

**RECORD OF THE HABITATS REGULATIONS ASSESSMENT UNDERTAKEN
UNDER REGULATION 61 OF THE CONSERVATION OF HABITATS AND
SPECIES REGULATIONS 2010**

Project Title: Hinkley Point C Connection Project

Date: 18th January 2016

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Introduction

Background

- 1.0 This is a record of the Habitats Regulation Assessment ("HRA") that the Secretary of State for Energy and Climate Change (the "Secretary of State") has undertaken under the Conservation of Habitats and Species Regulations 2010 ("the Habitats Regulations") in respect of the Development Consent Order ("DCO") for the proposed Hinkley Point C Connection Project (the "Project"). For the purposes of the Habitats Regulations the Secretary of State is the competent authority.
- 1.1 National Grid Electricity Transmission plc ("the Applicant") has applied to the Secretary of State for a DCO under Section 37 of the Planning Act 2008. The Order, as applied for, would grant development consent and authorise associated development comprising:
- a) installation of a 400kV overhead line of approximately 48.5km;
 - b) installation of 400kV underground cables of approximately 8.5km;
 - c) modifications to existing overhead line layout, including construction of additional line and pylons suitable for 400kV, at Hinkley Point, Somerset;
 - d) construction of three 400kV cable sealing end ("CSE") compounds along the route of the connection;
 - e) construction of a 400/132kV substation at Sandford, North Somerset;
 - f) extension of the existing 400kV substation at Seabank;
 - g) the removal of existing 132kV overhead lines and the construction of replacement 132kV overhead lines and 132kV underground cables;
 - h) extensions or other changes to existing 132kV substations at Churchill, Portishead, Avonmouth and Seabank; and
 - i) temporary and permanent compulsory purchase of land necessary for the construction and operation of the project.
- 1.2 National Grid Electricity Transmission plc provides electricity supplies from generating stations to local distribution companies. In September 2007, National Grid received an application for the connection of a new nuclear power station at Hinkley Point, Somerset (Hinkley Point C power station) to the high voltage electricity transmission system. Under the terms of its transmission licence, National Grid Electricity Transmission plc is obliged to make an offer of connection in response to each valid application made.
- 1.3 The Project is a Nationally Significant Infrastructure Project ("NSIP") under section 14(1)(b) and section 16 of the Planning Act 2008 as the proposed project is wholly within England. Due to the

mobile nature of species potentially affected by the Project this assessment also considers designated sites potentially affected in Wales.

- 1.4 The application was accepted by the Secretary of State for examination under section 55 of the Planning Act on 19th June 2014. On the 10th October 2014 a five-member Panel of Inspectors (“the Panel”) was appointed as the Examining Authority (“ExA”) for the application. The examination completed on 19th July 2015. The Panel submitted its report of the examination, including its recommendation (“the Panel’s Report”), to the Secretary of State on 19th October 2015.
- 1.5 The Secretary of State’s conclusions on habitats and wild birds issues contained in this HRA report have been informed by the Panel’s Report, and further information and analysis, including a Report on the Implications for European Sites (“RIES”) and written responses to it. The Secretary of State has also had regard to the responses to the Department for Energy and Climate Change (“DECC”) consultation issued on the 11 November 2015.

Habitats Regulation Assessment

- 1.6 Council Directive 92/43/EC on the conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) and Council Directive 2009/147/EC on the conservation of wild birds (“the Birds Directive”) aim to ensure the long-term survival of certain species and habitats by protecting them from adverse effects of plans and projects.
- 1.7 The Habitats Directive provides for the designation of sites for the protection of habitats and species of European importance. These sites are called Special Areas of Conservation (“SACs”). The Birds Directive provides for the classification of sites for the protection of rare and vulnerable birds and for regularly occurring migratory species. These sites are called Special Protection Areas (“SPAs”). SACs and SPAs are collectively termed European sites and form part of a network of protected sites across Europe. This network is called Natura 2000.
- 1.8 The Convention on Wetlands of International Importance 1972 (“the Ramsar Convention”) provides for the listing of wetlands of international importance. These sites are called Ramsar sites. UK Government policy is to afford Ramsar sites in the United Kingdom the same protection as European sites.
- 1.9 In the UK, the Habitats Regulations transpose the Habitats and Birds Directives into national law as far as the 12 nm limit of territorial waters.
- 1.10 Regulation 61 of the Habitats Regulations provides that:

....before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and (b) is not directly connected with or necessary to the management of that site,[the competent authority] must make an appropriate

assessment of the implications for that site in view of that site's conservation objectives.

- 1.11 This Project is not directly connected with, or necessary to, the management of a European site. The Habitats Regulations require that, where the project is likely to have a significant effect ("LSE") on any European site, where not connected with, or necessary to, the management of that European site, an appropriate assessment ("AA") is carried out to determine whether or not the project will have an adverse effect on the integrity of the site ("AEoI") in view of that site's conservation objectives. In this document, the assessments as to whether there are LSEs, and, where required, the AAs, are collectively referred to as the Habitats Regulations Assessment ("HRA").
- 1.12 The HRA takes account of mitigation measures which are secured by requirements in the DCO.
- 1.13 This report should be read in conjunction with the following documents that provide extensive background information, a fuller list of documents is provided in the References section of this report:
- The Planning Act 2008 Hinkley Point C Connection Project Examining Authority's Report of Findings and Conclusions and Recommendation to the Secretary of State for Energy and Climate Change. 19 October 2015 "**the Panel's report**".
 - Report on the Implications for European Sites Proposed Hinkley Point C Connection. An examining authority report prepared with the support of the environmental services team, 24 June 2015 – termed "**the RIES**".
 - National Grid Environmental Statement, May 2014 –termed "**the ES**".
 - National Grid Environmental Statement. The Applicant's Report to Support Habitats Regulations Assessment, February 2015- termed "**The Updated HRA report**".
 - National Grid Statement of Common Ground with Natural England. July 2015.
 - Natural England Written Representation and Responses to ExA's first written questions. Submitted for Deadline 2, 26 February 2015.
 - Natural England Comments on Applicant's updated HRA matrices and other comments. Submitted for Deadline 3, 25 March 2015.
 - Natural England Response to ExA's second written questions. Submitted for Deadline 5, 4 June 2015.
 - Natural England Response to consultation on the Report on the Implications for European Sites (RIES). Submitted for Deadline 7, 13 July 2015.
 - Joint Councils Comments on responses to ExA's first written questions, Applicant's updated HRA matrices and revised draft Development Consent Order (DCO), and other matters. Submitted for Deadline 3, 25 March 2015.
 - Updated Statement of Common Ground Between National Grid and The Joint Councils. Dated June 2015.

- Plus other documents submitted during the Examination, available at <http://infrastructure.planninginspectorate.gov.uk/projects/south-west/hinkley-point-c-connection/?ipcsection=docs>

1.14 The key information in these documents and written representations is summarised and referenced in this report.

The RIES and Statutory Consultation

- 1.15 Under the Habitats Regulations the competent authority must, for the purposes of an AA, consult the appropriate nature conservation body and have regard to any representation made by that body within such reasonable time as the authority specifies.
- 1.16 Natural England (“NE”) is the Statutory Nature Conservation Body (“SNCB”) for England and for English waters within the 12 nm limit. Natural Resources Wales (“NRW”) is the SNCB for Wales. Some of the European sites considered during the Examination include land in both England and Wales. The RIES records that, at the preliminary meeting, NE advised that NRW were happy for NE to be the advisory authority for the purposes of the Habitats Regulations. NRW based this decision on the fact that it has minimal concerns in terms of potential impacts on European Sites that lie either wholly or partly in Wales.
- 1.17 The ExA prepared a RIES, with support from the Planning Inspectorate Environmental Services Team. The RIES was based on information provided by the Applicant including ‘The Applicant’s Report to Support the Habitats Regulations Assessment’, the updated ‘Applicant’s Report to Support the Habitats Regulations Assessment’ and integrity matrices. The RIES was issued to ensure that Interested Parties, including the SNCB’s, were consulted formally on habitat regulation matters, as required under Regulation 6(3).
- 1.18 The RIES was published on the National Infrastructure Planning portal website¹ and the ExA notified Interested Parties that it had been published; responses were required by 13 July 2015. The RIES, and the written responses to it, have been taken into account in this assessment.
- 1.19 The Secretary of State accepts the ExA’s recommendation that the RIES, and written responses to it, represents an appropriate body of information to enable the Secretary of State to fulfil her duties in respect of European sites.

