatures to maximise the lifetime of structures and components; and
- Rainfall intensity to reduce and control flood risk.

7.4.6 Potential changes in the carbon footprint of the HPC Project as a result of the proposed changes are considered in order to determine the potential impact on climate.

Baseline

Baseline Sources

7.4.7 In addition to the original ES, the following sources have been used to inform a preliminary understanding of the baseline conditions for the assessment of climate change:

- *HPC DCO Application Sustainability Statement 2011*⁸⁸;
- *HPC DCO Application Flood Risk Assessment 2011*⁸⁹ (DCO document reference 3.2);
- *UK Climate Projections 2009* (UKCP09)⁹⁰; and
- *Planning Policy Statement (PPS) 25*, Department for Environment, Food and Rural Affairs (Defra) 2006⁹¹.

⁸⁷ British Standards Institute (2016). Carbon Management in Infrastructure.

⁸⁸ EDF Energy (2011). Sustainability Statement. [\[Online\]](#). [Accessed 14 February 2022].

⁸⁹ EDF Energy (2011). Hinkley Point C Development Site - Flood Risk Assessment. Doc Ref 3.2.

⁹⁰ DEFRA (2009). Adapting to climate change: UK climate projections 2009. [\[Online\]](#). [Accessed 14 February 2022].

⁹¹ DEFRA (2009). Planning Policy Statement 25: Development and Flood Risk Practice Guide. [\[Online\]](#). [Accessed 14 February 2022].

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Original Baseline

7.4.8 The *Sustainability Statement*⁸⁸ which was prepared in 2011 covers all the key issues around Climate Change and provides the details of how the HPC Project aims to reduce its impact on climate and its vulnerability to the future changes in climate. The baseline conditions are based on the data and information available in the original ES, *Flood Risk Assessment*⁸⁹, and *Sustainability Statement*.

Greenhouse gas emissions

7.4.9 A detailed Life Cycle Assessment (LCA) has been conducted to assess the potential life cycle environmental impacts associated with the construction, operation, and decommissioning of the HPC nuclear power plant, in terms of electricity output generated and then delivered to a downstream user. The initial LCA study determined that the embodied carbon of 1 kWh electricity generated at HPC would be approximately 4.8g CO_{2e}. It was estimated that the construction related emissions would be the most significant contributor to the total lifecycle greenhouse gas emissions of the electricity produced at HPC. EDF Energy proposed strategies to manage and reduce emissions where possible. The details of the initial LCA study and the full list of EDF Energy's commitments is included in the *Sustainability Statement*⁸⁸ (paragraph 2.9.35).

Climate change projections

7.4.10 When the original *Sustainability Statement*⁸⁸ and *Flood Risk Assessment*⁸⁹ were conducted, estimates for climate change allowances were only available until 2100 (UKCP09) or 2115 (PPS 25). To cover the entire lifetime of the HPC Project, including the use of the HPC Development Site for the interim storage of spent fuel and waste and final decommissioning, a qualitative assessment of the likely additional changes in climate (up to 2140) was conducted. The details of this assessment are available in Section 6 of the original *Flood Risk Assessment*⁸⁹.

Changes in weather temperature

7.4.11 The HPC Project has been designed for an operational lifetime of 60 years, considering the UKCP09 projections. According to the UKCP09, central estimates of change in mean daily minimum temperature in winter were predicted to be 3–3.5 °C in the south of the UK. In summer, changes were predicted to be between 3 and 4 °C across the vast majority of the UK.

7.4.12 **Table 7–8** shows the predicted changes to global mean temperature, for the three emissions scenarios and three future time periods as included in UKCP09.

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Table 7–8: The 10, 50 and 90 % probability levels of changes to the global mean temperature (°C), for all three emissions scenarios and three future time periods, as calculated by the UKCP09 methodology. Source: UKCP09⁹⁰

Emissions	2020s			2050s			2080s		
	10%	50%	90%	10%	50%	90%	10%	50%	90%
High	1.0	1.3	1.6	2.1	2.7	3.3	3.4	4.3	5.3
Medium	1.0	1.3	1.6	1.9	2.4	3.0	2.6	3.4	4.2
Low	0.9	1.2	1.6	1.6	2.1	2.6	2.0	2.6	3.4

Sea level rise

7.4.13 Potential changes in sea level were considered in the original *Sustainability Statement*⁸⁸ and *Flood Risk Assessment*⁸⁹. The HPC Project has been designed to withstand sea level rises in accordance with the upper projections of the UKCP09 projections. The Defra 2006 predictions were also considered in the original *Flood Risk Assessment*⁸⁹, as shown in **Table 7–9**. An allowance of 862 mm for 2100 has applied to design considerations.

Table 7–9: Defra 2006 Recommended allowances for net sea level rise. Source: HPC DCO Application Flood Risk Assessment 2011⁸⁹

Net Sea Level Rise at Hinkley Point from 1990 to 2115	
1990 to 2025	3.5 mm/yr
2025 to 2055	8.0 mm/yr
2055 to 2085	11.5 mm/yr
2085 to 2115	14.5 mm/yr

Wind speed and wave heights

7.4.14 In the original *Flood Risk Assessment*⁸⁹, it was assumed that between 2055 and 2115, wave heights were anticipated to be 10 % greater against a 1990 baseline. It was assumed that offshore windspeeds and extreme wind heights by 2140 would not be more than 15 % greater than the 1990 level.

7.4.15 UKCP09 projections of future changes in wave heights show that the greatest changes in annual maxima would be up to 1.0 m by 2100. Therefore, 1.0 m wave height increase has applied to offshore design considerations. Defra 2006 climate change allowances for wind speeds and wave heights are shown in **Table 7–10**.

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Table 7–10: Defra 2006 Recommended climate change allowances for offshore wind speeds and wave heights. Source: HPC DCO Application Flood Risk Assessment 2011⁸⁹

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Offshore wind speed		+5%		+10%
Extreme wave height		+5%		+10%

Changes in precipitation

7.4.16 In the original *Flood Risk Assessment*⁸⁹, it was assumed that the intensification of the hydrological cycle would lead to more intense rainfall events and consequently increase fluvial flows. **Table 7–11** shows the allowances for increased peak rainfall intensity and peak river flow that was incorporated in the original assessment.

Table 7–11: Recommended allowances for increases in peak rainfall intensities, peak river flows, offshore wind speeds and wave heights as a result of climate change. Source: HPC DCO Application Flood Risk Assessment 2011⁸⁹

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Peak rainfall intensity	+5%	+10%	+20%	+30%
Peak river flow	+10%		+20%	

Current Baseline

Greenhouse gas emissions

7.4.17 An updated LCA was conducted in 2021. This assessment report⁹² provides an overview of the potential life cycle environmental impacts associated with the construction, operation, and decommissioning of the HPC Project, in terms of electricity output generated and then delivered to a downstream user.

7.4.18 The LCA study identified that the total downstream stage for just under 50 % of the total global warming potential (GWP) contributions of the HPC Project. Downstream stage includes all the activities ‘after’ the HPC facility, capturing processes associated with the operation and infrastructure of the electricity network through which electricity generated at the power plant is transmitted to customers. This includes transmission and distribution losses through the network.

7.4.19 After the downstream stage, the next two highest contributing stages are milling and mining, and construction of core infrastructure, responsible respectively for

⁹² NNB Generation Company HPC Limited (2021). Life cycle carbon and environmental impact analysis of electricity from Hinkley Point C nuclear power plant development.

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16 % and 15 % of the total GWP value per delivered 1 kWh (and 31 % each to the total GWP value per generated kWh). For construction of core infrastructure, the largest driver (47 %) of the GWP value is CO₂ emissions from upstream manufacture of the raw materials needed.

7.4.20 **Table 7–12** shows the key results of the LCA for the HPC Project, where the results are reported per life cycle stage in terms of the indicated unit per the functional unit of 1 kWh generated and delivered to a hypothetical customer.

Table 7–12: Key environmental indicator results per functional unit of 1kWh of generated and delivered electricity, Source: *HPC Life Cycle Assessment*⁹²

Environmental indicator	Upstream	Core construction	Core operation	Core decommission	Total generated	Downstream T&D losses	Downstream other	Total distributed
GWP total (g CO ₂ eq.)	2.76	1.68	0.80	0.25	5.49	0.68	4.73	10.91
GWP total (kg CO ₂ eq.)	2.76E-03	1.68E-03	8.02E-04	2.49E-04	5.49E-03	6.84E-04	4.73E-03	1.09E-02
GWP fossil (kg CO ₂ eq.)	2.76E-03	1.62E-03	7.70E-04	2.46E-04	5.39E-03	6.72E-04	4.72E-03	1.08E-02
GWP biogenic (kg CO ₂ eq.)	4.24E-06	5.90E-05	2.68E-05	6.90E-07	9.08E-05	1.13E-05	2.94E-06	1.05E-04
GWP lulac (kg CO ₂ eq.)	1.06E-06	1.85E-06	4.71E-06	2.35E-06	9.97E-06	1.24E-06	2.58E-06	1.38E-05
AP (kg SO ₂ eq.)	2.72E-05	1.30E-05	8.44E-06	1.18E-06	4.98E-05	6.21E-06	2.68E-05	8.29E-05
EP (kg PO ₄ ³⁻ eq.)	3.90E-05	4.52E-06	3.13E-06	3.97E-07	4.71E-05	5.86E-06	1.27E-05	6.56E-05
POCP (kg NMVOC eq.)	3.02E-05	1.08E-05	6.42E-06	1.15E-06	4.85E-05	6.04E-06	9.47E-06	6.40E-05
Particulate matter emissions (kg PM _{2.5} eq.)	1.41E-05	4.84E-06	2.75E-06	4.77E-07	2.22E-05	2.76E-06	8.54E-06	3.35E-05
WSF (m ³ world eq. deprived)	2.21E-03	2.43E-04	1.74E-04	5.48E-05	2.68E-03	3.33E-04	4.47E-04	3.46E-03

Future Baseline

Greenhouse gas emissions

7.4.21 The recent LCA study is based on the most recent carbon emission factors; Department for Business Energy and Industrial Strategy (BEIS) *Updated energy and emission projections 2019*⁹³ and National Grid *Future Energy Scenarios*

⁹³ Department for Business, Energy and Industrial Strategy (BEIS) (2020). Updated energy and emissions projections: 2019. [\[Online\]](#). [Accessed 14 February 2022].

