



# The Sizewell C Project

## 9.85 Written Submissions Responding to Actions Arising from Issue Specific Hearing 10: Biodiversity, Ecology and HRA (27 August 2021)

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SIZEWELL C PROJECT –  
WRITTEN SUBMISSIONS ARISING FROM  
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## APPENDICES

**Appendix A:** Response to ExA’s Note on ISH10 Agenda 5(a)

**Appendix B:** European Site Conservation Objectives for Plymouth Sound and Estuaries SAC

**Appendix C:** Marsh Harrier Compensatory Measures – Assessment against Relevant Criteria

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# 1 ISSUE SPECIFIC HEARING 10: BIODIVERSITY, ECOLOGY AND HRA

## 1.1 Introduction

1.1.1 This document contains the Applicant's written submissions responding to actions arising from Issue Specific Hearing 10 (ISH10) on biodiversity, ecology and HRA matters, including protected species, designated sites and SSSI crossing update, held on 27 August 2021.

1.1.2 This document corresponds to the Applicant's **Written Summaries of Oral Submissions made at ISH10** (Doc Ref. 9.81) submitted at Deadline 7. This document also responds to the Examining Authority's (ExA) request for written responses to Agenda Item 5 of ISH10 [[EV-188](#)].

## 1.2 Veteran Trees

### a) Definition of veteran trees and policy overview

1.2.14 SZC Co. has set out the definition of Veteran Trees in response to ExQ2 Bio.2.8 (Doc. Ref. 9.71), which is submitted at Deadline 7. In summary, the NPPF defines ancient and veteran trees as:

*"A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage".*

1.2.15 The Woodland Trust classifies trees into the following three categories, all of which are included on the Ancient Tree Inventory, which is the recognised source of information on ancient and veteran trees:

- **Ancient tree:** In the third or final stage of its life, old relative to others of the same species and interesting biologically, aesthetically or culturally because of its great age.
- **Veteran tree:** Developed some of the features found on an ancient tree however are usually only in the second or mature stage of life.
- **Notable tree:** A mature tree that stands out in the local environment because it is large in comparison with other trees around it but does not have any obvious veteran characteristics.

- 1.2.16 To clarify, all ancient trees are veteran trees, but not all veteran trees are ancient. Notable trees do not meet the criteria to be either ancient or veteran trees, but are large prominent trees in their local environment.
- 1.2.17 In light of this, and as confirmed in SZC Co.'s Written Submissions following ISH7 [\[REP6-002\]](#), SZC Co. interprets 'aged' trees within paragraph 5.3.14 on EN-1 to mean ancient trees.

- 1.2.18 NPS EN-1 states at paragraph 5.3.14:

*"Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The IPC should not grant development consent for any development that would result in its loss or deterioration unless the benefits (including need) of the development, in that location<sup>103</sup> outweigh the loss of the woodland habitat. Aged or 'veteran' trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided<sup>104</sup>. Where such trees would be affected by development proposals the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons why"*

- 1.2.19 Footnote 104 states:

*"This does not prevent the loss of such trees where the IPC is satisfied that their loss is unavoidable".*

- 1.2.20 SZC Co. has identified all trees on the Ancient Tree Inventory that would be affected by the DCO proposals. Based on the Ancient Tree Inventory, three veteran trees would be lost within the two village bypass site and one veteran tree would be lost within the Sizewell link road site<sup>1</sup>. Further detail is provided on the loss in the sections b) and c) below.

b) **Veteran trees within the two village bypass site**

i. **The location of the veteran trees**

- 1.2.21 SZC Co. submitted plans showing the location of veteran trees along the two village bypass route at Deadline 4 [\[REP4-006\]](#). As requested by the