Development Description

- 2.0 National Grid Electricity Transmission plc owns and operates the high voltage electricity transmission network in England and Wales and provides electricity supplies from generating stations to local distribution companies. Their high voltage electricity transmission system operates at 275kV and 400kV. In September 2007, the Applicant received an application for the connection of a new nuclear power station at Hinkley Point, Somerset (Hinkley Point C power

¹ <http://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020001/2.%20Post-Submission/EIA/Habitat%20Regulations/Report%20on%20the%20Implications%20for%20European%20Sites.pdf>

station) to the high voltage electricity transmission system. Under the terms of its transmission licence, National Grid Electricity Transmission plc is obliged to make an offer of connection in response to each valid application made. National Grid Electricity Transmission plc has applied to construct, operate and maintain a new 57km 400kV connection between Bridgwater in Somerset and Seabank substation, north of Avonmouth.

Development Components

2.1 The Project would include the following main elements:

- installation of a 400kV overhead line of approximately 48.5km;
- installation of 400kV underground cables of approximately 8.5km;
- modifications to existing overhead line layout, including construction of additional line and pylons suitable for 400kV, at Hinkley Point, Somerset;
- construction of three 400kV cable sealing end ("CSE") compounds along the route of the connection;
- construction of a 400/132kV substation at Sandford, North Somerset;
- extension of the existing 400kV substation at Seabank;
- the removal of existing 132kV overhead lines and the construction of replacement 132kV overhead lines and 132kV underground cables; and
- extensions or other changes to existing 132kV substations at Churchill, Portishead, Avonmouth and Seabank;

2.2 There is provision for associated works in the DCO and this includes, for example, temporary access roads, highway works, temporary construction compounds, scaffolds, work sites and ancillary works.

2.3 In the Portishead/Portbury area the Applicant has included two options within the DCO application – the Applicant's preferred route (Option A) and an alternative route (Option B). Both options were considered throughout the Examination and have been assessed within the ES, they are considered where relevant in this HRA.

2.4 Full details of the infrastructure to be used in the Development are detailed in Schedule 1 to the DCO.

Development location and designated sites

Location

- 3.0 The Project is in the administrative boundaries of the county of Somerset, the districts of, West Somerset, Sedgemoor, North Somerset and South Gloucestershire and the City of Bristol in the southwest of England as shown in Figure 1.



Figure 1 Location Plan of the Project (from the Applicant's ES)

- 3.1 The relevant local authorities are Bristol City Council, North Somerset Council, Sedgemoor District Council, Somerset County Council, South Gloucestershire Council and West Somerset

Council. These were referred to as the Joint Councils throughout the Examination and are referred to as the Joint Councils in this document.

3.2 The route of the 400kV connection from Bridgwater to Seabank has been divided into 'Sections' based on areas of similar landscape character (Sections A-G). An additional Section covers the area of works for the Hinkley Line Entries (Section H). The eight Sections are as follows:

- Section A – Puriton Ridge;
- Section B – Somerset Levels and Moors South;
- Section C – Mendip Hills;
- Section D – Somerset Levels and Moors North;
- Section E – Tickenham Ridge;
- Section F – Portishead;
- Section G – Avonmouth; and
- Section H – Hinkley Line Entries.

European and International Sites

3.3 The Applicant's updated HRA report states that the Project has very limited physical connection with any internationally designated site. The Severn Estuary SPA, Ramsar and SAC sites are over sailed at the River Avon crossing and there is potential for temporary disturbance during removal of existing 132kV pylons in the designated area. The Severn Estuary SPA and Ramsar site is also affected by installation of pylons at the Hinkley Line Entries but the permanent land take is negligible at less than 10m² or 0.00001% of the designated area.

3.4 The updated HRA report notes that although direct adverse effects can be excluded from detailed assessment the project has the potential for indirect adverse effects on species and habitats which are 'qualifying features' for a number of designated sites. A long list of sites was subject to assessment including any that support birds, bats, fish or migratory species which might regularly move through the area of the Project (as defined by the DCO).

3.5 The Applicant identified all European sites within 10km of the DCO boundary for inclusion in the HRA report and assessment. This distance was chosen due to the mobility of protected features and impact pathways.

3.6 The Applicant's updated HRA report noted that with regard to SACs designated for their bat populations, the commuting range of two species (lesser horseshoe and Bechstein's) fall within the 10km zone applied to the entire project. The 10km zone therefore captures any SACs from which these species may derive. Greater horseshoe and barbastelle bats may undertake commuting and local migratory movements greater than 10km and, therefore, potentially bats of these species deriving from designated sites outside of the 10km zone could be present. The Bat Technical Appendix to the ES considered a number of other SACs designated for their greater horseshoe and barbastelle populations at distances up to 50km from the Proposed Development, where evidence suggests that local migratory movements may occur. As a result

SACs designated for greater horseshoe and barbastelle bat populations within a 50km radius of the proposed DCO boundary were included in the assessment

- 3.7 To account for the potential regular movement of SPA designated populations of birds between sites and/or into the corridor of the Proposed Development, the search area was widened to include all European Sites designated for birds within 30km of the Proposed Development. This did not identify any more than those included using the 10km buffer.
- 3.8 The Applicant identified 16 European sites to be considered for inclusion within their HRA assessment. The Sites and Features can be seen below in Table 1.

Name of European Site	Features
Avon Gorge Woodlands SAC	Tilio-Acerion forests of slopes, screes and ravines Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)
Chew Valley Lake SPA	Overwintering population of shoveler duck
Wye Valley Woods SAC	Asperulo-Fagetum beech forests Tilio-Acerion forests of slopes, screes and ravines Taxus baccata woods of the British Isles Lesser horseshoe bat
Wye Valley and Forest of Dean Bat Sites SAC	Lesser horseshoe bat Greater horseshoe bat
River Wye SAC	Water courses of plain to montane levels with the Ranunculion fluitantis and callitricho-Batrachion vegetation Transition mire and quaking bogs White clawed crayfish Sea lamprey Brook lamprey River lamprey Twaite shad Atlantic salmon Bullhead Allis shad Otter
The Somerset Levels and Moors SPA	Over-wintering Bewick's swan Over-wintering Eurasian teal Over-wintering golden plover Over-wintering Northern lapwing Over-wintering Eurasian wigeon Over-wintering Northern shoveler Over-wintering population of waterfowl
The Somerset Levels and Moors Ramsar site	Wintering tundra swan Wintering Eurasian teal Wintering Northern lapwing Wintering mute swan Wintering Eurasian wigeon Wintering Northern pintail Wintering Northern shoveler Wintering waterfowl assemblage Seventeen species of British Red Data Book invertebrates
The Severn Estuary SPA	Over-wintering Bewick's swan Over-wintering shelduck

	Over-wintering gadwall
	Over-wintering dunlin
	Over-wintering redshank
	Over-wintering European white-fronted goose
	Over-wintering curlew
	Over-wintering Northern pintail
	On passage ringed plover
	Over-wintering population of waterfowl
The Severn Estuary Ramsar site	Over-wintering Bewick's swan
	Wintering shelduck
	Wintering gadwall
	Wintering dunlin
	Wintering redshank
	Wintering white-fronted goose
	Breeding lesser black-backed gull
	On passage ringed plover
	Wintering Eurasian teal
	Wintering Northern pintail
	Wintering waterfowl assemblage
	Migratory fish populations
The Severn Estuary SAC	Estuaries
	Sandbanks which are slightly covered by sea water all the time
	Mudflats and sandflats not covered by seawater at low tide
	Atlantic salt meadows
	Reefs
	River lamprey
	Sea lamprey
	Twaite shad
North Somerset and Mendips Bat SAC	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)
	Caves not open to the public
	Tilio-Acerion forests of slopes, screes and ravines
	Lesser horseshoe bat
	Greater horseshoe bat
Mendip Limestone Grasslands SAC	European dry heaths
	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)
	Caves not open to the public
	Tilio-Acerion forests of slopes, screes and ravines
	Greater horseshoe bat
Mendip Woodlands SAC	Tilio-Acerion forests of slopes, screes and ravines
Exmoor and Quantock Oakwoods SAC	Old sessile oak woods with Ilex and Blechnum in the British Isles
	Alluvial Forests with Alnus glutinosa and Fraxinus excelsior (Alno-padion, Alnion incanae, Salicion albae)
	Barbastelle bat
	Bechstein's bat
	Otter
Mells Valley SAC	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)
	Caves not open to the public
	Greater horseshoe bat

Bath and Bradford on Avon Bat SAC	Greater horseshoe bat
	Bechstein's bat
	Lesser Horseshoe bat

Table 1 Sites and qualifying features assessed in the HRA by the Applicant.