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2020⁹⁴. Therefore, no changes apply to the current greenhouse gas emissions baseline of the HPC Project.

Changes in weather temperature

7.4.22 UKCP18⁹⁵ indicates that by the end of the 21st century, all areas of the UK are projected to be warmer, more so in summer than in winter. This projected temperature rise in the UK is consistent with future warming globally. In the UK, by 2070, in the high emission scenario, this range amounts to 0.9 °C to 5.4 °C in summer, and 0.7 °C to 4.2 °C in winter. UKCP18 temperature change projections are broadly in line with UKCP09 projections.

Sea level rise

7.4.23 UKCP18 sea level rise is projected to be higher than in UKCP09, but this increase has already been factored into current adaptation planning. Due to the new treatment of land ice contribution to sea level rise, UKCP18 is higher than UKCP09. The sea level allowances, shown in **Table 7–13**, given by Environment Agency appears to be aligned with the initial sea level rise assumptions included in the original *Flood Risk Assessment*⁹⁶ (Section 6).

Table 7–13: Sea level allowances by river basin district for each epoch in mm for each year (based on a 1981 to 2000 baseline) – the total sea level rise for each epoch is in brackets as given by the Environment Agency⁹⁶

Area of England	Allowance	2000 to 2035 (mm)	2036 to 2065 (mm)	2066 to 2095 (mm)	2096 to 2125 (mm)	Cumulative rise 2000 to 2125 (metres)
South west	Higher central	5.8 (203)	8.8 (264)	11.7 (351)	13.1 (393)	1.21
South west	Upper end	7 (245)	11.4 (342)	16 (480)	18.4 (552)	1.62

Changes in precipitation

7.4.24 UKCP18 indicates that rainfall patterns across the UK are not uniform and vary on seasonal and regional scales and will continue to vary in the future. It is indicated that:

- Summer rainfall change:
 - Low emission scenario: 41 % drier to 9 % wetter
 - High emission scenario: 57 % drier to 3 % wetter

⁹⁴ National Grid (2020). Future Energy Scenarios.

⁹⁵ Met Office (2018). UK Climate Projections (UKCP). [Online]. [Accessed 9 February 2022].

⁹⁶ Environment Agency (2016). Flood risk assessments: climate change allowances. [Online]. [Accessed 9 February 2022].

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- Winter rainfall change:
 - Low emission scenario: 3 % drier to 22 % wetter
 - High emission scenario: 2 % drier to 33 % wetter

Changes in wind speed and wave height

7.4.25 The most recent wind speed and wave height projections given by the Environment Agency are shown in **Table 7–14**. The extreme wave height and offshore wind speed allowance is 10 % for the period from 2056 to 2124. This is in line with the previous projections used in the baseline assessment.

Table 7–14: Offshore wind speed and extreme wave height allowance (based on a 1990 baseline) as given by Environment Agency⁹⁶

Applies all around the English coast	2000 to 2055	2056 to 2125
Offshore wind speed allowance	5 %	10 %
Offshore wind speed sensitivity test	10 %	10 %
Extreme wave height allowance	5 %	10 %
Extreme wave height sensitivity test	10 %	10 %

Assumptions and Limitations

7.4.26 Due to the uncertainties that exist around the subject of Climate Change, there are limitations associated with predicting and assessing the impacts of Climate Change into the future, including:

- Uncertainty around climate change projections;
- Limited guidance on how a climate change assessment should be carried out; and
- Limited literature describing climate change impacts on infrastructure and assets.

Likely Significant Effects

Impact on Climate Change through greenhouse gas emissions

7.4.27 A key aim of the HPC Project is to support renewable energy production by reducing the need to use carbon intensive energy generated from fossil fuels. Therefore, the project contributes to reducing greenhouse gas emissions via the generation of low carbon energy.

7.4.28 The recent LCA of the HPC Project⁹² assessed the greenhouse gas emissions embedded within all stages of the life cycle of the HPC Project. The study identified that the carbon footprint associated with the HPC Project was low, approximately

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5.49 gCO₂e/kWh (excluding downstream emissions). This is significantly lower than the average carbon footprint of electricity supplied by the grid based on the information provided on the ESO dashboard (151 g/kWh CO₂ as of February 2022). Where flexibility exists, EDF Energy aims to manage and reduce their emissions as far as possible.

7.4.29 The likely impact of the proposed changes on greenhouse gas emissions are summarised in **Table 7–15**.

Table 7–15: Likely impacts of the proposed changes on greenhouse gas emissions

Proposed change	Potential changes in greenhouse gas emissions in comparison to the original ES	Mitigation Strategy	Comments
Acoustic Fish Deterrent (AFD)	Negligible	N/A	No predicted impact on greenhouse gas emissions of the HPC Development Site
Interim Spent Fuel Store (ISFS)	Negligible	EDF Energy will follow the carbon and climate change principles indicated in the original <i>Sustainability Statement</i> ⁶⁸ and minimise the life cycle emissions where possible.	Negligible impact on embodied carbon emissions due to the change in fuel store dimensions. The difference in floor area is approximately 6,967 m ² , which is about 1 % of the footprint of the operational HPC Development Site (approximately 675,000 m ²). It is likely that the proposed change to building dimension will create an additional GHG emissions of around 89,000 tonnes of CO ₂ e. The total estimated carbon footprint of the HPC Development Site is approximately 8,624,838 tonnes of CO ₂ e.
Meteorological Mast	Negligible	EDF Energy will follow the carbon and climate change principles indicated in the original <i>Sustainability Statement</i> ⁶⁸ and minimise the life cycle emissions where possible.	No significant changes on construction or operation related carbon emissions of the HPC Development Site.
Hinkley Point Substation	Negligible	EDF Energy will follow the carbon and climate change principles indicated in the original <i>Sustainability Statement</i> ⁶⁸ and	Savings in embodied carbon emissions can be achieved via not having the need to demolish the existing substation and a build new substation. However, due to the relatively small size of the substation

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Proposed change	Potential changes in greenhouse gas emissions in comparison to the original ES	Mitigation Strategy	Comments
		minimise the life cycle emissions where possible.	building, the overall impact on HPC Development Site-based carbon emissions is expected to be insignificant.
Sluice Gate Storage Structures	Negligible	EDF Energy will follow the carbon and climate change principles indicated in the original <i>Sustainability Statement</i> ⁸⁸ and minimise the life cycle emissions where possible.	Carbon emissions associated with construction and materials of the proposed new structures is expected to be insignificant. No major changes in carbon emissions is expected.

Vulnerability to Climate Change

7.4.30 One of the key sustainability objectives of the HPC Project is to ensure that the development can cope with and be adaptable to the predicted effects of climate change and that it is resilient to extreme weather events such as storms, floods and droughts. The vulnerability assessment of the proposed changes to climate change is based on the identification and assessment of the rate of climate change, considering the potential extent of disruption which may occur throughout the lifecycle of the project.

Flood risk due to coastal changes and increased rainfall

7.4.31 The design of the HPC Project takes into account the climate change scenarios considering an operational lifetime of 60 years. The maximum scenario projections for climate change and their likely implications for coastlines have been assessed and addressed in the designs of the HPC Development Site. These considerations included the following:

- Sea level rise;
- Offshore windspeed;
- Extreme wave height;
- Peak rainfall intensity; and
- Peak river flow.

7.4.32 The original *Flood Risk Assessment*⁸⁹ produced was in compliance with the Flood and Water Management Act 2010.

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7.4.33 The HPC Development Site has been designed considering the standards imposed by the *NPS for Nuclear Power Generation (EN-6)*, which required new sites to be able to withstand the upper projections of the UKCP09. To protect the HPC Development Site from any potential coastal flooding due to sea level rise, EDF Energy has proposed to raise the land platform of HPC to 14 m AOD and to construct a new sea wall to protect the land platform from erosion. A further detailed assessment is included in the flood risk section of the original *Sustainability Statement*⁸⁸ and within the original *Flood Risk Assessment*⁸⁹. The proposals for the height of the land platform, the adaptability of the sea wall and specific considerations to buildings and drainage system design were included in the original *Design and Access Statement*⁹⁷. The assessment of cumulative hydrology impacts has been considered using the *Flood Risk Assessment*⁸⁹ and accompanying drainage strategies which were developed for the HPC Development Site and each of the associated development sites in 2011. The results of the detailed flood risk assessment modelling were provided as part of the original ES.

7.4.34 The likely effects of increased sea levels, increased rainfall and increased wave activity on the proposed changes is not expected to be significant. The design of the proposed changes adopt the same climate change resiliency strategies included in the original ES and *Sustainability Statement*⁸⁸. Therefore, it is considered that the effects of changes in rainfall and sea level and wave activity have been appropriately considered in the original ES and further assessment is therefore scoped out.

7.4.35 **Table 7–16** provides an overview of the effects on likely vulnerability to changes in sea levels and wave activity, and increased rainfall as a result of the proposed changes.

Table 7–16: Vulnerability to changes in sea levels, rainfall and wave activity as a result of the proposed changes

Proposed change	Vulnerability to changes in sea levels, rainfall and wave activity	Comments
Acoustic Fish Deterrent (AFD)	N/A	N/A
Interim Spent Fuel Store (ISFS)	Negligible	Change in dimensions and its impact on the drainage strategy is not expected to affect the surface water management strategy.