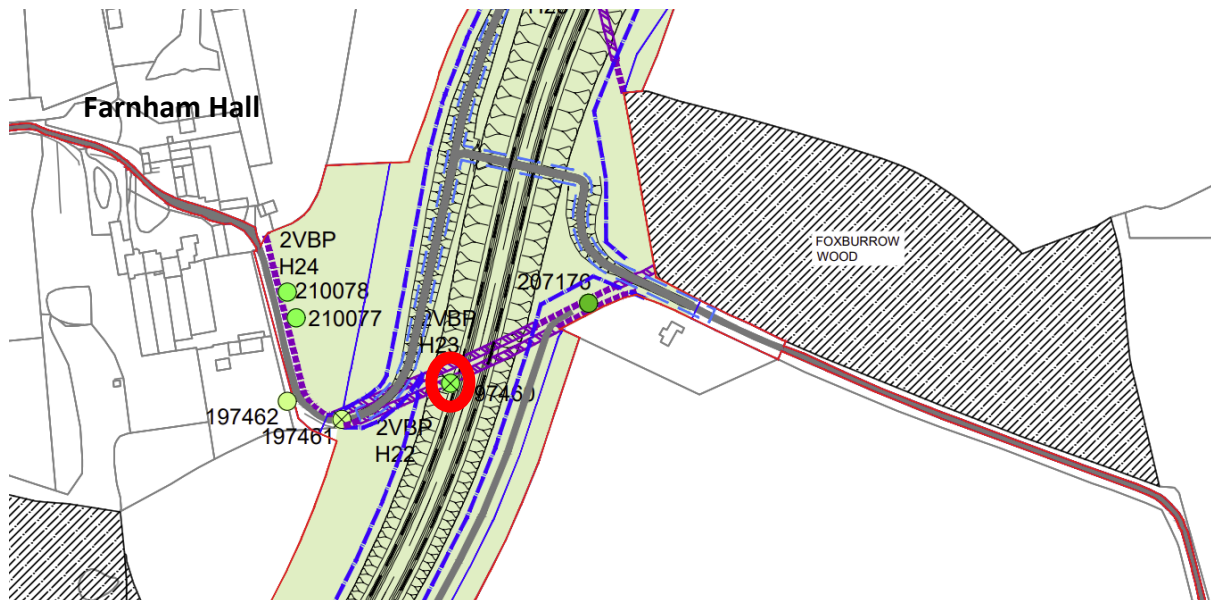
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<sup>1</sup> At the ISH Mr Rhodes advised that two veteran trees were thought to be lost as a result of the Sizewell Link Road but that more detailed surveys were being undertaken to check that. Whilst detailed tree surveys have not yet been completed, work has been undertaken to locate the precise relationship of the trees to the Sizewell Link Road boundary, with the result that SZC Co. is confident that only one veteran tree would be lost to the Sizewell Link Road.

Examining Authority at ISH7, these figures were updated at Deadline 6 to show the order limits, the permanent land take boundary and the Work No. 11 boundary [REP6-002].

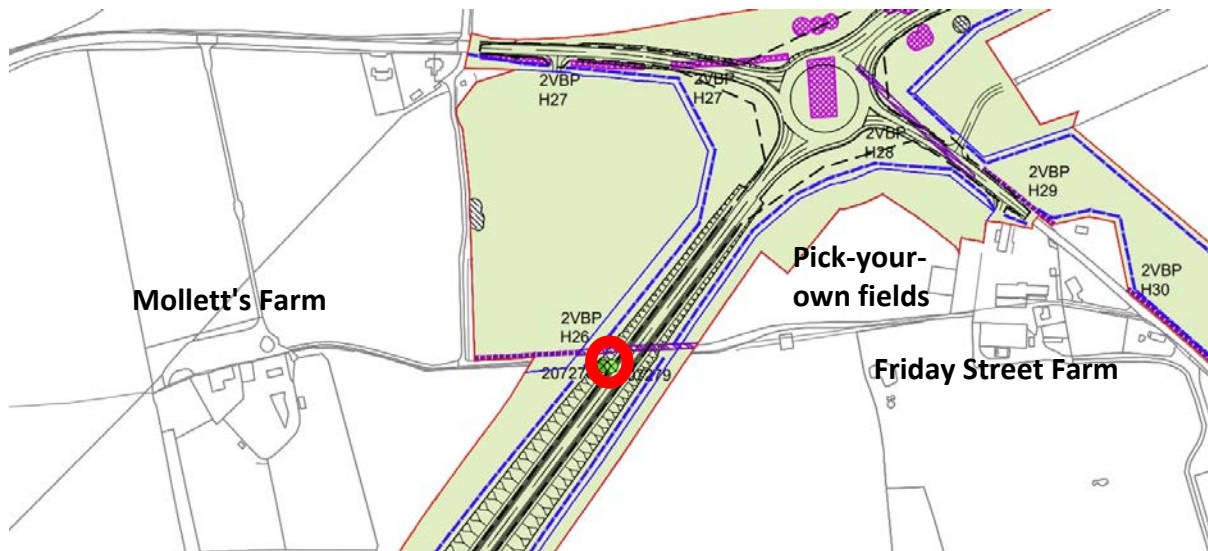
- 1.2.22 Figure 1.1 [REP6-002] (electronic page 85) shows that three veteran trees (two veteran trees, and one ancient tree that is veteran) that are on the Ancient Tree Inventory would be felled within the two village bypass site. Plate 1.1 below shows the location of the one veteran tree (tree ID: 197460) to the south east of Farnham.