3.9 Natural England and the Joint Councils confirmed in their responses to the ExA's questions 17.4 and 17.5 at deadline 5 (4th June) that they are satisfied that the relevant sites and features have been included in the assessment.

Likely Significant Effects Test

- 4.0 Under Regulation 61 of the Habitats Regulations, the Secretary of State must consider whether a development will have a LSE on a European site, either alone or in combination with other plans or projects. A LSE is, in this context, any effect that may be reasonably predicted as a consequence of a plan or project that may affect the conservation objectives of the features for which the site was designated, but excluding trivial or inconsequential effects. An AA is required if a plan or project is likely to have a significant effect on a European site, either alone or in combination with other plans or projects.
- 4.1 The purpose of this test is to identify LSEs on European sites that may result from the Project and to record the Secretary of State's conclusions on the need for an AA and her reasons for including activities, sites or plans and projects for further consideration in the AA. For those features where a LSE is identified, these must be subject to an AA. This review of potential implications can be described as a 'two-tier process' with the LSE test as the first tier and the review of effects on integrity (AA) as the second tier.
- 4.2 This section addresses this first step of the HRA, for which the Secretary of State has considered the potential impacts of the Project both alone and in combination with other plans and projects on each of the interest features of the European sites identified in the RIES (also in Table 1) to determine whether or not there will be a LSE.

Likely Significant Effects

- 4.3 The RIES compiles, documents and signposts information submitted throughout the examination by both the Applicant and Interested Parties. The RIES sets out the UK European sites identified by the Applicant and considered during the examination.
- 4.4 The RIES is issued to ensure that interested parties, including the SNCBs, are consulted formally on Habitats Regulations matters as required under Regulation 6(3). A number of bodies submitted responses to the RIES. These were the Applicant, The Joint Councils and NE. The ExA report notes that the RIES is not updated and responses to the RIES are not incorporated. The ExA's report states that the responses form additional information which was used in preparing the report and which the Secretary of State can use to inform an Appropriate Assessment if required. The Secretary of State accepts the ExA's recommendation that the process may be relied on for the purposes of Regulation 6(3) of the Habitats Regulations.
- 4.5 The Secretary of State considers that powers are in place for decommissioning effects to be addressed fully by the relevant authorities, prior to decommissioning and in light of more detailed information on decommissioning processes and environmental conditions at that time. She therefore considers that it is reasonable not to include a detailed discussion on decommissioning impacts in this report and notes that decommissioning is not a barrier to the development being granted development consent. Decommissioning impacts are therefore not considered further within this report.

- 4.6 Initially the Applicant considered the potential for LSE on 16 European sites (listed in Table 1). The SNCBs did not raise concerns or disputes in relation to the sites that were included in the Applicant's HRA, nor did they identify any additional sites that the applicant failed to consider within their assessment.
- 4.7 The Applicant concluded that there would be no LSE on the following seven European sites and their qualifying features:
- Avon Gorge Woodlands SAC
 - Chew Valley SPA
 - Wye Valley Woodlands SAC
 - Wye Valley and Forest of Dean Bat SAC
 - River Wye SAC
 - Severn Estuary SAC; and
 - Mendip Woodlands SAC
- 4.8 The conclusion of no LSE on the above sites was due to distance from the application site, the potential area of influence of the effects of the proposed works and the lack of either direct or indirect impact pathways that could affect the designated features of these sites.
- 4.9 With regards to the Severn Estuary SAC, the ExA sought clarification from both NE and the Joint Councils that they did not dispute the Applicant's findings of no LSE from the proposed project on the qualifying features of the site. No LSEs are predicted for the Severn Estuary SAC where it is over sailed at the River Avon crossing as the Applicant has committed to avoid encroachment onto the intertidal saltmarsh and mudflat habitats. Mitigation would include adjustment to working areas and in the event that stringing cannot be undertaken by helicopter, would be walked across the grassland habitat and taken across the river in a boat. Following the request for clarification from the ExA both the Joint Councils (Joint Councils Submission for Deadline 7, 13th July 2015) and NE (Natural England's Deadline 7 Submission 10th July 2015) confirmed their agreement with the Applicant's stated conclusion of no LSE from the proposed project on the qualifying features of the Severn Estuary SAC, provided the work is carried out as stated with the necessary mitigation in place.
- 4.10 The Applicant's updated HRA report concludes no LSE for the migratory fish populations of the Severn Estuary Ramsar site. The Joint Councils initially raised concerns about this conclusion as they felt that issues relating to heating and vibration from the cable had not been adequately considered and that the suggested mitigation was not appropriate. At the Biodiversity and HRA issue specific hearing the Environment Agency ("EA") advised that it had no concerns about effects from cable heating and offered to provide further advice on noise and vibration effects. The Joint Councils maintained their position regarding their concerns about noise and vibration effects, pending advice from the EA. The EA advised at deadline 5 that they had no concerns

about noise or vibration on aquatic organisms. The ExA report notes that following this, the Joint Councils agreed with the Applicant's assessment of no LSE from the proposed project on migratory fish of the Severn Estuary Ramsar site.

4.11 NE confirmed in response to Q17.5 (deadline 5, 4th June) and in its final Statement of Common Ground with the Applicant (July 2015) that it considered that the relevant sites had been progressed to stage 2 of the HRA Assessment, that is to say that it agreed with the findings of no LSE for the sites listed in paragraph .**Error! Reference source not found.** The ExA considered that there is sufficient evidence to allow the Secretary of State to conclude no LSE for those European Sites. The Secretary of State relies on these findings in her conclusion of no LSE for these 7 sites and their features.

4.12 The Applicant concluded that LSE could not be excluded for nine European sites. These sites and their features for which LSE cannot be excluded are set out in Table 2 below.

European Site	Features for which LSE cannot be excluded
Somerset Levels and Moors SPA	Over-wintering Bewick's swan
	Over-wintering Eurasian teal
	Over-wintering golden plover
	Over-wintering Northern lapwing
	Over-wintering Eurasian wigeon
	Over-wintering Northern shoveler
	Over-wintering population of waterfowl
Somerset Levels and Moors Ramsar site	Wintering tundra swan
	Wintering Eurasian teal
	Wintering Northern lapwing
	Wintering mute swan
	Wintering Eurasian wigeon
	Wintering Northern pintail
	Wintering Northern shoveler
Severn Estuary SPA	Wintering waterfowl assemblage
	Over-wintering Bewick's swan
	Over-wintering shelduck
	Over-wintering gadwall
	Over-wintering dunlin
	Over-wintering redshank
	Over-wintering European white-fronted goose
	Over-wintering curlew
	Over-wintering Northern pintail
	On passage ringed plover
The Severn Estuary Ramsar Site	Over-wintering population of waterfowl
	Over-wintering Bewick's swan
	Wintering shelduck
	Wintering gadwall
	Wintering dunlin
	Wintering redshank
	Wintering white-fronted goose
	Breeding lesser black-backed gull
	On passage ringed plover
	Wintering Eurasian teal
North Somerset and Mendip Bats SAC	Wintering Northern pintail
	Wintering waterfowl assemblage
	Greater horseshoe bat

	Lesser horseshoe bat
Mendip Limestone Grasslands SAC	Greater horseshoe bat
Exmoor and Quantock Oakwoods SAC	Barbastelle bat
Mells Valley SAC	Greater Horseshoe bat
Bath and Bradford-on-Avon Bats SAC	Greater Horseshoe bat

Table 2 European sites and their features for which LSE cannot be excluded.

Scope of in combination assessment

4.13 Under the Habitats Regulations, the Secretary of State is obliged to consider whether other plans or projects in combination with the Project might affect European sites.