⁹⁷ EDF Energy (2011). Hinkley Point C Project Wide Design and Access Statement. [\[Online\]](#). [Accessed 17 February 2022].

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Proposed change	Vulnerability to changes in sea levels, rainfall and wave activity	Comments
Meteorological Mast	Negligible	Design of the meteorological mast will take into account the potential changes in climate. No significant impact foreseen.
Hinkley Point Substation	Negligible	A sensitivity analysis was undertaken in 2019 to evaluate the impact of retaining the substation. The results indicated that the change to the topography does not cause any additional flooding if channel 7 is blocked by the building. The same study would need to be repeated to confirm the findings once the final surface details are defined.
Sluice Gate Storage Structures	Negligible	The impact of four new structures on the HPC Development Site based drainage and flood management strategy is expected to be insignificant.

Likely effects of changes in external temperature and wind conditions

7.4.36 The design of the HPC Development Site and off-site associated development addresses future changes in weather, considering the UKCP09 projections, which are broadly in line with UKCP18 projections. Where possible, building design takes into account the effects of climate change considering a target operational life of 60 years. Therefore, the design of the proposed changes adopt the same climate change resiliency strategies included in the original ES and *Sustainability Statement*⁸⁸. Therefore, it is considered that the effects of changes in external temperature and wind conditions have been appropriately considered in the original ES and further assessment is therefore scoped out.

7.4.37 The proposed changes are not expected to impact upon the findings of the original *Sustainability Assessment*⁸⁸, as set out in **Table 7–17**.

Table 7–17: Potential impact of extreme temperatures on proposed changes

Proposed change	Potential impact of overheating on proposed developments	Comments
Acoustic Fish Deterrent (AFD)	Negligible	Not applicable
Interim Spent Fuel Store (ISFS)	Negligible	The design will take into consideration the potential changes in temperature and weather conditions. No significant impact foreseen.
Meteorological Mast	Negligible	The meteorological mast will be designed and built considering the changes in the climate change. No particular impact has been foreseen.

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Proposed change	Potential impact of overheating on proposed developments	Comments
Hinkley Point Substation	Negligible	The substation has been designed considering a +60 year life cycle, considering the recent design guidance and climate conditions. Therefore, an additional overheating assessment is not needed.
Sluice Gate Storage Structures	Negligible	The design will take into consideration the potential changes in temperature and weather conditions. No significant impact foreseen.

Proposed Scope

7.4.38 Based on the incorporation of climate mitigation and adaptation measures being embedded into the design of the HPC Project as indicated in previous environmental and sustainability statements, the impacts of the proposed changes are not expected to be significant. Further assessment is therefore scoped out.

7.5 Major Accidents and Disasters

Introduction

7.5.1 The original ES was submitted prior to the 2017 EIA Regulations coming into force. Therefore, major accidents and disasters had not been scoped into the EIA as a separate aspect. As a result, the vulnerability of the HPC Project to major accidents and disasters was not specifically assessed.

7.5.2 The 2017 EIA Regulations state that significant adverse effects associated with risks of major accidents and disasters “*which are relevant to the project concerned*” should be described (Regulation 5(4)). As this is an application for a material change being submitted with an EIA prepared in accordance with the 2017 EIA Regulations, the nature and scale of the proposed changes have been considered with regards to major accidents and disasters.

7.5.3 Major accidents and disasters is still an emerging aspect to be considered in EIA. The Institute of Environmental Management and Assessment (IEMA) published *Major Accidents and Disasters in EIA: A Primer*⁹⁸ in 2020 in part to offer a possible assessment methodology. The definitions provided in the IEMA Primer have been considered:

- **Major Accident:** “*Events that threaten immediate or delayed serious environmental effects to human health, welfare and/or the environment*”

⁹⁸ IEMA (2020). Major Accidents and Disasters in EIA: A Primer.

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and require the use of resources beyond those of the client or its appointed representatives to manage. Whilst malicious intent is not accidental, the outcome (e.g. train derailment) may be the same and therefore many mitigation measures will apply to both deliberate and accidental events.”

- **Disaster:** “May be a natural hazard (e.g. earthquake) or a man-made/external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident.”

7.5.4 In accordance with the IEMA Primer, if it is possible to demonstrate that “existing design measures or legal requirements, codes and standards adequately control the major accident and/or disaster”, it is likely the aspect can be scoped out of further assessment.

Likely Significant Effects

7.5.5 The Application Statement⁹⁹ for the 2021 Amendment Order captured the change in the regulations and considered potential effects associated with major accidents and disasters. As outlined in paragraphs 3.2.4 to 3.2.5 of the Application Statement, safety risks were considered in the nuclear safety case. Assessments produced by the Applicant were reviewed by the Office for Nuclear Regulation (ONR) as part of the Generic Design Assessment (GDA) for the HPC Project and resulted in the issue of a Design Acceptance Confirmation (DCA) by the ONR and a Statement of Design Acceptability (SoDA) by the Environment Agency in 2012.

7.5.6 Based on the strict legal requirements associated with nuclear power, and the obligations of the Applicant as the holder of the Nuclear Site Licence, it is concluded that the risks associated with “relevant” major accidents and disasters have already been mitigated for throughout the design of the HPC Project. As the proposed changes will be designed to the same standards as the rest of the HPC Project, it is not anticipated that the changes will lead to any significant risks of major accidents and disasters.

7.5.7 In regard to the ISFS, a revised strategic assessment was undertaken in 2017¹⁹ that concluded the wet storage method originally proposed had no safety advantages over dry storage and no storage method option assessed was considered “unsafe” or “a significant risk”. Dry storage does not require active intervention to maintain safety, so can be considered less of a risk in comparison to wet storage. The proposed changes to the ISFS do not present any significant effects associated with major accidents and disasters.

⁹⁹ EDF Energy (2020). Application Statement September. [Online]. [Accessed 25 January 2022].

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7.5.8 In regard to the AFD, one of the main drivers for its removal is the significant health and safety concerns associated with maintaining the system in the harsh marine environment at the HPC intakes. This would involve maintenance by divers every 12 months, restricted to narrow tidal windows for safety. These dives have the potential to lead to a major accident (see **paragraph 7.5.3**). As major accidents and disasters were not assessed in the original ES, the removal of the requirement for an AFD and therefore the associated safety risks do not present any significant effects. However, it is acknowledged that the removal of the AFD is a beneficial change to the HPC Project in regard to health and safety.

Proposed Scope

7.5.9 As outlined in **paragraphs 7.5.1 to 7.5.8**, due to the strict legal requirements associated with nuclear power stations and the nature and scale of the proposed changes, it is proposed that major accidents and disasters is scoped out of further assessment.

7.6 Transboundary Effects

7.6.1 Planning Inspectorate *Advice Note 12* dated December 2020¹⁰⁰ states under the Special Arrangements for Nuclear NSIPs section that the Planning Inspectorate will, as a matter of course, “*inform all relevant states party to UNECE Espoo and Aarhus conventions of a proposed nuclear NSIP*”. Similarly, under the Public Participation section of *Advice Note 12*, it states that “*Public participation will occur where the proposed development is a nuclear NSIP*”. This application is for a material change to a consented nuclear power station as opposed to a new “*proposed nuclear NSIP*”.

7.6.2 Due to the nature and scale of the proposed changes, likely significant transboundary effects are not anticipated. In addition, as stated in the 2021 RWA *Advice Note*¹⁰¹, the RSR Permit variation as a result of the change from wet to dry storage of spent fuel “*should not trigger any requirement under The Transboundary Radioactive Contamination (England) Direction 2020*¹⁰². The Environment Agency then confirmed this in a meeting held on 12 October 2021.

7.6.3 However, the Applicant acknowledges that the Planning Inspectorate might be inclined to apply the guidance set out in *Advice Note 12* to this application.

¹⁰⁰ Planning Inspectorate (2020). *Advice Note Twelve: Transboundary Impacts and Process*. [\[Online\]](#). [Accessed 7 February 2022].

¹⁰¹ EDF Energy (2021). *RWA Advice Note – Dry Fuel Store Impact on HPC RSR Permit and Variation Strategy*. 3 November 2021.

¹⁰² The Transboundary Radioactive Contamination (England) Direction 2020. [\[Online\]](#). [Accessed 15 February 2022].

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- 7.6.4 The Applicant also acknowledges that the BEIS is committed to notifying six European Economic Area (EEA) states once this application has been submitted, even if no likely significant effects are identified.
- 7.6.5 Any representations received from the public or governments of other states will be taken into account in relation to the material change process, whether received as part of the pre-application process or after submission of the application.

8. ASPECTS TO BE SCOPED INTO THE UPDATED EIA

- 8.1.1 **Table 8–1** outlines which environmental aspects are to be scoped into the updated EIA along with a brief justification and which of the proposed changes will require assessment. This Scoping Report acknowledges that not all of the proposed changes have the potential to give rise to significant effects for every aspect. Further detail on the aspects to be scoped into the updated EIA are provided in **Chapters 9 and 10**.
- 8.1.2 In line with the 2017 EIA Regulations, the updated EIA will consider any site-specific (or within-development) cumulative impacts (as assessed in original ES Volume 11¹⁰³) of the aspect assessments outlined in **Table 8–1**. These effects will be assessed and any new or materially different effects addressed within the relevant aspect chapters of the updated ES. However it is not considered likely that any new or materially different significant in-combination effects will be identified.
- 8.1.3 The approach to wider cumulative impacts (the HPC Project and other unrelated developments in the surrounding area) will be included in the PEIR to determine whether a wider cumulative effects assessment is required.
- 8.1.4 The structure and content of the updated ES will be in accordance with Regulation 14 of the 2017 EIA Regulations.

¹⁰³ EDF Energy (2011). Environmental Statement - Volume 11 Cumulative Effects. [\[Online\]](#). [Accessed 25 February 2022].