**Plate 1.1 – Extract of Figure 1.1 [REP6-002] (electronic page 85) showing veteran tree ID: 197460 (as shown in red circle)**



- 1.2.23 Plate 1.2 below shows the location of the one veteran tree (tree ID: 207279) that is located near Friday Street Farm roundabout between Mollett's Farm and Friday Street Farm. The ancient tree (tree ID: 207278) is located adjacent to the veteran tree near Friday Street Farm.

**Plate 1.2 – Extract of Figure 1.1 [REP6-002] (electronic page 85) showing veteran tree ID: 207279 and ID: 207278 (both trees shown within the same red circle)**



- ii. Why the loss of the veteran trees within the two village bypass site are unavoidable

- 1.2.24 The need for the two village bypass has been set out in the Two Village Bypass Summary Paper (Appendix 5C of the SZC Co. responses to ExQ1) [REP2-108] (electronic pages 148 to 170). The justification for the route, and the alternatives that have been considered, is set out in Volume 5 Two Village Bypass Chapter 3 Alternatives and Design Evolution [APP-414], The Planning Statement, Appendix A - Site Selection Report (Section 6) [APP-591] (electronic page 132), the Two Village Bypass Summary Paper (Appendix 5C of the SZC Co. responses to ExQ1) [REP2-108] (from electronic pages 170 - 180), and in response to ExQ1 AI.1.16 [REP2-100] (electronic page 175).
- 1.2.25 The Councils (Suffolk County Council and East Suffolk Council) have also recognised that the proposed two village bypass route is the most appropriate route when considering Foxburrow Wood at paragraph 16.54 of the LIR [REP1-045] (electronic page 241).
- 1.2.26 Specifically in relation to the one veteran tree (tree ID: 197460) that is located to the south east of Farnham, as shown in Plate 1.1, the two village bypass alignment in this location has been designed so that it minimises

the impacts on properties at Farnham Hall (to the west of the alignment) and provides a 15m buffer to Foxburrow wood (to the east of the alignment). Foxburrow wood is ancient woodland, and paragraph 5.3.14 of EN-1 states that the Secretary of State should not grant development consent for any development that would result in its loss or deterioration of Ancient Woodland. A 15m buffer to Ancient Woodland is required by Natural England and the Forestry Commissions Standing Advice<sup>2</sup>.

- 1.2.27 Foxburrow Wood Ancient Woodland is approximately 16m from the DCO alignment earthworks at its closest point. Therefore, the 15m buffer requirement to Foxburrow Wood has been respected, but not significantly exceeded, so that the alignment is as far east as practical to respect the amenity of Farnham Hall.
- 1.2.28 If the alignment were to move further east by a total of approximately 45m to avoid the veteran tree (and to provide a 15m buffer to the veteran tree), this would erode the 15m buffer to the Ancient Woodland and would directly impact on Foxburrow Wood. Foxburrow wood would be impacted by 29m<sup>3</sup>, due to the new two village bypass alignment and earthworks. The alignment would also shift some 22m closer to Pond Barn.
- 1.2.29 It would not be possible to shift the two village bypass alignment west to avoid the veteran tree (tree ID: 197460) in this location as the alignment would then directly impact the residential properties at Farnham Hall.
- 1.2.30 In relation to the one veteran tree (tree ID: 207279), and the ancient tree that is veteran (tree ID: 207278), that are located near Friday Street Farm roundabout as shown in Plate 1.2, the two village bypass alignment in this location has been routed so that it minimises the impacts on Mollett's Farm (to the west of the alignment) and Friday Street Farm (to the east of the alignment).
- 1.2.31 If the alignment was moved further west to avoid the two trees, the two village bypass would be significantly closer to Mollett's Farm, which would worsen any potential impacts on Mollett's Farm and on the properties on the A12 near the west of the roundabout.
- 1.2.32 If the alignment was moved further east, it would be significantly closer to Friday Street Farm, and there is a risk that the bypass would sever a greater extent of the pick-your-own fields of Friday Street Farm. As set out in the Two village bypass Summary Paper, [REP2-108] electronic page 178, these fields are important to the farm's commerciality. A larger roundabout