4.14 The Applicant's initial assessment exercise established potential in-combination effects on SPA bird qualifying features. A further assessment exercise was undertaken to identify which of these plans or projects could lead to in-combination effects on the bird species which are designated features of the European Sites. The final list of projects included in the in-combination assessment for SPAs and Ramsar sites were as follows:

- Withy End Wind farm
- Black Ditch Wind farm
- Pilrow Wind farm
- Bristol Sewage Treatment works
- Land at Avonmouth Docks- wind farm
- Bristol Deep Sea Container Terminal
- Compensation habitat at Steart for the Bristol Deep sea container
- Hinkley Point C nuclear power station
- Meteorological mast, Highbridge
- Huntspill Energy Park, BNRG, Puriton
- Former Shell tank- Windfarm; and
- The Steart Peninsular Project

4.15 Four projects were initially identified as having potential for in-combination effects on bats. These are as follows:

- Broadview Energy Limited, Land to the east of the M5, and south of A38, Bristol Road, Rooksbridge, Axebridge
- Persimmon Homes Ltd, Weston Park, Former Weston Airfield
- Smart Systems Ltd, Land of Wemberton Lane, Yatton

- Bristol Airport Ltd

- 4.16 The Joint Councils requested that the Applicant use the Somerset Biodiversity offsetting method to consider in-combination effects on bats. The Somerset Biodiversity Offsetting Method develops and utilises consideration zones to illustrate where a species may occur based on records, if habitat conditions are suitable. These consideration zones have been used to determine appropriate buffer zones around the SACs when considering effects of the Proposed Development on SAC bat populations. Following the Applicant's use of the Somerset Biodiversity Offsetting method, subsequently called the Somerset Habitat Evaluation Procedures, three additional projects were found to fall in SAC bat consideration zones and were added to the list of projects to be considered in-combination.
- 4.17 During the Examination the Applicant submitted, on the 1st October 2014, Environmental Statement Sensitivity Test documentation. The Applicant's 'Report to Support Habitats Regulations Assessment: Sensitivity Test' provides a sensitivity test of the submitted HRA report to consider whether there would be any changes to the assessment as a result of the proposed revised construction programme related to the revised connection date. The sensitivity test concluded that there were no changes required to overall assessment but the in-combination assessment was updated to include 16 additional projects, of which one was considered to have the potential to affect birds from SPAs and a further six fell into the bat consideration zones for some of the bat SACs.
- 4.18 The Applicant concluded that the revised construction programme does not affect the conclusion of the in-combination assessment in the submitted HRA and that commitments to mitigation regarding timing and phasing of works would ensure that no other conclusion of the submitted HRA are adversely affected.
- 4.19 In response to Q17.9 of the ExA both NE (in their written representation dated 26 February 2015) and the Joint Councils (in their Submissions of the Joint Councils for Deadline 2, 26th February 2015: Joint Council Response to the Examining Authority's first written questions) confirmed that relevant plans and projects have been included in the in-combination assessment. The Joint Councils did, however, raise concerns during the Examination about the adequacy of the Applicant's approach to the in-combination assessment within the Applicant's HRA (and updated HRA). The Joint Council's concern was that the cumulative assessment methodology and its application was insufficient because it excluded consideration of combined impacts from projects that individually have no significant effects.
- 4.20 In response to the Joint Councils concerns the Applicant provided further explanation of its approach in the Biodiversity issue specific hearing held on 1st May 2015. The Applicant confirmed that some corrections to the terminology used to describe the approach to the cumulative assessment, which had also been used to support its in-combination assessment for European Sites, had been provided in the ES clarification note. NE confirmed during the issue specific hearing that it agreed with the Applicant's conclusions and the RIES reports that the

Joint Councils subsequently confirmed that if NE was satisfied then they also had no outstanding issues on the matter.

- 4.21 The ExA was satisfied that the Applicant assessed all relevant European Sites and qualifying features and took into account all relevant plans and projects for its in-combination assessment (ExA Report). The ExA report notes that NE and the Joint Councils confirmed their agreement with the Applicant's conclusions alone and in-combination with other plans and projects.
- 4.22 During this assessment the Secretary of State has had regard to the existing 275kV line which will provide the link between new pylons at Hinkley C Power Station and Bridgwater. The Secretary of State has noted the plans to uprate the overhead line between Bridgwater and Hinkley from 275kV to 400kV.
- 4.23 The Applicant's updated HRA report states that there is no evidence to indicate that existing collision mortality is having an impact on designated SPA/Ramsar populations. The Secretary of State notes that when the uprating of the line occurs, the existing pylons will be used. Consequently, the replacement line is not anticipated to pose any additional collision risk above current levels.
- 4.24 The Applicant's assessment of Potential Cumulative Effects (ES Chapter 15.7.1) has considered the uprating works and the potential ecological impacts and notes that uprating of the 275kV overhead line has potential to cause ecological impacts on the same ecological receptors as the Proposed Development. The Applicant concludes that any impacts will have a short term temporary effect and that no significant effects are anticipated. The Secretary of State agrees with this conclusion.
- 4.25 The Secretary of State notes that the uprating of the line between Hinkley C Power Station and Bridgwater is not the subject of this Application, (excepting necessary amendments in the area of Hinkley Point) and considers that should any further consents, such as planning permission for associated development and protected species licences, be required to uprate the route, these will be considered on their own merits by the appropriate decision-making authority, and environmental impacts will be considered and consulted on fully at the appropriate stage.

Secretary of State Conclusion on LSE

- 4.26 **The Secretary of State considers that sufficient information has been provided to inform a robust assessment in line with her duties under the Habitats Regulations. The Secretary of State is unable to exclude LSEs from the 9 sites identified in Table 2. This is also the view of the ExA, the Joint Councils and NE.**
- 4.27 The Secretary of State notes that the RIES, prepared by the Planning Inspectorate, only created Stage 2 matrices for the 5 sites designated for their bat features. The Secretary of State has assessed the other four sites to ensure that her duty as the competent authority under the Habitat Regulations is carried out.

Appropriate Assessment

Test for Adverse Effect on Site Integrity

- 5.0 The requirement to undertake an AA is triggered when a competent authority, in this case the Secretary of State, determines that a plan or project is likely to have a significant effect on a European site either alone or in combination with other plans or projects. Guidance issued by the European Commission states that the purpose of an AA is to determine whether adverse effects on the integrity of the site can be ruled out as a result of the plan or project, either alone or in combination with other plans and projects, in view of the site's conservation objectives (European Commission, 2000).
- 5.1 The purpose of this AA is to determine whether or not AEol of those sites and features identified during the LSE test can be ruled out as a result of the Project alone or in combination with other plans and projects in view of the site's conservation objectives and using the best scientific evidence available.
- 5.2 If the competent authority cannot ascertain the absence of an AEol within reasonable scientific doubt, then under the Habitats Regulations, alternative solutions should be sought. In the absence of an acceptable alternative, the project can proceed only if there are imperative reasons of overriding public interest ("IROPI") and suitable compensation measures identified. Considerations of IROPI and compensation are beyond the scope of an AA.

Conservation Objectives

- 5.3 Guidance from the European Commission indicates that disturbance to a species or deterioration of a European site must be considered in relation to the integrity of that site and its conservation objectives (European Commission, 2000). Section 4.6.3 of that guidance defines site integrity as:
- ...the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified.*
- 5.4 Conservation objectives outline the desired state for a European site, in terms of the interest features for which it has been designated. If these interest features are being managed in a way which maintains their nature conservation value, they are assessed as being in a 'favourable condition'. An AEol is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation (English Nature, 1997).
- 5.5 There are no set thresholds at which impacts on site integrity are considered to be adverse. This is a matter for interpretation on a site-by-site basis, depending on the designated feature and nature, scale and significance of the impact. Conservation objectives have been used by the Secretary of State to consider whether the Project has the potential to have an AEol, either alone or in combination with other plans or projects.

SPA and Ramsar Sites

6.0 The Examination focussed on the potential impacts on birds from two European sites; the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site. A brief description and the conservation objectives for these sites are provided below in tables 3 and 4. Ramsar sites are, as a matter of policy, afforded the same protection as SPAs and SACs, for the purpose of considering development proposals that may affect them. It is therefore taken that the conservation objectives applicable to the SPAs also apply to the defined waterbird interests/criteria of the Somerset Levels and Moors Ramsar and the Severn Estuary Ramsar. This was also the approach taken by the Applicant in their updated HRA document.

6.1 The Applicant's updated HRA report identified that the potential effects of the Project on bird qualifying features include the following:

- disturbance to birds within the connection corridor and displacement from foraging habitat during construction and operation;
- temporary loss of habitat outside of designated site boundaries during construction; and
- mortality due to collision with overhead lines during operation.

6.2 The potential impacts are common to all SPA and Ramsar sites which have LSE identified. The site boundaries for the Ramsar sites are the same as the SPA boundaries.

6.3 Due to the mobile nature of bird species the Secretary of State has considered whether the impacts from the Project are such that designated sites in other areas and countries (i.e. transboundary sites) might be affected as a result of the Project.