Table 8–1: Summary of the aspects to be scoped into further assessment

Volume 2 Hinkley Point C Development Site of the Original ES ¹⁰⁴ - Chapter	Aspect	Justification	Change(s) to be assessed				
			Acoustic Fish Deterrent	Interim Spent Fuel Store (ISFS)	Meteorological Mast	Hinkley Point Substation	Sluice Gate Storage Structures
19	Marine Ecology	Potential impact on fish assemblage. Potential indirect effects on seabirds and waterfowl and marine mammals. Potential for altered water quality due to fish impingement. See Chapter 9 for further details.	✓	X	X	X	X
22	Landscape and Visual	Potential impacts on landscape and visual receptors as a result of the proposed changes to the ISFS. See Chapter 10 for further details.	X	✓	X	X	X

¹⁰⁴ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site. [\[Online\]](#). [Accessed 25 February 2022].

9. MARINE ECOLOGY

9.1.1 This section of the Scoping Report considers the likely significant effects associated with marine ecology as a result of the proposed changes, with particular focus on the removal of the AFD from the CWS. There are no potential pathways of effect identified in relation to the other proposed changes. This chapter should be read in conjunction with original ES Volume 2 Hinkley Point C Development Site - Chapter 19: Marine Ecology¹⁰⁵.

9.1.2 It also draws upon the following reports and documentation produced post-DCO Application (2011), which contain new information and evidence that has become available subsequently and which informs the assessments made herein:

- *TR456: Revised Predictions of Impingement Effects at Hinkley Point C – 2018 Edition 2 (Dated April 2019).*
- *TR493: The effect of not fitting an AFD system at HPC on the operation of the HPC FRR systems (Cefas, June 2019).*
- *TR515: Hinkley Point C Water quality effects of the fish recovery and return system (Cefas, April 2020).*
- *SPP106: Assessment of local effects of HPC on the Hinkley Point fish assemblage (Cefas, July 2020).*

9.1.3 These reports can be found in **Appendix B**.

9.2 Legislation and Planning Policy Context

9.2.1 Legislation and planning policy relevant to the assessment of marine ecology is outlined in **Table 9–1** and **Table 9–2** below.

Table 9–1: Legislation relevant to the assessment of marine ecology

Legislation	Relevant to assessment
The Conservation of Habitats and Species Regulation 2017 and Conservation of Offshore Marine Habitats and Species Regulations 2017	In England the Habitat Regulations implement the Habitats Directive and elements of the Birds Directive.
Marine and Coastal Access Act 2009	Spatial planning system for improved management and protection of the marine and coastal environment.

¹⁰⁵ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site. [\[Online\]](#). [Accessed 25 February 2022].

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Legislation	Relevant to assessment
Wildlife and Countryside Act 1981	Enables SSSI designation to protect biodiversity, geological and physio-geological features of terrestrial and coastal environments.
The Convention on Biological Diversity 1992	Initiatives aimed at making a contribution towards meeting the objectives of the CBD include the Bern and Bonn conventions and the establishment of the European Sites network.
Eels (England and Wales) Regulations 2009	The Eels Regulations implement Council Regulation (EC) No 1100/2007 into UK law, which established measures for the recovery of the stock of European eel. In accordance with the Regulations, the UK submitted Eel Management Plans for approval, including those implemented for the Severn Catchment. The Regulations came into force in January 2010.
The Marine Strategy Framework Directive (MSFD) 2008	Descriptor 1 aims to maintain biodiversity in line with a natural state appropriate to a particular area.

Table 9–2: Planning policy relevant to the assessment of marine ecology

Policy	Relevant to assessment
National	
<i>The UK Marine Policy Statement</i> ¹⁰⁶ (MPS)	Sections 3.3.3 and 3.3.6 relate to coastal power stations and potential impacts on the local marine environment at different project stages.
Local	
<i>The South West Inshore and South West Offshore Marine Plan</i> ¹⁰⁷ (South West Marine Plan).	The South West Marine Plan discusses the importance for its policies on marine infrastructure (including power stations) in paragraphs 50 to 57,

9.3 Guidance

9.3.1 The guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal* is relevant to the assessment of marine ecology and will be used to inform this Scoping Report and the EIA. This guidance notes the importance of professional judgement and the restrictions associated with application of impact assessment matrices. It is also consistent with the approach used in the original ES.

¹⁰⁶ UK Government (2011). UK Marine Policy Statement. [\[Online\]](#). [Accessed 10 February 2022].

¹⁰⁷ Marine Management Organisation (2020). South West Inshore and South West Offshore Marine Plan [\[Online\]](#). [Accessed 10 February 2022].

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9.4 Study Area

- 9.4.1 The geographical extent of a Study Area varies depending on the environmental aspect and specific receptors under consideration. The scope of this assessment extends only to those receptors which are likely to be affected by the removal of the AFD system from the CWS design, namely fish, piscivorous birds and marine mammals (see **Table 9–3** below). The Study Areas are defined only for these receptors and only in relation to this specific assessment.
- 9.4.2 This Chapter of the Scoping Report is focused only on the potential direct effects on fish populations, and any indirect effects on piscivorous birds and marine mammals, as a result of changing the detailed design of the CWS.
- 9.4.3 The Study Area for fish populations has been defined by the International Council for Exploration of the Sea (ICES) fish stock assessment units with connectivity to the CWS. For the indirect effects on piscivorous birds the Study Area has been identified as the area over which the proposed change to the CWS will affect ornithological interest, i.e. the foraging ranges of relevant piscivorous birds. On the basis that there have been no notable changes to the species of the Severn Estuary fish assemblage, or the qualifying features of SPAs and/or Ramsar sites with breeding seabird features since the original impact assessment was undertaken¹⁰, the Study Area remains as presented within the original ES for fish and bird populations.
- 9.4.4 The Study Area for indirect effects from the proposed change to the CWS on marine mammals mirrors that for fish populations, as any indirect effects are related to the presence/absence of fish prey. However, due to connectivity with designated sites with marine mammal interest features, this Study Area may expand to the connected Marine Mammal Management Units (MMMU) should a potential effect pathway be identified.
- 9.4.5 Consideration is also given to potential for altered water quality associated with fish impingement as a result of AFD removal.

9.5 Baseline

Baseline Sources

- 9.5.1 The following sources have been used to inform a preliminary understanding of the baseline conditions for the assessment of marine ecology:
- Original ES Volume 2 Hinkley Point C Development Site - Chapter 19: Marine Ecology (2011)¹⁰⁵; and

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- Hinkley Point C Project case for removal of the requirement to install an acoustic fish deterrent. Updated Environmental Statement – Marine Ecology (2019).

Baseline Conditions

Original Baseline

9.5.2 The Severn Estuary is Britain's second largest estuary, with an area of 557 km² including an intertidal area of 100 km². When its seaward extension, the Bristol Channel, is included, the intertidal habitat is 200 km². It is ecologically appropriate to consider the Severn and the Bristol Channel as one unit. This section presents an overview of the marine ecological for fish ecology, ornithology and marine mammals.

Fish ecology

9.5.3 The original baseline drew on two primary datasets for assessing the fisheries community at Bridgwater Bay: the Routine Impingement Monitoring Programme (RIMP) that has been conducted at HPB since 1981 (Henderson and Holmes 1989), and the BEEMS Comprehensive Impingement Monitoring Programme (CIMP) conducted at HPB in 2009/10 (BEEMS Technical Report TR129).

9.5.4 These identified a variety of fish species within or migrating through the estuary, including those protected under European Directives and/or national legislation (e.g. Atlantic salmon (*Salmo salar*), twaite shad (*Alosa fallax*), allis shad (*Alosa alosa*), river lamprey (*Lampetra fluviatilis*), sea lamprey (*Petromyzon marinus*), sea trout (*Salmo trutta*) and eel (*Anguilla anguilla*)). Bridgwater Bay is a nursery area for juvenile fish and a number of fish species utilise the intertidal areas.

9.5.5 The broader fish population of the Severn Estuary and Bristol Channel is of similar species composition to that of other estuaries and coastal regions in south-west England (Henderson and Holmes, 1989). At Hinkley Point, 92 species have been detected in the impingement datasets; however, most of these species occur infrequently in very low numbers and are not present in sufficient numbers to play an important role in the functioning of the ecosystem. For marine species, the estuary is primarily used as a nursery ground.

9.5.6 Most fish species at Hinkley Point are not present for the entire year in significant numbers, and the community changes throughout the year as different species migrate in and out of Bridgwater Bay. Of the 64 fish species in the CIMP dataset only whiting (*Merlangius merlangus*), five-bearded rockling (*Ciliata mustela*) and conger eel (*Conger conger*) were recorded all year round at broadly similar densities, but even these species have periods of higher density. A number of species such as sprat (*Sprattus sprattus*), sole (*Solea solea*), cod (*Gadus morhua*) and flounder (*Platichthys flesus*) are present for all, or nearly all, of the year, but

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they display very distinct seasonality with their peak numbers concentrated in a few months and very low numbers in other months (Henderson and Holmes, 1989).