<sup>2</sup> <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

<sup>3</sup> 45 metres (amount the alignment would need to move by) minus 16 metres (the current distance between the alignment and the ancient woodland) = 29 metres



near Friday Street Farm would also be required due to the angle of the roundabout arms that would be required with a different alignment. This larger roundabout would further increase the amount of land take required from Friday Street Farm.

- 1.2.33 There is, therefore, no reasonable alternative alignment which could meet the requirements of the bypass and retain the trees.<sup>4</sup>

c) **Veteran trees within the Sizewell link road site**

i. **The location of the veteran trees**

- 1.2.34 SZC Co. set out in response to ExQ1 HE.1.24 [REP2-100] (electronic page 923) that, based on the Ancient Tree Inventory, there are three veteran trees within the Sizewell link road site and one veteran tree just outside of the order limits, all located to the east of the East Suffolk railway line. SZC Co. stated that of these trees, two veteran trees would be felled within the Sizewell link road site. However, as noted by SZC Co. during ISH10, further work has identified that one of these two veteran trees falls outside of the order limits and would be unaffected by the DCO proposals.
- 1.2.35 Therefore, to confirm, one veteran tree would be felled within the Sizewell link road site (tree ID: 48978), one would be retained within the Sizewell link road site (tree ID:4890), and two veteran trees fall outside the order limits and would be unaffected (tree ID: 48798 and tree ID:48807).
- 1.2.36 A detailed drawing, similar to the one prepared for the two village bypass (similar to Figure 1.1 [REP6-002] (electronic page 85)) is being prepared by SZC Co. and will be submitted at Deadline 8. However, to assist in describing the location of these trees, an indicative plan has been prepared at Plate 1.3 below. This indicative plan will be superseded with a detailed drawing at Deadline 8.

<sup>4</sup> It is notable in this respect that the 'alternative' alignment proposed by the Parish Council and FERN would impact directly on the County Wildlife Site between Foxburrow wood and Pallants Grove (as set out in SZC Co.'s response to ExQ1 AI.1.22 [REP2-100] electronic page 188); would be likely to impact on the 15m buffer to Foxburrow wood itself (as set out in SZC Co.'s response to ExQ2 AI.2.3 (Doc Ref. 9.71))

**Plate 1.3 – Indicative plan showing the relationship between the Sizewell link road alignment and Veteran tree 48978 that is proposed to be felled (as shown in the red circle).**



- ii. Why the loss of the veteran tree within the Sizewell link road site is unavoidable

1.2.37 The need for the Sizewell Link Road has been set out in the Sizewell Link Road Response Paper (Appendix 5D of the SZC Co. responses to ExQ1) [REP2-108] (electronic pages 200 to 243). The justification for the route, and the alternatives that have been considered is set out across a number of submitted documents, including Volume 6 Sizewell Link Road Chapter 3 Alternatives and Design Evolution [APP-450], the Planning Statement, Appendix A - Site Selection Report (Section 7) [APP-591] (electronic page 156), the Sizewell Link Road Response Paper (Appendix 5D of the SZC Co. responses to ExQ1) [REP2-108] (electronic pages 244 to 269), and in response to ExQ1 AI.1.27 – AI.1.34 [REP2-100] (electronic pages 192-201).