Somerset Levels and Moors SPA and Ramsar Site

6.4 The Somerset Levels and Moors are one of the largest and richest areas of traditionally managed wet grassland and fen habitats in lowland UK which cover approximately 35,000 ha in the floodplains of the Rivers Axe, Brue, Parrett, Tone and their tributaries. The SPA covers 6388.49 hectares (JNCC 2015). The majority of the site is only a few meters above mean sea level and drains through a large network of ditches, rhynes, drains and rivers. Flooding may affect large areas in winter depending on rainfall and tidal conditions. Parts of the site in the Brue Valley include areas of former raised peatbog that have now been substantially modified by agricultural intensification and peat extraction. This has created areas of open water, fen and reedbed. The site attracts important numbers of waterbirds (swans, ducks and waders) in winter. The table below shows the Conservation objectives for the Somerset Levels and Moors SPA.

Conservation Objectives	<p>With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features'), and subject to natural change;</p> <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</p>
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	<ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site.
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Table 3 Conservation objectives for the Somerset Levels and Moors SPA (NE, 2014).

Severn Estuary SPA and Ramsar Site

6.5 The Severn Estuary is located between Wales and England in south-west Britain. It is a large estuary with extensive intertidal mud-flats and sand-flats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The seabed is rock and gravel with sub-tidal sandbanks. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second highest tidal range in the world (after the Bay of Fundy in Canada). This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide-swept sand and rock. The species-poor invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders. A further consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK. The site is of importance during the spring and autumn migration periods for waders moving up the west coast of Britain, as well as in winter for large numbers of waterbirds, especially swans, ducks and waders. The table below shows the conservation objectives for the Severn Estuary SPA.

Conservation Objectives	<p>With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;</p> <p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</p> <ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site.
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Table 4 Conservation objectives for the Severn Estuary SPA (NE, 2014).

Secretary of State Consideration of SPA and Ramsar Sites

- 6.6 As noted above the RIES, prepared by the Planning Inspectorate, only created Stage 2 matrices for the 5 sites designated for their bat features. The Secretary of State has assessed the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site to ensure that her duty as the competent authority under the Habitat Regulations is carried out.
- 6.7 The Applicant's updated HRA document notes that no works would be undertaken within the defined boundary of the Somerset Levels and Moors SPA and Ramsar site, with the nearest part of the Project being located 2km to the west. There would, therefore, be no disturbance or displacement effects to SPA populations or loss/alteration of supporting habitat from within the defined boundaries of the SPA itself.
- 6.8 The Applicant identified that a small section of the works are located inside the Severn Estuary SPA/Ramsar site adjacent to the proposed Hinkley Point C nuclear power station, where new overhead line entries are required south of the power station. The designation is also crossed where the overhead lines pass over the River Avon. Works also come within 1km of the designation at Portbury Wharf Substation. The majority of the connection and the new substation at Sandford are at least 3km away and separated from the SPA by the M5 motorway.
- 6.9 The Applicant concluded that the limited numbers of waterbirds observed to occur within the route corridor and adjacent habitats indicate that if displacement were to arise, that any impacts at the designated species population level would not be significant. There are large areas of suitable habitat (e.g. other watercourses, grasslands, wetlands and estuarine habitats) in proximity to the corridor to which displaced birds could relocate. Given the extensive nature of these habitats and the small numbers of birds that could potentially be displaced at any one time the Applicant considered it highly unlikely that displacement would affect the capacity of these resources to support existing SPA designated populations of waterbirds.
- 6.10 The Secretary of State notes that the Applicant predicts that the potential for disturbance to qualifying species from water bodies used by wintering birds for the duration of the 132kV removal works would be a short-term effect of low magnitude. The removal activities are located on land outside the internationally designated area, but which is used by SPA birds.
- 6.11 In terms of habitat loss, the Applicant identified that the majority of the land within the corridor is of low habitat value for wintering waders and wildfowl. A small number of fields (9 in total) were assessed as holding moderate potential for waders and wildfowl. Only 2 fields/field groups within the corridor (included in the 9) were assessed as holding high potential for wildfowl. These included Portbury Wharf and Avonmouth Sewage Works. These areas are discussed in detail in table 4.2 of the Applicant's Environmental Statement, Biodiversity and Nature Conservation, Appendices 8F to 8I. No areas were assessed as holding high potential for waders. Due to the very limited use of habitats within the corridor by SPA bird species, the Applicant concluded that habitat loss as a result of the Project is highly unlikely to impact upon SPA designated bird populations.

- 6.12 The Applicant's updated HRA report noted that mortality resulting from collision with overhead lines is likely to represent the greatest potential impact to birds that may result from the project. The report noted that, based on collision risk calculations undertaken, the determined level of potential mortality for the species considered to be sensitive to this impact would be unlikely to result in any discernible population level impact.
- 6.13 The Applicant's updated HRA report states that the Project has the potential to cause some collision related mortality of waterbirds, although it is considered that, such mortality would not be any greater than that already associated with the existing overhead power line network. There is no evidence to indicate that existing collision mortality is having an impact on designated SPA/Ramsar populations.
- 6.14 The main focus of the Examination with regards to these two European sites was the need to agree appropriate bird collision monitoring and mitigation for potential impacts on birds from the sites. The Applicant proposed from early stages of the Examination to fit Bird Flight Diverters ("BFDs") to three sections of the 400kV overhead line as part of the embedded mitigation strategy. These are specified in Requirement 13(1). The three chosen locations are based on the Applicant's surveys and collision risk modelling. For all of the species for which collision risk has been identified as a potentially significant impact, diverters would reduce potential collision risk to the designated populations to levels that would be below the 1% increase in background mortality (Applicant's updated HRA report). Requirement 13(1) states that the BFD's shall be fitted to the 400kV line during its construction and retained thereafter.
- 6.15 Post construction bird collision monitoring would be secured under Requirement 13 for the length of proposed overhead line between the Bridgwater Tee and Mark. A 'Bird Mortality Monitoring and Thresholds South of Mark' was produced and submitted by the Applicant at deadline 5. This document is secured by Requirement 13(2) of the DCO. The document sets out the locations and processes to be adopted for post construction bird mortality monitoring, including agreed thresholds and triggers which would be used for further action. The document also confirms where the BFDs would be installed on the line. A working group is defined which would oversee the implementation of the monitoring. NE confirmed in its response to Q2.17.3 of the ExA's second written questions that it agrees with the Thresholds and Monitoring document. In addition access for mortality monitoring is secured through article 18(1)(c) in the DCO.
- 6.16 Further embedded mitigation is set out in the Updated Biodiversity Mitigation Strategy ("BMS"), which is secured under Requirement 5(2). This sets out that stringing of the new 400kV overhead line must take place only after the removal of the F route 132kV conductors and earth wires. This was a key point raised by NE as they considered there would be a need for an assessment of in-combination effects if the two lines were in place at the same time because the likely impacts on SPA/Ramsar birds would be greater. The ExA report notes that the Applicant has confirmed that stringing of the new overhead line will only occur after the removal of the existing wire is secured. This is set out in paragraph 2.2.14 of the Applicant's updated BMS.
- 6.17 The National Grid Bird Protocol sets out the commitments that the Applicant has made should bird use change across the entire area. This is secured through the BMS (under Requirement 5(2))

and also appended to the Bird Mortality Monitoring and Thresholds document (secured in Requirement 13).