Ornithology

- 9.5.7 The diverse and extensive habitats of the Severn Estuary, particularly the intertidal mudflats and sandflats, provide feeding habitat for large numbers of waterbirds that move along the west coasts of Europe during the spring and autumn migration period, as well as for wintering populations of swans, geese, ducks and waders. Key potential food sources for birds associated with the mudflats reported from core sampling of the littoral fine mud substrate to the east of Hinkley Point, taken for the original EIA, are the bivalve *Macoma balthica* and the polychaete worm *Nephtys hombergii*.
- 9.5.8 A mean peak number of 66,022 waterbirds was recorded on the Severn Estuary by the Wetland Bird Survey between 2002/03 and 2006/07. For its size, this number of birds is relatively low in comparison with other UK estuaries and reflects the largely impoverished invertebrate fauna of much of the central sandflats of the estuary. Seven species of wader are included as features of the Severn Estuary SPA, five of which predominantly forage intertidally: ringed plover (*Charadrius hiaticula*), grey plover (*Pluvialis squatarola*), dunlin (*Calidris alpina*), curlew (*Numenius arcata*), redshank (*Tringa totanus*), and shelduck (*Tadorna tadorna*). Winter low-tide counts of the estuary indicate that the highest densities of waterbirds are found along the Gwent shore, from Rhymney and Peterstone to the Welsh Grounds, on mudflats adjacent to the New Grounds at Slimbridge, on the Axe Estuary and within Bridgwater Bay. Most species that forage in the intertidal habitats are widely distributed across the estuary, with the exception of the central sandflats, though each species favours different areas and habitats.
- 9.5.9 At Hinkley Point, survey data collected for the original EIA indicate that the area is regularly used by shelduck, wigeon (*Anas penelope*), pintail (*Anas acuta*), curlew, passage whimbrel (*Numenius phaeopus*), lesser black-backed gull and ringed plover. However, apart from the occasional large flock of shelduck offshore of the HPC Development Site and use of the foreshore by small numbers of ringed plover, wigeon and curlew, other species of waterbirds make only very limited use of the intertidal area fronting the HPC Development Site. It is noted that of the above species, only the lesser black-backed gull is piscivorous in nature, and would be reliant upon fish populations for prey, in addition to being a scavenger. This is, therefore, the key species which would be affected should any change to such fish populations arise. Foraging ranges of piscivorous species are large.

Marine mammals

- 9.5.10 Eighteen species of cetacean have been recorded in the Severn Estuary and Bristol Channel since 1990. Of these, the following five species are present at any

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time of the year, or recorded annually as seasonal visitors within the Bristol Channel (Reid *et al*, 2003): harbour porpoise (*Phocoena phocoena*), Risso's dolphin (*Grampus griseus*), common dolphin (*Delphinus delphis*), bottlenose dolphin (*Tursiops truncatus*) and minke whale (*Balaenoptera acutorostrata*) (Reid *et al*, 2003). Occasional sightings and strandings of other cetaceans such as the long-finned pilot whale (*Globicephala melas*), fin whale (*Balaenoptera physalus*) and killer whale (*Orcinus orca*) have been recorded.

- 9.5.11 The harbour porpoise is the most common cetacean recorded in the Bristol Channel, followed by the common dolphin. Of the pinnipeds, the grey seal (*Halichoerus grypus*) has been recorded in the Bristol Channel area.

Current Baseline

- 9.5.12 No additional baseline surveys have been undertaken to supplement the baseline characterisation. However, further technical studies and analysis have been undertaken to inform optioneering for fish mitigation, the outputs of which will be applicable to the updated EIA (as outlined in **paragraph 9.1.2**).

Future Baseline

- 9.5.13 There is a wealth of evidence that marine ecological communities are shifting significantly at all latitudes in response to climatic change and fishing. The fish assemblage at Hinkley Point is no exception and impingement monitoring over the past 37 years shows changes with time. As would be expected, as the population of some species has declined, the populations of other species have grown in number to fill vacated ecological niches, i.e. the assemblage is a dynamic system in which predator-prey relationships adjust on a seasonal and annual basis to maintain energy balances (TR456, Cefas 2019).
- 9.5.14 Hinkley Point B is scheduled to enter the defueling phase of decommissioning by the end of July 2022, which is expected to result in a reduced abstraction requirement and associated fish impingement, due to the station's CWS reduced operation.

9.6 Assumptions and Limitations

- 9.6.1 There have been a range of ongoing marine and coastal survey and monitoring activities around Hinkley Point and the wider project vicinity. These include habitat mapping, water quality sampling and ornithological monitoring. The findings of these surveys shall be incorporated into the ES as appropriate.

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9.7 Likely Significant Effects

9.7.1 The likely significant effects associated with marine ecology as a result of the proposed changes are outlined in **Table 9–3**.

Table 9–3: Likely significant effects associated with marine ecology as a result of the proposed changes

Change	Receptor	Likely Significant Effect(s)
Acoustic Fish Deterrent (AFD)	Fish assemblage	Impacts of entrainment* ¹ of species via the cooling water intakes.
	Seabirds and Waterfowl	Indirect effects of food availability on seabirds and waterfowl (specifically piscivorous birds)
	Marine mammals	Indirect effects of food availability on marine mammals
	Water quality	Altered water quality due to fish impingement* ^{2,3}
Interim Spent Fuel Store (ISFS)	All marine ecological receptors	No pathway to marine environment so no likely significant effects.
Meteorological Mast	All marine ecological receptors	No pathway to marine environment so no likely significant effects.
Hinkley Point Substation	All marine ecological receptors	No pathway to marine environment so no likely significant effects.
Sluice Gate Storage Structures	All marine ecological receptors	No pathway to marine environment so no likely significant effects.

*1 Entrainment: The passage of a fish through a water intake, and into the CWS.

*2 Impingement: The physical holding of a fish against a barrier structure (e.g. a screen), due to intake velocities being too high for the fish to swim away.

*3 Not assessed previously but included here as a potential pathway has been identified.

9.7.2 Potential entrainment and impingement impacts resulting from the operational phase of the CWS are presented and considered for fish, piscivorous birds and marine mammals. Consideration is also given to potential for altered water quality in relation to fish mortality, dispersal and decomposition. Other operational impacts associated with the CWS have been scoped out of this focused assessment.

9.8 Proposed Assessment Methodology

9.8.1 The original ES adopted a methodology for fish impingement assessment to help determine the magnitude of effects on fish alongside the EIA methodology (see Section 6). The impingement predictions presented in the original ES were based upon the best available evidence at that time, and the precautionary principle was applied where data was deficient. Since the original DCO submission a suite of studies have been undertaken (listed in **Section 9.1.2**), and impingement estimates refined due to improved understanding of the fish assemblage in Bridgwater Bay and design detail for the CWS. The Project’s Marine Technical Forum (MTF) was consulted on these studies and the proposed CWS design refinements.

9.8.2 While the principles of the impingement assessment process remain unchanged from the DCO stage, the methodology has evolved to account for additional data, information and analytical techniques. The proposed changes to the assessment process are summarised below in **Table 9–4**. The full process will be detailed in the Marine Ecology EIA Chapter. For all other marine ecological receptors considered herein, the EIA methodology will be directly applied.

Table 9–4: Changes to the impingement assessment process and the impact on the assessment compared to the original ES¹³

Description of change	How the assessment approach has been improved since the DCO ES
Revised impingement indicators based upon the latest scientific advice (Adult population sizes, international catch and HPB Routine Impingement Monitoring Programme (RIMP) impingement time series extended to 2017)	Uses the most up to date scientific evidence. For some species the adult population sizes have increased, whilst others have decreased. This will include consideration of ongoing environmental initiatives within the Severn Estuary.
Use of site-specific Equivalent Adult Value (EAVs) derived from measurements made at Hinkley Point during the BEEMS Comprehensive Impingement Monitoring Programme (CIMP) survey programme in 2009/10.	Uses the most biologically relevant data rather than non-site specific data from different years of uncertain accuracy. Causes the predicted impingement impact to increase for some species, and to decrease for others.
Incorporates the detailed design for the HPC cooling water system (CWS). HPC cooling water flow rate is now confirmed to be 131.86 cumecs (at Mean Sea Level) with a worst case of 9% water flow through the band screens. Band screens to be fitted with an FRR system and HPC forebay to be fitted with trash racks of 50mm vertical bar spacing fitted with fish friendly buckets for fish recovery.	More accurate impingement assessment. Results in minor increases in predicted impingement impact.
Added assessments for six additional species not included at the time of DCO (bass (<i>Dicentrarchus labrax</i>), thornback ray (<i>Raja clavata</i>), flounder, thin lipped grey mullet (<i>Chelon</i>	Provides confidence that the assessment is fully representative of the effects of HPC impingement on the fish assemblage.

Description of change	How the assessment approach has been improved since the DCO ES
ramada), five-bearded rockling and sand goby (Pomatoschistus minutus)).	
Quantitative analysis of the expected impact of the HPC LVSE intake heads on impingement. This was not addressed in the original HRA.	By not taking account of the design of the HPC intake heads the previous impingement estimates were unrealistically conservative. The revised estimates are considered more reliable, but still conservative for the purposes of assessment.
<p>Revised impingement numbers from the CIMP programme and use of a statistically more robust procedure to calculate the mean and confidence limits on the impingement estimates.</p> <p>A comprehensive uncertainty analysis process has been undertaken.</p> <p>A significantly expanded analysis on the effects of interannual variability in impingement numbers has been included.</p> <p>A more robust statistical analysis of trends has been undertaken on the RIMP data.</p> <p>The CIMP data have been subject to enhanced quality assurance which has resulted in increased numbers for 16 fish species in the raw CIMP impingement dataset.</p>	Provides more confidence in the reliability of the increased impingement predictions.
Revised mean weights used to convert the number of equivalent adult fish into impingement weight.	More reliable impingement predictions. Results in minor increases in predicted impingement impacts for some species.
Provision of assessments for species that were not detected during the CIMP survey (salmon and sea trout) using the RIMP dataset.	Substantially increased confidence in the DCO assessment that the impingement effect on these designated species is negligible.

10. LANDSCAPE AND VISUAL

10.1 Introduction

10.1.1 This section of the Scoping Report considers the likely significant effects associated with landscape and visual impacts arising as a result of the proposed changes. This chapter should be read in conjunction with original ES Volume 2 Hinkley Point C Development Site - Chapter 22: Landscape and Visual¹⁰⁸ and associated figures and appendices included as **Appendix C** of this Scoping Report. Links have also been provided in the footnotes within this chapter to the certified documents on the National Archives website.

10.1.2 This scoping report excludes all receptors identified in original ES Volume 2 Environmental Statement – Chapter 22: Landscape and Visual¹⁰⁸ that form the baseline for assessment of the associated developments.