1.2.38 Specifically in relation to the one veteran tree (tree ID: 48978) that is proposed to be felled within the Sizewell Link Road site, the Sizewell Link Road has been routed to cross the railway where the railway is in cutting,

thereby limiting the height of the structure and embankment height on the landscape.

- 1.2.39 If the alignment of the Sizewell Link Road is moved approximately 60m further south to avoid veteran tree ID: 48978, the alignment would then directly impact two veteran trees (ID:48980 and ID:48807), which would require their removal, and would also pass through the Oakfield House residential property.
- 1.2.40 If the alignment is moved 150m south to avoid veteran trees ID: 48978, 48980 and 48807, then it would require the loss of veteran tree ID:48798 and would impact on Littlemoor Spring Wood. If the alignment is moved 300m south to avoid all of the veteran trees, then it would bring the Sizewell link road alignment closer (within 100m) to the Fordley Hall property buildings and it would bring the alignment 25m closer to the Trust Farm buildings, which would worsen any potential impacts in that location.
- 1.2.41 If the SLR alignment is moved further north to avoid veteran tree ID: 48978, then it would require the removal of the woodland/plantation to the north west of that veteran tree (as shown on Plate 1.3). There is also a risk that there would be a greater impact on properties along the B1122.
- 1.2.42 Overall, the route of the Sizewell link road has been carefully selected as it minimises the effects on local residents and has less impact on landscape and visual amenity than the alternatives.
- d) **Mitigation for veteran trees**
- 1.2.43 Paragraph 180(d) of the NPPF states that a suitable compensation strategy should exist for development resulting in the loss or deterioration of irreplaceable habitats, such as ancient or veteran trees. However, there is no comparable requirement in the NPS.
- 1.2.44 As shown on the two village bypass proposed landscape masterplans [REP5-020] (electronic page 14) and on the Sizewell Link Road proposed landscape masterplans [[REP5-026](#)] (electronic page 9), native tree and shrub planting is proposed in the vicinity of where the veteran trees are proposed to be felled.
- 1.2.45 SZC Co. submitted a two village bypass Landscape and Ecology Management Plan (LEMP) [[REP5-077](#)] and a Sizewell Link Road LEMP [[REP5-076](#)] to the Examining Authority at Deadline 5. The two village bypass LEMP sets out the proposed mitigation for the loss of the veteran trees at paragraph 4.3.5 i.e.:

*“Planting of individual specimen trees is proposed in the vicinity of veteran or ancient trees that would be lost as part of the proposals. These trees would be of the same species as the veteran or ancient trees lost, and of local provenance where possible. Management would be aimed at allowing trees to develop an open crown that could mature into a veteran or ancient tree over time”*

- 1.2.46 The LEMP is secured in the DCO through Requirement 22A. The Sizewell Link Road LEMP will be updated at Deadline 8 and the update will include the same wording (as the above two village bypass LEMP) for mitigation for the veteran tree within the Sizewell Link Road site.
- 1.2.47 In addition to the above mitigation, a significant amount of woodland and hedgerow planting is proposed within the two village bypass site and the Sizewell Link Road site. This is summarised below.
- 1.2.48 In relation to the two village bypass site, as set out in Volume 5, Chapter 7 of the ES [\[APP-425\]](#) (electronic page 60), 0.71ha of woodland is present within the site boundary. Of this area, approximately 0.38ha of woodland would be within the area required permanently for the proposed development and a further 0.1ha would be temporarily lost to facilitate construction and replanted at the end of the construction phase. The replanted woodland (0.1ha) and new planting (1.59ha), as well as 0.23ha of woodland retained and unaffected by construction of the proposed development, would result in a total of 1.92ha of deciduous woodland within the site boundary, resulting in an overall increase of woodland within the site compared to the existing baseline.
- 1.2.49 In addition, there are approximately 3,788m of hedgerows [\[APP-425\]](#) (electronic page 60) present within the two village bypass site boundary. Some hedgerow will be permanently lost and some will be temporarily lost, as a result of the construction of the two village bypass. However, a total of 4,830m of new hedgerow would be planted, with a further 506m of replanted hedgerow and 2,093m of hedgerow unaffected by construction of the proposed development, resulting in a total of 7,429m of hedgerow within the site boundary. This results in an overall increase in hedgerow within the site compared to the existing baseline.
- 1.2.50 In relation to the Sizewell Link Road site, as set out in Volume 6, Chapter 7 of the ES [\[APP-461\]](#) (electronic page 55), approximately 0.61ha of lowland mixed deciduous woodland is present within the site boundary. Of this area, approximately 0.41ha (67%) of woodland would be within the area required permanently for the proposed development and a further 0.17ha would be temporarily lost to facilitate construction and replanted at the end of the construction phase. A total of 13.1ha of new woodland would be planted