- 6.18 The Secretary of State acknowledges the concerns of the Joint Councils with regards to the matter of installation of BFDs at Portbury Wharf Nature Reserve. As noted in the ExA report this remains an area of disagreement between the Joint Councils and the Applicant if route Option B is chosen. The Secretary of State notes that the collision risk concerns relate to mute swans which are not a qualifying feature of the Severn Estuary SPA and Ramsar site. The Secretary of State has regard to NE's advice given at the Portishead/ Portbury issue specific hearing on the 15th June 2015 that it is content with the Applicant's assessment of no AEoI on the designated bird features of the Severn Estuary SPA and Ramsar site. The Secretary of State agrees with the ExAs advice to rely on the Applicant's conclusion of no AEoI in connection with any potential adverse effects from collision risk on SPA birds flying across Portbury Wharf Nature Reserve.
- 6.19 The Secretary of State acknowledges the issues and discussion around Hallen Marsh but agrees with the ExA that this site does not require consideration under HRA.
- 6.20 NE confirmed in its updated SoCG with the Applicant at Deadline 6 that it agreed with the Applicant's updated HRA report which finds no AEoI of the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site when mitigation is taken into account.
- 6.21 The ExA were content that the Applicant had provided sufficient details for the installation of the BFDs in three agreed locations, for monitoring a further section of line south of Mark; and for a process which identifies actions should changed bird behaviour be observed and reported along the rest of the length of the proposed overhead line. The ExA considered that the monitoring for the mitigation required for excluding adverse effects on the two SPAs and Ramsar sites can be arranged through the multi-agency working group that the Applicant has committed to setting up. This working group is set out in paragraph 3.9 of the 'Bird Mortality Monitoring and Thresholds South of Mark' document which was produced and submitted by the Applicant at deadline 5. This document is secured by Requirement 13 of the DCO
- 6.22 **The Secretary of State has considered the information provided including the RIES, the ExA report and information submitted by interested parties and agrees with the ExA recommendation that subject to mitigation (as noted above) and Requirements 5 and 13 there will not be an AEoI of the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site.**

In combination

- 6.23 The Applicant's updated HRA report notes that as there are no significant disturbance or displacement impacts predicted as a result of the Project (on bird species for which either the Somerset Levels and Moors SPA and Ramsar or the Severn Estuary SPA and Ramsar are designated), it is predicted that there will be no significant interaction between the Project and other projects included in the in-combination assessment. The report concludes that no significant in-combination impact on the designated bird populations of the Somerset Levels and Moors SPA and

Ramsar site and the Severn Estuary SPA and Ramsar site would arise through disturbance or displacement.

6.24 In relation to habitat loss the Applicant concludes that no significant in-combination impacts on designated SPA/Ramsar waterbird populations as a result of interaction with other plans or projects is predicted to arise.

6.25 The Applicant's updated HRA report states that vantage point surveys show that movements of some species of waterbirds, notably teal, mallard and lapwing, occur on a fairly frequent basis across the corridor route, potentially placing birds at risk of collision. These movements are considered to represent local flights rather than regular movements between distinct foraging and roosting grounds. The calculation of collision mortality for those species of waterbird considered to be at potential risk (mute swan, teal and lapwing) indicates that overall the losses would be small and not of significance at the population level. When combined with the predicted collision losses that could arise with respect to the proposed wind farms at Withy End, Black Ditch and Avonmouth Sewage Works, the impact on the designated populations of the Somerset Levels and Moors SPA/Ramsar and the Severn Estuary SPA/Ramsar would be small and for all populations the change in background mortality is not considered to be significant. Analysis of the possible collision mortality that could arise as a result of the regular movement of small ducks (teal and wigeon) between the Somerset Levels and Moors SPA and the Severn Estuary SPA suggests that, for these species, potential in-combination collision losses would be unlikely to be significant at the population level, with less than 1% increases in background mortality calculated for these two species (taking into account proposed measures to install bird diverters at three selected locations on the new 400kV overhead power line).

6.26 The ExA was satisfied that the Applicant had assessed all relevant European Sites and qualifying features and took into account all relevant plans and projects for its in-combination assessment. As noted in paragraph 4.19 above, in response to Q17.9 of the ExA both NE (in their written representation dated 26 February 2015) and the Joint Councils (in their Submissions of the Joint Councils for Deadline 2, 26th February 2015: Joint Council Response to the Examining Authority's first written questions) confirmed that relevant plans and projects have been included in the in-combination assessment. NE confirmed in the Biodiversity issue specific hearing that it agreed with the Applicant's conclusions, the RIES reports that the Joint Councils subsequently confirmed that if the NE was satisfied then they also had no outstanding issues on the matter.

Conclusion

6.27 NE confirmed at item 8.52 of their SoCG with the Applicant that it agrees with the conclusion in the Applicant's updated HRA report of no adverse effect on integrity of the Somerset Levels and Moors SPA, Somerset Levels and Moor Ramsar site, Severn Estuary SPA and Severn Estuary Ramsar.

6.28 The ExA noted that they saw no reason for consideration of European sites and HRA matters to prevent the Secretary of State from making a DCO providing that i) the mitigation, including specific installation of BFDs and monitoring to reduce collision risk for birds from the SPA and Ramsar sites

is secured and ii) the National Grid protocol on Bird Diverters is observed for all sections of the proposed line not covered by mitigation.

6.29 The Secretary of State has considered the information provided including the RIES, the ExA report and information submitted by interested parties and agrees with the ExA recommendation. The Secretary of State considers that subject to mitigation (as noted above) and Requirements 5 and 13 the Project (alone and when considered in combination with all relevant plans and projects) will not have an AEoI of the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site.

6.30 Given the consideration of potential impacts on bird species as a result of the Project and that there will be no adverse effect on integrity of these sites, the Secretary of State considers that the Project will not have an impact on species likely to migrate to other sites both within England and elsewhere (consequently, the Secretary of State considers there will not be transboundary impacts as a result of the Project).

SACs with Qualifying Bat Features

- 7.1 The Applicant undertook an Appropriate Assessment for five European sites designated for bat qualifying features.
- 7.2 The potential for LSE was identified on the greater horseshoe bat qualifying features of the following four European sites:
- North Somerset and Mendip Bats SAC
 - Mendip Limestone Grasslands SAC
 - Mells Valley SAC
 - Bath and Bradford-on-Avon Bats SAC
- 7.3 The potential for LSE was also identified on the lesser horseshoe bat qualifying feature of the North Somerset and Mendip Bats SAC and the Barbastelle bat qualifying feature of the Exmoor and Quantock Oakwoods SAC.
- 7.4 The Applicant's updated HRA report identified there would be no direct loss of or disturbance to habitats that support Annex II bat populations within the defined boundaries of the above SACs. Any effects of the Project would therefore be indirect.
- 7.5 A brief description and the Conservation objectives for these five sites can be seen below in tables 5 to 9.
- 7.6 The RIES notes that the potential LSEs of the Project on bat qualifying features comprise the following effects:
- Habitat losses
 - Disturbance (human activity, noise and artificial lighting)
 - Loss/disturbance of bat foraging and commuting routes.
- 7.7 The potential impacts are common to all SAC sites which have LSE identified.

North Somerset and Mendip Bats SAC

- 7.8 The Cheddar complex and Wookey Hole areas support a wide range of habitats which provide feeding grounds for bats. The limestone caves and mines of the Mendips and the north Somerset hills provide a range of important breeding and hibernation sites for lesser horseshoe bat *Rhinolophus hipposideros* and greater horseshoe bat *Rhinolophus ferrumequinum*. For the greater horseshoe bat the site has been selected on the basis of the size of population represented (3% of the UK greater horseshoe bat population) and its good conservation of structure and function, having both maternity and hibernation sites. The site contains an exceptionally good range of the sites used by the population, comprising two maternity sites in lowland north Somerset and a variety of cave and mine hibernation sites in the Mendip Hills. The

site covers approximately 561 hectares (JNCC 2015). The table below shows the conservation objectives for the North Somerset and Mendip Bats SAC.

Conservation Objectives	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
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Table 5 Conservation objectives for the North Somerset and Mendip Bats SAC (NE, 2014).

Mendip Limestone Grassland SAC

7.9 This site comprises coastal and inland sections of the Carboniferous Limestone outcrops of the Mendips. Greater horseshoe bat is an Annex II species present as a qualifying feature, but not a primary reason for site selection. The site is approximately 417 hectares (JNCC, 2015). The table below shows the conservation objectives for the Mendip Limestone Grassland SAC.

Conservation Objectives	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
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Table 6 Conservation objectives for the Mendip Limestone Grassland SAC (NE, 2014).

Mells Valley SAC

7.10 Mells Valley has been selected as an SAC on the basis of the size of its exceptional breeding population of greater horseshoe bat. It contains the maternity site associated with a population comprising about 12% of the UK population. A proportion of the population also hibernates at the site, though other hibernation sites remain unknown. The bats use a network of caves, quarries and old buildings. The site is approximately 28 hectares (JNCC, 2015). The table below shows the conservation objectives for the Mells Valley SAC.

Conservation Objectives	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
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Table 7 Conservation objectives for Mells Valley SAC (NE, 2014).

Bath and Bradford-on-Avon Bats SAC

7.11 The site comprises extensive networks of caves, mines and man-made tunnels which are used by bats for hibernation, mating and as a staging post prior to dispersal. This site includes the hibernation sites associated with 15% of the UK greater horseshoe bat population and is selected on the basis of the importance of this exceptionally large overwintering population. The site also includes areas of calcareous grassland, scrub and woodland which are used as feeding and commuting habitat by the bats. The site is approximately 107 hectares (JNCC, 2015). The table below shows the conservation objectives for the Bath and Bradford-on-Avon Bats SAC.