10.2 Legislation and Planning Policy Context

10.2.1 Legislation and planning policy relevant to the assessment of the landscape and visual aspect is outlined in **Table 10–1** and **Table 10–2** below.

Table 10–1: Legislation relevant to the assessment of landscape and visual

Legislation	Relevance to assessment
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017	The legislation sets out the requirement for an ES to identify, describe and assess the “ <i>direct and indirect significant effects of the proposed development</i> ” on factors including landscape, as well as the interaction between this factor and others. <i>Under Schedule 4 Paragraph 4, Information for inclusion in Environmental Statements must include, “A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: (inter alia) landscape”.</i>
National Parks and Access to the Countryside Act 1949 as amended by the Environment Act 1995	Areas of Outstanding Natural Beauty (AONB) are designated under the National Parks and Access to the Countryside Act 1949 in order to secure permanent protection against development that would damage the special qualities of the AONB.
Countryside and Rights of Way (CRoW) Act 2000	The CRoW Act provides a statutory framework for AONBs and provides further direction for managing AONBs.

¹⁰⁸ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site. [\[Online\]](#). [Accessed 25 February 2022].

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Table 10–2: Planning policy relevant to the assessment of landscape and visual

Policy	Relevance to assessment
National	
National Policy Statements (NPS)	
<p><i>Overarching NPS for Energy (EN-1) 2011¹⁰⁹</i></p> <p>Paragraph 5.9.7 “The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on local amenity, and nature conservation.”</p> <p>Paragraph 5.9.17 “The IPC should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by reasonable mitigation.”</p>	<p>This NPS, taken together with the NPS for Nuclear Power Generation (EN-6), provides the primary basis for decisions by the Planning Inspectorate.</p>
<p><i>Draft Overarching Energy NPS (EN-1) 2021</i></p> <p>Part 5 of the draft EN-1 covers Generic Impacts and sets out the impacts which any type of energy infrastructure could potentially have, which includes landscape and visual impacts.</p> <p>Changes in the draft text include updates in the following key areas (inter alia):</p> <ul style="list-style-type: none"> • Landscape and visual. 	<p>Draft revised energy NPS for consultation.</p>
<p><i>NPS for Nuclear Power Generation (EN-6) 2011¹¹⁰.</i></p> <p>Paragraph 2.8.3 “The IPC should consider how good design can act to mitigate the impacts of new nuclear power stations, such as landscape and visual impacts.”</p>	<p>This NPS, taken together with the <i>Overarching NPS for Energy (EN-1)</i>, provides the primary basis for decisions by the Planning Inspectorate.</p> <p>To consider how the design change could mitigate landscape and visual impacts.</p>
<i>National Planning Policy Framework 2021¹¹¹</i>	
<p>Paragraph 14.155 states that, “To help increase the use and supply of renewable and low carbon energy and heat, plans should: a) provide a positive strategy for energy from these sources, that maximizes the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts).”</p>	<p>To ensure that the impacts on landscape and visual amenity are considered</p>

¹⁰⁹ Department for Energy and Climate Change (2011). Overarching National Policy Statement for Energy (EN-1). [\[Online\]](#). [Accessed 15 February 2022].

¹¹⁰ Department for Energy and Climate Change (2011). National Policy Statement for Nuclear Power Generation (EN-6). [\[Online\]](#). [Accessed 15 February 2022].

¹¹¹ Ministry of Housing, Communities and Local Government (2021). National Planning Policy Framework. [\[Online\]](#). [Accessed 8 February 2022].

Policy	Relevance to assessment
Paragraph 15.174 states that, “ <i>Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes.</i> ”	To ensure that the impacts on landscape and visual amenity are considered
Paragraph 15.176 states that, “ <i>Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues.</i> ”	To ensure that the impacts on landscape and visual amenity are considered
<i>Local - West Somerset Local Plan to 2032</i> ¹¹²	
<i>Policy CC4: Coastal Zone Protection</i>	To protect the undeveloped coastal landscape from inessential development which would be damaging to its character.
<i>Policy NH1: Historic Environment</i>	To conserve and enhance the built and historic environment and the heritage assets within the area - Stogursey Conservation Area
<i>Policy NH5: Landscape Character Protection</i>	The policy provides for the appropriate consideration of protected landscapes when considering the design of development schemes.
<i>Policy NH13: Securing High Standards Of Design</i>	To ensure that new development contributes to maintaining a high-quality built environment within the area and helps to deliver sustainable development.
<i>Policy NH14: Nationally Designated Landscape Areas</i>	To protect the high-quality landscape characteristics of the Quantock Hills AONB within the West Somerset LPA area.
<i>Local - West Somerset District Local Plan</i> ¹¹³ (Adopted, April 2006) – retained ‘saved’ policies	No policies relevant to the landscape and visual aspect
<i>Local - West Somerset Council & Sedgemoor District Council, Hinkley Point C Supplementary Planning Document (2011)</i> ¹¹⁴	No policies relevant to the landscape and visual aspect

¹¹² West Somerset Council (2016). West Somerset Local Plan to 2032. [\[Online\]](#). [Accessed 8 February 2022].

¹¹³ West Somerset Council (2006). West Somerset District Local Plan saved policies. [\[Online\]](#). [Accessed 11 February 2022].

¹¹⁴ West Somerset Council and Sedgemoor District Council (2011). West Somerset Council and Sedgemoor District Council, Hinkley Point C Supplementary Planning Document. [\[Online\]](#). [Accessed 8 February 2022].

10.3 Guidance

10.3.1 The following guidance is relevant to the assessment of the landscape and visual aspect and will be used to inform the EIA:

- *Guidelines for Landscape and Visual Impact Assessment, Third Edition*¹¹⁵ (GLVIA3) – adopted for use in assessing the effects of projects on landscape and visual amenity.
- Landscape Institute *Technical Guidance Note 06-19 Visual Representation of Development Proposals*¹¹⁶ (LI TGN 06/19) - provides current guidance for photography and visualisation development.

10.4 Study Area

10.4.1 The LVIA study area for the original ES (Volume 2 Hinkley Point C Development Site - Chapter 22: Landscape and Visual¹⁰⁸) extended up to 25 km from the HPC Development Site which is proportional to the scale of the original HPC Development Site and area over which it is likely to influence.

10.4.2 The proposed LVIA study area for the assessment of the proposed changes extends to 8 km from the HPC Development Site. This is considered to be the maximum distance at which any significant landscape and visual impacts are likely to arise as a result of the relatively limited scale of the proposed changes to the original HPC Development Site. This would include landscape receptors and viewpoints within the Quantock Hills Area of Outstanding Natural Beauty (AONB). Receptors beyond this distance are unlikely to be significantly affected and for the more outlying receptors the proposed change would not result in any perceptible change.

10.4.3 A Zone of Theoretical Visibility (ZTV) has been mapped for HPC Development Site and included in Figure 22.9 and Figure 22.9a of original ES Volume 2¹¹⁷. The ZTV methodology is included in Appendix 22A of original ES Volume 2¹¹⁸. The ZTV was modelled based on a large number of target points. These included two points at +84 m above ordnance datum (AOD) to represent the visibility of the two stacks (the tallest structures) located within the Nuclear Island; 76 target points at +10 m AOD and additional points to reflect the visibility of the southern part of the permanent HPC Development Site.

¹¹⁵ The Landscape Institute and Institute of Environmental Management and Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3)*. Abingdon, Routledge.

¹¹⁶ Landscape Institute (2019) *Technical Guidance Note 06-19 Visual Representation of Development Proposals (LI TGN 06/19)*.

¹¹⁷ EDF Energy (2011) *Environmental Statement - Volume 2 Hinkley Point C Development Site - 4.3 - Volume 2 - Chapter 22 - Figures 1 to 18b of 62*. [Online]. [Accessed 25 February 2022].

¹¹⁸ EDF Energy (2011). *Environmental Statement - Volume 2 Hinkley Point C Development Site - Appendices*. [Online]. [Accessed 25 February 2022].

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10.4.4 To help establish the potential zone of influence for the proposed change to the ISFS a new ZTV would be developed for the Preliminary Environmental Information Report and updated ES. This would help focus the assessment on previously identified and newly identified receptors with the potential to be affected by the ISFS.

10.5 Baseline

Baseline Sources

10.5.1 In addition to original ES Volume 2 Hinkley Point C Development Site - Chapter 22: Landscape and Visual¹⁰⁸ (including supporting figures and appendices), the following sources have been used to inform a preliminary understanding of the baseline conditions for the assessment of the landscape and visual aspect:

- Natural England's *National Landscape Character Area Profiles*¹¹⁹;
- *West Somerset Landscape Character Assessment 1999* (Adopted in 2016 as part of the West Somerset Local Plan 2016-2032)¹²⁰;
- *The Sedgemoor Landscape Assessment and Countryside Design Summary* (Revised Edition, 2003) (Adopted in 2011 as part of the Sedgemoor Local Plan 2011-2032, Updated in Feb 2019)¹²¹;
- The definitive PRow map for Somerset County Council¹²²;
- MAGIC map application (Defra 2020)¹²³; and
- Aerial photography – (Google Satellite Imagery, map data 2022) .

Baseline Conditions

10.5.2 This section describes the receptors included within the original ES; those which are scoped into updated ES and those that are scoped out of the updated ES. **Table 10–3** summarises the receptors that have been scoped out and provides reasoning.

10.5.3 The proposed changes to be included in the updated ES have been reviewed in this section to consider the design change and the potential for new or materially different significant effects to arise. The changes to the acoustic fish deterrent, Hinkley Point substation, and sluice gates storage structures would be very small

¹¹⁹ Natural England (2014) An Approach to Landscape Character Assessment. [\[Online\]](#). [Accessed 28 January 2022]

¹²⁰ Somerset West and Taunton Council (1999), West Somerset Landscape Character Assessment. [\[Online\]](#). [Accessed 28 January 2022].