Conservation Objectives	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> • The extent and distribution of the habitats of qualifying species • The structure and function of the habitats of qualifying species • The supporting processes on which the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
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Table 8 Conservation objectives for the Bath and Bradford-on-Avon Bats SAC (NE, 2014).

Exmoor and Quantock Oakwoods SAC

7.12 A maternity colony of barbastelle bats (*Barbastella barbastellus*) utilises a range of tree roosts in the oak woodland. Barbastelle bats are an annex 2 feature of the site and a primary reason for site selection. The site is approximately 1895ha (JNCC, 2015). The table below shows the conservation objectives for the Exmoor and Quantock Oakwoods SAC.

Conservation Objectives	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species • The structure and function (including typical species) of qualifying natural habitats • The structure and function of the habitats of qualifying species • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely • The populations of qualifying species, and, • The distribution of qualifying species within the site.
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Table 9 Conservation Objectives for the Exmoor and Quantock Oakwoods SAC (NE, 2014).

Secretary of State Consideration of SACs with Qualifying Bat Features

7.13 As noted in paragraph 7.6 above three potential impacts were identified as LSEs for bat features. These were;

- Habitat losses
- Disturbance (human activity, noise and artificial lighting)
- Loss/disturbance of bat foraging and commuting routes.

7.14 The RIES notes that the Applicant has committed to mitigation measures which will avoid adverse effects on integrity. Mitigation is proposed to offset disturbance, temporary construction stage habitat loss of foraging areas, permanent changes to habitat in some of the bat consideration zones (see description in paragraph 4.16) and fragmentation of roosting and foraging habitat.

7.15 The mitigation proposals are set out in detail in the Applicant's updated HRA report and comprise temporary and permanent management regimes for increasing invertebrate diversity, the use of temporary bat flyways, phasing of works, bespoke planting and maintenance proposals and lighting design.

7.16 With regard to the revised construction programme (as discussed in paragraph 4.17 and 4.18) the Environmental Statement sensitivity test of the Construction Environmental Management Plan

(“CEMP”) identified that the revised programme increased the duration of the works associated with the 400kV underground cable. Phased working and limits on maximum length of working areas are therefore required to mitigate impacts on bats from two SACs (North Somerset and Mendips Bats SAC and the Mendip Limestone Grasslands SAC). Early reinstatement is also proposed for some of the habitat loss at Sandford substation. These changes have been incorporated into the updated Biodiversity Mitigation Strategy.

7.17 The above mitigation would be secured in the DCO through;

- DCO Requirement 5 “Construction Environmental Management Plan”, specifically Requirement 5(2)(b) “Biodiversity Mitigation Strategy”;
- DCO Requirement 6(a) “Approval and implementation of construction mitigation plans”, specifically Requirement 6(a) “Soil Management Plan”;
- DCO Requirement 8 “Control of artificial light emissions”;
- DCO Requirement 9 “Provision of embedded landscape mitigation”;
- DCO Requirement 11 “Implementation of landscaping and replacement planting”, specifically with regards to the timing of planting at Sandford substation and replacement planting; and
- DCO Requirement 14 “Bat mitigation measures”.

7.18 The updated BMS sets out that Requirement 14 would be the primary mechanism for securing bat mitigation; and it allows for proposals to be amended if approved by NE. The updated BMS also confirms that there is no conflict between Requirement 14 and Requirement 5.

7.19 The Applicant set out that the bat foraging habitats will be subject to a 5 year maintenance regime which in their opinion will be adequate for re-establishing grassland and hedgerow habitats. The BMS stated *“During years 1-5 management prescriptions and actions will be as for all reinstated hedgerows but with the additional task of maintaining fencing. During years 6-8 there will be quarterly visits to check for fence and hedge defects, any defects will be corrected.”*

7.20 The ExA did not consider that the above method sets out, beyond all reasonable doubt, the implementation of the mitigation measures that have been advised by NE during the Examination as being absolutely necessary to ensure appropriate reinstatement of SAC bat foraging and commuting habitat. The ExA considered that the fundamental point of the advice given by NE relates to an eight-year management and maintenance period for areas required for operational phase bat foraging. The ExA did not consider that the Applicant’s final draft DCO and updated BMS would deliver the mitigation with certainty as no management or maintenance activities would be carried out unless a defect was noticed during a quarterly check.

7.21 The ExA report notes that the Applicant’s draft DCO method of securing the maintenance is via Requirement 14 which refers back to the BMS. However the updated BMS only requires that quarterly checks are undertaken and corrections made if defects are observed. The ExA, therefore, recommend changes to the DCO as follows;

- i) Amend Requirements 5(1) and 6(2) to cover “mitigation works to minimise the impacts of construction for the authorised development” as well as the “construction works” because the BMS covers activities associated with mitigation for bats from European sites which are required during some of the project’s operational phase;
- ii) Amend Requirement 10(2)(c) from “five year maintenance regime” to refer to the relevant length of time to reflect the maintenance required for bat SACs (i.e. eight years maintenance for bat flyways);
- iii) Amend Requirement 14(1) to include reference to permanent bat flyways as well as temporary bat flyways to be consistent with the BMS; and
- iv) Amend Requirement 14(2) to specify the eight years management and maintenance rather than referring to the BMS.

7.22 The ExA report states that NE’s advice is very clear that the necessary mitigation associated with the construction phase flyways, the fencing and the operational phase flyway’s maintenance and management are critical to the conclusion of no AEoI. The ExA report therefore recommends that monitoring for these elements of the works should be undertaken by a party other than the Applicant, as well as the supervisory roles of the ecological and landscape clerk of works described in the updated BMS. The ExA recommended this approach based on points raised by the Joint Councils which stated at the end of the Examination that *‘Part 8 of the Planning Act 2008 states that the relevant Local Planning Authority is responsible for enforcing the provisions and requirements set out in a DCO which has been granted. However, the Joint Councils note that planning enforcement is a discretionary activity. The Joint Councils are of the view that monitoring of certain activity is necessary to ensure that works are being carried out in accordance with the approved plans and/or the mitigation necessary to ensure that the significance of environmental effects is being delivered effectively. In this regard the Joint Councils are of the view that National Grid should, as part of the Service Level Agreement, agree that the reasonable costs of the Joint Councils carrying out discretionary activity should be included so that that cost of providing this does not fall to local council tax payers’*. The ExA considered that the Joint Councils’ case for monitoring funding is valid to carry out the monitoring of the planting and aftercare management and maintenance activities with regard to the hedge planting for the bat flyways. This is because the mitigation is essential to ensure the HRA tests are met. The ExA noted the lack of monitoring proposed but considered it necessary to secure the mitigation.

7.23 In order to achieve this the ExA considers that it would be necessary for the Secretary of State to ensure that the Applicant agrees and signs a separate s106 agreement with the Joint Councils which covers payment for a monitoring service to cover the following (all of the below are set out in the updated BMS, except for the reference to eight years maintenance):

- Installation, use of and maintenance of temporary bay flyways;
- Phasing of hedgerow removal and reinstatement works within the cable installation area through the Area of Outstanding Natural Beauty (AoNB);

- Maintaining bat foraging habitats in accordance with the Habitat Evaluation Procedure (“HEP”) and calculations, including seeding of topsoil and subsoil piles;
- Installation of and eight years maintenance of the reinstated permanent bat flyways (hedgerows);
- Installation of and at least eight years maintenance of relevant plantings at Sandford substation, South of the Mendip Hills CSE compound, River Axe Cable Bridge option and Towerhead Brook Bridge; and
- Fencing installation and eight years maintenance.

7.24 Having regard to the ExA’s points the Secretary of State consulted on a number of points² on the 11th November. The consultation noted that at the close of the Examination there was still some disagreement between the Applicant, Natural England and the Joint Councils with regards to monitoring of the temporary and permanent mitigation for SACs which have bats or bat habitats as a protected feature. The consultation noted that, should the Secretary of State decide to make an order granting development consent, she is minded to address these concerns by:

1. The addition of a provision as follows;

“No works will commence until agreement has been secured under section 106 of the Town and Country Planning Act 1990 between the Applicant and the Joint Councils to cover payment for a monitoring service to cover the following: Installation, use of and maintenance of temporary bat flyways; Phasing of hedgerow removal and reinstatement works within the cable installation area through the Area of Outstanding Natural Beauty; Maintaining bat foraging habitats in accordance with the Habitat Evaluation Procedure and calculations, including seeding of topsoil and subsoil piles; Installation of and eight years maintenance of the reinstated permanent bat flyways (hedgerows) from the date of installation; Installation of and maintenance of relevant plantings at Sandford substation, South of the Mendip Hills CSE compound, River Axe Cable Bridge option and Towerhead Brook Bridge of at least eight years from the date of installation; and Fencing installation and eight years’ maintenance.”