¹²¹ Sedgemoor District Council (2003), The Sedgemoor Landscape Assessment and Countryside Design Summary. [\[Online\]](#). [Accessed 28 January 2022].

¹²² Somerset County Council, Public Rights of Way and Definitive map and Statement. [\[Online\]](#). [Accessed 02 February 2022].

¹²³ DEFRA, Multi-Agency Geographic Information for the Countryside (MAGIC). [\[Online\]](#). [Accessed 28 January 2022].

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alterations to the original HPC Development and unlikely to be a perceptible change. Therefore, these have not been considered further and are scoped out of the landscape and visual impact assessment.

10.5.4 The proposed changes to the ISFS and meteorological mast have the potential to result in further impacts on both landscape character and visual amenity and therefore these have been considered further.

Original Baseline – Landscape Character

10.5.5 The original ES found that the HPC proposed development would result in both direct and indirect impacts on the Vale of Taunton and Quantock Fringes National Character Area (NCA). The original ES found that direct impacts on key characteristics of the NCA would be “*localised and impact on a small proportion of the overall area*”. Indirect impacts due to changes in views and experience of the wider NCA would be “*limited in extent and significance*”. Due to the limited scale, the proposed changes are unlikely to result in a significantly greater change on key characteristics or perception of the NCA. Therefore, Vale of Taunton and Quantock Fringes NCA has been scoped out of further assessment.

10.5.6 The HPC Development Site falls within the Quantock Vale Local Landscape Character Area (LLCA)¹²⁰ which extends east, south and west between approximately 4 km and 6 km from the HPC Development Site. This area is characterised as a lowland landscape of wider valleys and gentle hills, rarely above 60 m AOD. Within the hinterland of Hinkley Point are a number of small villages and hamlets widely dispersed around a network of minor roads. Within this context, the Hinkley Nuclear Point Power Station Complex is a dominant landscape feature. This LLCA is scoped in to the updated EIA.

10.5.7 In consideration of the AONB designation in safeguarding the distinctive character and natural beauty of AONBs, and given the feedback from respondents to the application for *the 2018 Amendment Order*, Doniford Stream and Quantock Fringe LLCA, and Central Quantocks LLCA further to the west, have been scoped in to the updated EIA. Refer to Figure 22.6 of original ES Volume 2¹¹⁷.

10.5.8 Section 22.5 of the original ES (Volume 2 Environmental Statement – Chapter 22 Landscape and visual¹⁰⁸) has defined four site scale local landscape character areas within Quantock Vale LLCA. These include Wick Moor and Coast LLCA, the Coast (St. Audries to Hinkley Point) LLCA and Eastern Lowlands LLCA. These have been scoped in to the updated EIA. Refer to Figure 22.7 of original ES Volume 2¹¹⁷. The fourth LLCA, Wall Common and Coast LLCA, has been scoped out of further assessment. Refer to **Table 10–3**.

10.5.9 Section 22.5 of the original ES (Volume 2 Environmental Statement – Chapter 22 Landscape and visual¹⁰⁸) has described five local seascape character areas (LSCA). These extend along the Bridgewater Bay coastline and include areas of

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open water beyond the mainland, views from the land to sea, from sea to land and along the coastline. Two LSCAs, St. Audries Bay to Hinkley Point and Hinkley Point to River Parrett, describe the coastline approximately 6 km to the east and west of the HPC Development Site. These have been scoped in to the updated EIA. Refer to Figure 22.6 of original ES Volume 2¹¹⁷. Due to distance Blue Anchor to St. Audries Bay LSCA, Burnham-on-Sea to Brean Down LSCA and Brean Down LSCA have been scoped out of further assessment. Refer to **Table 10–3**.

10.5.10 The Sedgemoor Landscape Assessment and Countryside Design Summary (Revised Edition, 2003) (Adopted in Feb 2019 as part of the Sedgemoor Local Plan 2011-2032)¹²⁴ has defined the LLCAs within Sedgemoor District Council administrative area. In consideration of the AONB designation in safeguarding the distinctive character and natural beauty of AONBs, and given the feedback from respondents to the application for *the 2018 Amendment Order*, Quantock Hills LLCA has been scoped in to the updated EIA. Refer to Figure 22.6 of original ES Volume 2¹¹⁷.

10.5.11 Due to distance and scale of the proposed changes other LLCAs within the Sedgemoor Landscape Assessment and Countryside Design Summary have been scoped out of further assessment. Refer to **Table 10–3**.

10.5.12 There are several national and international designations within the wider study area. They include the Exmoor National Park and Quantock Hills AONB. The Severn Estuary Ramsar site, a Special Area of Conservation (SAC), a Special Protection Area (SPA) and a National Nature Reserve are within the wider study area. Refer to Figure 22.4 of original ES Volume 2¹¹⁷.

10.5.13 Fairfield Historic Park and Garden is present within the study area and there are two Conservation Areas, Stogursey and Nether Stowey within the study area. Refer to Figure 22.4a of original ES Volume 2¹¹⁷. The effects on the setting of the Stogursey Conservation Area has been scoped in and considered under View Point 7. There are unlikely to be views to the ISFS from the Nether Stowey Conservation Area or Fairfield Historic Park and Garden and therefore these have been scoped out of further assessment. Refer to **Table 10–3**.

¹²⁴ Sedgemoor District Council (2003). *op.cit.*

Table 10–3: Landscape receptors scoped out of the assessment of landscape and visual

Receptor – Scoped out	Justification
National Landscape Character areas. (NCA): 142 Somerset Levels and Moors and NCA 146 Vale of Taunton & Quantock Fringes	NCAs have a broad geographical coverage. Regional and district LLCAs are more related to the scale and extent of the landscape character in the assessment area. Therefore, the LLCAs have been considered in the assessment of landscape effects.
Receptor C Blue Anchor to St. Audries Bay LSCA, Burnham-on-Sea to Brean Down LSCA, Brean Down LSCA	Due to distance and the scale of change there would be an extremely limited alteration to key landscape characteristics. There would be no direct impacts on these LSCAs.
Lowland Hills LLCA, Levels and Moors LLCA, Quantocks LLCA	Due to distance and the scale of change there would be an extremely limited alteration to key landscape characteristics. There would be no direct impacts on these LLCAs.
Sedgemoor Landscape Assessment and Countryside Design Summary Landscape Character Areas (other than Quantocks LLCA).	Due to distance and the scale of change there would be an extremely limited alteration to key landscape characteristics. There would be no direct impacts on these LLCAs.
Wall Common and Coast LLCA	Due to distance and the scale of change there would be an extremely limited alteration to key landscape characteristics. There would be no direct impacts on this LLCA.
'Areas of outstanding scenic interest' as identified in Chapter 22 of the original ES ¹⁰⁸ .	This designation is no longer defined by Natural England and are therefore scoped out.

Original baseline – visual receptors

10.5.14 Section 22.5 of the original ES (Volume 2 Environmental Statement – Chapter 22 Landscape and visual¹⁰⁸) identified 42 principal viewpoints and 6 secondary viewpoints for the visual assessment. These viewpoints were selected to represent the views of identified visual receptors within the study area. Refer to Figure 22.9 and Figure 22.9a of original ES Volume 2¹¹⁷. These locations were agreed with consultees for inclusion in the original ES. Principal viewpoints were selected as points which provide the clearest views of the HPC Development Site and are also the most accessible to the public. Secondary viewpoints represent views from areas which are not commonly used by the public, would provide less clear views of the HPC Development Site, or may be perceived to be sensitive but have restricted views of the site due to the distance.

10.5.15 The principal viewpoints have initially been reviewed by considering the residual visual effects during the construction, operation Year 1 and Year 15 phases in the original ES. The principal viewpoints that have been assessed as having a residual moderate adverse significance of effect or greater have been further considered against the proposed changes and have been scoped in to the updated EIA. Refer to **Table 10–4** for viewpoints scoped into the landscape and visual impact assessment.

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Table 10–4: Principal viewpoints from the original ES scoped in to the landscape and visual impact assessment

Viewpoint location (VP) – numbering from the original ES	Viewpoint description	Receptor type
11	Shurton East, PRoW No. WL 23/56	Residential, recreational
13	PRoW No. WL 23/57, West of Wick	Recreational
14	Pixies Mound (Wick Barrow)	Recreational
16	Wick, PRoW No. WL 23/61	Residential, recreational
18	Residential area of Stogursey, Burgage Road and Lime Street	Residential, recreational
19	Stolford, West Somerset Coastal Path, PRoW No. WL 23/95	Residential, recreational
20	Stockland Bristol, PRoW No. BW 32/3	Residential, recreational
26	Quantock Hills AONB, Beacon Hill	Recreational
28	Quantock Hills AONB, PRoW No. BW 10/9	Recreational

10.5.16 Further refinement has been considered to determine whether the proposed changes would result in a greater significance of effect for those viewpoints assessed as having a minor adverse significance of effect or lower as follows below.

10.5.17 Principal viewpoint locations (VP) 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 have been reviewed against the proposed changes and photomontages. Refer to Figures 22.1 – 22.18b of 62 and Figures 22.18c – 22.28d of 62 of original ES Volume 2¹²⁵. These viewpoints would have views to the meteorological mast in the proposed new nearby location and with a reduced height. The change would not alter the character of the view as assessed in the original ES.

10.5.18 Following a review of the photomontages, the ISFS is also shown to be screened by the Nuclear Island and the Conventional Island during the operational phases. Views of the construction of the extension to the ISFS might be possible although seen in the context of the wider construction activities. For the reasons above, Principal viewpoint locations (VP) 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 have been scoped out. A list of viewpoints scoped out are included in **Table 10–5**.

¹²⁵ EDF Energy (2011). Environmental Statement - Volume 2 Hinkley Point C Development Site - Chapter 22 - Figures 18c to 28d of 62. [Online]. [Accessed 25 February 2022].

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- 10.5.19 The secondary viewpoints are shown on Figure 22.9 of original ES Volume 2¹¹⁷. Due to distance (greater than 15 km) and the scale of the proposed changes, these have been scoped out. Refer to **Table 10–5**.
- 10.5.20 The sensitivity of visual receptors will be reviewed following the 2013 publication of GLVIA3 which has provided further guidance for assessing sensitivity. Refer to **Section 10.8**.
- 10.5.21 Dusk views were recorded for the original ES (Volume 2 Environmental Statement – Chapter 22 Landscape and visual¹⁰⁸). These would not be revisited as part of the assessment as the lighting design would not be reviewed at this stage. As stated in the original ES and **paragraph 2.2.2 of Chapter 2**, all operational lighting will be compliant with the Operational Lighting Strategy assessed in the original ES (Volume 2 Hinkley Point C Development Site - Appendix 2B: Operational Lighting Strategy¹¹⁸).

Table 10–5: Primary and secondary viewpoints from the original ES scoped out of the landscape and visual aspect

Receptor – Scoped out	Justification
Visual assessment - Principal viewpoint locations (VP) 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10. Figure 22.9 and 22.9a of original ES Volume 2 ¹¹⁷ . Fairfield Historic Park and Garden (VP7)	Viewpoint locations with views to the mast only. Refer to Figure 22.1 – 22.18b of 62 and Figure 22.18c – 22.28d of 62. Views of the construction of the extension to the ISFS might be possible although seen in the context of the wider construction activities. The Nuclear Island and the Conventional Island would screen views to the ISFS during operational phases.
Visual assessment - Principal viewpoint locations (VP) 12, 15, 17, 21, 22, 23, 24, 25, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41 and 42. Secondary locations S1, S2, S3, S4, S5 and S6. Figure 22.9 of original ES Volume 2 ¹¹⁷ . Nether Stowey Conservation Area (VP24)	Assessed in the original ES as having a residual minor adverse significant effect during each of the assessment time scales at construction, Operation Year 1 and Year 15 and therefore not material. The proposed changes are not of a scale that would result in a greater significance of effect.

Current Baseline – landscape character

- 10.5.22 The LVIA for the updated EIA will be assessed against the original ES Volume 2 baseline to allow for a ‘like for like’ assessment and comparison of the findings. Therefore, the presence of the ongoing HPC Development would not have a bearing on the assessment of receptor sensitivity (susceptibility and value), landscape characteristics or visual baseline. The changes made to the HPC Development by the four non-material change applications will be taken into consideration when assessing any new impacts resulting from the ISFS.
- 10.5.23 The current baseline has remained substantially as described for the original ES. As noted above the published Natural England’s National Landscape Character

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Area Profiles, the West Somerset Landscape Character Assessment 1999 and the Sedgemoor Landscape Assessment and Countryside Design Summary 2003 documents are the contemporary documents.

- 10.5.24 “Areas of outstanding scenic interest” as identified in the original ES (Volume 2 Environmental Statement – Chapter 22 Landscape and visual¹⁰⁸) are no longer defined by Natural England and are therefore scoped out.
- 10.5.25 The Somerset County Council Definitive Public Rights of Way (PRoW) network is likely to have been updated since the original ES. The definitive PRoW network will be reviewed.
- 10.5.26 Given the feedback from respondents to the application for *the 2018 Amendment Order*, additional locations on the West Somerset Coastal Path would be identified within the updated ES to assess the impacts on visual amenity from the ISFS.

10.6 Assumptions and Limitations

- 10.6.1 The assessment of operational Year 1 effects and Year 15 effects would be based on the scheme consented under the DCO, including all secured mitigation measures, and also the non-material changes from 2015, 2017, 2018 and 2021.
- 10.6.2 Access to receptors and viewpoints to be assessed will be restricted to publicly accessible areas. Descriptions of baseline views and the assessment of changes to views from private and inaccessible viewpoints, including where views are available from upper storeys of properties only, will therefore be made using the professional judgement of Chartered Landscape Architects, based on an assessment from a nearby representative viewpoint (e.g. adjoining PRoW or highway).
- 10.6.3 The screening or filtering effect of existing vegetation outside the HPC Development Site will be taken into account within the assessment in its current condition. Growth or other changes to this vegetation would potentially affect impacts caused by the HPC Project.
- 10.6.4 Future decommissioning is already controlled by the DCO requirement for an EIA to be undertaken prior to the decommissioning phase. For further information on decommissioning, see **Section 2.3 of Chapter 2**.

10.7 Likely Significant Effects

- 10.7.1 This scoping report is based on the details provided in **Chapter 2**. The greatest change for the HPC Project would arise from the extension of the ISFS.

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10.7.2 Following a preliminary assessment and using professional judgement, it is considered likely that the proposed changes would not give rise to significant landscape and visual effects. However, given the feedback from respondents to the application for *the 2018 Amendment Order*, it is proposed that the potential impacts on landscape and visual receptors should be considered within the updated ES, to provide evidence to support the predicted conclusion that the proposed changes will not result in any significant landscape and visual effects.

10.7.3 The proposed methodology for assessing those impacts which are identified as being scoped into the updated ES are discussed in more detail in **Section 10.8**.

10.7.4 The likely significant effects associated with the landscape and visual aspect as a result of the proposed changes are outlined in **Table 10–6** and **Table 10–7**.

Table 10–6: Effects associated with the landscape receptors as a result of the proposed changes

Proposed Change	Receptor	Assessment stage	Likely Significant Effect(s)
Interim Spent Fuel Store (ISFS)	Quantock Vale LLCA, West Somerset Landscape Character Assessment	Construction	Minor
		Year 1	Minor
		Year 15	Minor
	Doniford Stream and Quantock Fringe, West Somerset Landscape Character Assessment	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	Central Quantocks LLCA, West Somerset Landscape Character Assessment	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	Wick Moor and Coast LLCA	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	The Coast (St. Audries to Hinkley Point) LLCA	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	Eastern Lowlands LLCA	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	St. Audries Bay to Hinkley Point SLCA	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible

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Proposed Change	Receptor	Assessment stage	Likely Significant Effect(s)
	Hinkley Point to River Parret SLCA	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	Quantock Hills LLCA, Sedgemoor Landscape Assessment and Countryside Design Summary	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
Meteorological Mast	No character areas would be directly affected or materially affected	No additional effects on landscape and visual receptors	
Sluice Gate Storage Structures	No character areas would be directly affected or materially affected	No additional effects on landscape and visual receptors	

Table 10–7: Effects associated with the visual receptors as a result of the proposed changes

Proposed Change	Receptor	Assessment stage	Likely Significant Effect(s)
Interim Spent Fuel Store (ISFS)	VP11 - Shurton East, PRoW No. WL 23/56	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	VP13 - PRoW No. WL 23/57, West of Wick	Construction	Minor
		Year 1	Minor
		Year 15	Negligible
	VP14 - Pixies Mound (Wick Barrow)	Construction	Minor
		Year 1	Minor
		Year 15	Negligible
	VP16 - Wick, PRoW No. WL 23/61	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	VP18 - Residential area of Stogursey (Conservation Area), Burgage Road and Lime Street	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	VP19 - Stolford, West Somerset Coastal Path, PRoW No. WL 23/95	Construction	Minor
		Year 1	Minor
		Year 15	Minor
	VP20 - Stockland Bristol, PRoW No. BW 32/3	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible

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Proposed Change	Receptor	Assessment stage	Likely Significant Effect(s)
	VP26 - Quantock Hills AONB, Beacon Hill	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
	VP28 - Quantock Hills AONB, PRoW No. BW 10/9	Construction	Negligible
		Year 1	Negligible
		Year 15	Negligible
Meteorological Mast	None materially affected	No additional effects on landscape and visual receptors	
Sluice Gate Storage Structures	None affected	No additional effects on landscape and visual receptors	

10.8 Proposed Assessment Methodology

- 10.8.1 Since the consenting of the DCO, the Guidelines for Landscape and Visual Impact Assessment (GLVIA) 2nd Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2002) has been revised for the 3rd Edition (GLVIA3).
- 10.8.2 In determining the potential for significant effects on receptors scoped in for this application for a material change, the methodology in Section 22.4 of the original ES (Volume 2 Name – Chapter 22 landscape and visual¹⁰⁸) will be reviewed and, where applicable, amended to take account of changes arising from GLVIA3.
- 10.8.3 The sensitivity of visual receptors for the original ES followed guidance in GLVIA 2nd Edition. GLVIA3 provides further guidance assessing sensitivity by combining judgements of the susceptibility of the receptor to specific type of change proposed and the value related to that receptor.
- 10.8.4 The approach to the assessment will be clearly described within the updated ES.

11. SUMMARY AND NEXT STEPS

- 11.1.1 To summarise, this Scoping Report has been prepared to outline the proposed scope of the updated EIA to be undertaken in support of the application for a material change to the scheme consented under the HPC DCO. The preliminary findings of this updated EIA will be consulted on through the publication of a Preliminary Environmental Information Report. The final assessment will be reported within an updated ES submitted as part of the material change application.
- 11.1.2 This Scoping Report should be used to inform the Secretary of State's Scoping Opinion.
- 11.1.3 The majority of environmental aspects scoped into the original ES have been scoped out of the updated EIA as the proposed changes are unlikely to result in any new or materially different significant effects than those identified in the original ES.
- 11.1.4 The following aspects are proposed to be scoped into the updated ES:
- Marine Ecology; and
 - Landscape and Visual.
- 11.1.5 It is not anticipated that the proposed changes will result in any new or materially different significant effects for the aspects listed in **paragraph 11.1.4**. However, these aspects are being scoped into the EIA to provide evidence to support this. This is in line with engagement with consultees and responses from previous non-material change applications.
- 11.1.6 An updated HRA will also be produced alongside the updated ES.