2. Amendments to Requirements 5(1), 6(2), 10(2)(c), 14(1), and 14(2) in Schedule 3 of the Development Consent Order.

7.25 During the consultation, DECC asked the Applicant, Natural England and the Joint Councils to provide confirmation that they are content with the above should Development Consent be granted. Natural England confirmed in their response to the consultation on the 23rd November 2015 that they are content with the additional provision and amendments to the Requirements. The Joint Councils responded to the consultation on the 24th November 2015 stating that they welcome the additional provision and raise no objections. They also confirmed that, in relation to bat mitigation, they have no objection to the alterations to the Requirements. The Applicant responded to the consultation on the 25th November 2015 stating that they do not consider it

² Consultation available to view at http://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN020001/2.%20Post-Submission/DECC%20Consultation/Letter%20of%2011th%20November/DECC_consultation_letter.pdf

necessary or appropriate for the additional provision to be included in the DCO and provided reasoning for their position. The Applicant also raised concerns with regards to the changes to the wording of the requirements³.

In-Combination

- 7.26 The Applicant has used Bat Consideration Zones to consider in-combination effects on bats (bat consideration zones are discussed in paragraph 4.16). The conclusions reached in the Applicant's assessment take into account the effects of the in combination projects on the same identified sensitivities as those of this Project (as listed in paragraph 7.13) using the bat consideration zones as a mechanism for understanding potential cumulative effects.
- 7.27 Of the projects identified by the Applicant (see paragraphs 4.15 and 4.16), in the Applicant's view those for which environmental information is available would incorporate mitigation measures to ensure that individual projects would not adversely impact upon bat populations. In the Applicant's view by using the HEP the amount and distribution of habitat enhancement and creation measures that would be implemented for the construction phase of this project would at worst lead to a neutral effect on the availability of foraging habitat. As such the Applicant considers that the contribution of this Project to a cumulative effect on designated bat populations through habitat change would be negligible. Combined with similar conclusions for the other projects screened into the assessment, the overall impact on the designated bat population is not considered by the Applicant to be significant.
- 7.28 NE confirmed in its updated SoCG with the Applicant that it agrees with the Applicant's conclusion that there would be no adverse effects on the integrity of any European site designated for bats, either alone or in-combination.

Conclusions

- 7.29 The Applicant's updated HRA report predicted that there would be no AEoI of the Mells Valley SAC, the Bath and Bradford-on-Avon Bats SAC and the Exmoor and Quantock Oaklands SAC based on bat foraging and commuting distances. Natural England has confirmed agreement with this conclusion in its SoCG with the Applicant. The ExA considers that the Secretary of State can rely on the findings of no AEoI for these three sites.
- 7.30 The ExA found no reason to disagree with the Applicant's conclusion that mitigation is necessary to remove all reasonable doubt of AEoI on the North Somerset and Mendip Bats SAC and the Mendip Limestone Grasslands SAC. The foraging and commuting distances of some species of bats which are qualifying features of these SACs are such that bats may forage and commute in areas affected by the Project. The issues which may affect these SACs are;
- Hedgerows and grassland which have been removed, falling within the cable installation (undergrounding) area; and

³ The Applicant's response to the consultation can be seen at http://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN020001/2.%20Post-Submission/DECC%20Consultation/Letter%20of%2011th%20November/Responses/151125_EN020001_National%20Grid%20Electricity%20Transmission%20Plc.pdf

- Areas of vegetation removal where embedded landscape mitigation would be installed at the South of the Mendip Hills CSE compound, the River Axe Cable Bridge option, the Sandford substation and Towerhead Brook Bridge.

7.31 The ExA agree with the Applicant's conclusion that AEoI of these two European sites can be ruled out, as long as the mitigation is adequately secured. This is also the position of NE as set out in their SoCG with the Applicant. The ExA conclude that, in order to ensure that the Project would not adversely effect the integrity of any European Site, changes should be made to the DCO as discussed above (paragraphs 7.20-7.25). The ExA considered that these changes would ensure that all construction stage activities set out in the BMS, which are relied upon for HRA purposes, are followed; the management and maintenance of the plantings which form bat flyways are maintained for eight years as advised by NE and the mitigation works to minimise the impacts of construction (which would extend beyond the construction stage as defined) associated with the permanent bat flyways as set out in the updated BMS and Requirement 14 are followed.

7.32 **The Secretary of State has considered the information provided including the RIES, the ExA report and information submitted by interested parties and agrees with the ExA's recommendation. The Secretary of State considers that, subject to mitigation being secured, managed, maintained, enforced and monitored there will not be an AEoI on the North Somerset and Mendip Bats SAC, Mendip Limestone Grasslands SAC, Mells Valley SAC, Bath and Bradford-on-Avon Bats SAC, North Somerset and Mendip Bats SAC and Exmoor and Quantock Oakwoods SAC as a result of the project alone or in-combination with other plans or projects. The Secretary of State agrees with the ExAs recommendation to include an additional provision and alter the wording of a number of requirements to ensure no AEoI on any of these European Sites.** The Secretary of State notes that the Applicant does not agree with the addition of the provision or the changes to the requirements. The Secretary of State agrees with the ExAs recommendation to ensure that the reasonable costs of the Joint Councils carrying out discretionary activity should be included so that that cost of providing this does not fall to local council tax payers. **The Secretary of State is satisfied that the necessary mitigation, enforcement and monitoring is secured in the DCO issued with this HRA report.**

7.33 **In including the additional provision and altering the wording of the requirements the Secretary of State is also following the advice of Natural England, the statutory nature conservation body, on a point clearly within its expertise.**

Habitats Regulations Assessment Conclusions

8.1 The Secretary of State has carefully considered all of the information presented before and during the Examination, including the ES, the RIES, the Applicant's updated HRA report, representations made by Interested Parties, and the ExA's report itself. She considers that the Project has the potential to have an LSE on nine European sites when considered alone and in combination with other plans and projects. These sites are listed below.

- The Somerset Levels and Moors SPA and
- The Somerset Levels and Moors Ramsar site
- The Severn Estuary SPA
- The Severn Estuary Ramsar site
- North Somerset and Mendip Bats SAC
- Mendip Limestone Grasslands SAC
- Mells Valley SAC
- Bath and Bradford-on-Avon Bats SAC
- Exmoor and Quantock Oakwoods SAC

8.2 The Secretary of State is confident that, with the mitigation measures considered in place, the grant of development consent for the project will not lead to an adverse effect on the integrity of any of these sites.

8.3 Mitigation for the Project will be secured and delivered through the DCO within:

- Requirement 5- The Construction Environmental Management Plan (which includes the Updated Biodiversity Mitigation Strategy);
- Requirement 6- Approval and implementation of construction mitigation plans;
- Requirement 8- Control of Artificial light emissions;
- Requirement 9- Provision of embedded landscape mitigation;
- Requirement 11- Implementation of landscaping and replacement planting;
- Requirement 13, 13(1), 13(2)- Bird Flight Diverters;
- Requirement 14- Bat Mitigation measures;
- And in Article 18(1)(c)- Access for mortality monitoring

8.4 As noted earlier, the Secretary of State consulted on suggested changes to some of these requirements and the inclusion of an additional provision suggested by the ExA. Natural England and the Joint Councils confirmed in their responses to the consultation that they are content with the additional provision and amendments to the Requirements. The Applicant responded stating that they do not consider it necessary or appropriate for the additional provision to be included in the DCO and raised concerns with regards to the changes to the wording of the requirements. The Secretary of State has considered the views of the various parties and agreed with the ExAs

recommendation to include an additional provision and alter the wording of a number of requirements to ensure no AEoI on any European Sites.

8.5 The Secretary of State has undertaken an AA in respect of those European sites' Conservation Objectives listed in *Table 2*, to determine whether the project, either alone or in combination with other plans and projects, will result in an AEoI.

8.6 The Secretary of State has determined that the Hinkley Point C Connection, with mitigation in place, will not have an adverse effect on integrity of any European site either alone or in combination with other plans or projects. She has undertaken a robust assessment using all of the information available to her, not least the advice from the SNCBs, the recommendation of the ExA, and the views of Interested Parties including the Applicant.

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