and as noted above a further 0.17ha of woodland would be reinstated (as well as 0.03ha retained during construction), resulting in a total of 13.3ha of woodland within the site boundary, compared to 0.61ha at present.

1.2.51 In addition, approximately 9,303m of hedgerows are present within the Sizewell Link Road site boundary [[APP-461](#)] (electronic page 56). Of which, 4,537m would be within the area required permanently for the proposed development and approximately 1,036m of hedgerow would be lost within land temporarily required to facilitate construction.

1.2.52 A total of 12,853m of new hedgerow would be planted, with a further 1,036m of replanted hedgerow and 3,730m of hedgerow within the Sizewell link road site boundary unaffected by the proposed development, resulting in a total of 17,619m of hedgerow within the site boundary.

e) **Full Arboricultural Survey**

1.2.53 SZC Co. explained during ISH10 that an Arboricultural Survey is being undertaken to identify whether there are trees that are not currently included on the Ancient Tree Inventory, but meet the criteria for ancient, veteran or notable trees. The survey is also due to examine the precise impact of the road schemes on nearby trees, including particularly the 'notable' tree at Farnham Hall, with the objective of identifying whether it may be possible to retain trees, which have so far been assumed and assessed to be lost.

1.2.54 SZC Co. stated during ISH10 that the Arboricultural Survey will be submitted to the ExA at Deadline 8. It is now understood to more likely be Deadline 9 but efforts are being made to accelerate the work.

## 1.3 **Response to RSPB / Appendix 7B**

1.3.1 The Applicant can confirm that **Appendix 7B**, appended to [REP2-109](#), and now updated as **Appendix 2A** to Doc Ref. 9.71 at Deadline 7, does not explicitly cover Regulation 10 of the Habitat Regulations, although many of the points in relation to birds will be directly relevant. This is because the questions to which this document responds, in relation to the WCA 1981 and the NERCA 2006, did not extend to the Habitat Regulations.

## 1.4 **Sabellaria Management and Monitoring Plan**

1.4.1 A draft **Sabellaria Reef Management and Monitoring Plan** is submitted at Deadline 7 (Doc Ref. 9.90). This has been developed following consultation with Natural England.

1.4.2 The draft *Sabellaria* Reef Management and Monitoring plan is secured through Condition 45 of the Deemed Marine Licence (DML) and it must be

approved before works on the offshore cooling water intake heads for Unit 1 can commence.

**1.4.3** The current wording of Condition 45 is:

- 1.—(1) Work No 2B shall not commence until a *Sabellaria* monitoring plan has, following consultation with NE, been approved by the MMO. The plan must include:
  - (a) geographic extent of the monitoring;
  - (b) the monitoring methodology, frequency and duration of monitoring, and the format of the monitoring report; and
  - (c) demonstration of how the project design reduces the loss of reef, and surrounding area available for reef to develop into, as far as practicable;
- (2) Unless a shorter period is agreed with the MMO in writing, the undertaker must use reasonable endeavours to submit the *Sabellaria* monitoring plan at least 6 months prior to the proposed commencement of Work No. 2B.
- (3) The determination date is 6 months from submission of the *Sabellaria* monitoring plan to the MMO.

**1.4.4** Natural England has requested that the present wording be amended to promote an Avoid, Reduce, Mitigate approach that commits to offsetting/enhancement measures should they be necessary.

**1.4.5** As part of on-going consultation with the MMO, the MMO is presently reviewing the DML and providing revised wording for Conditions for submission at Deadline 8. Condition 45 is being reviewed as part of those discussions to attempt to settle an approach that is acceptable to SZC Co., MMO and NE.

**1.4.6** During the examination the ExA asked whether SZC Co. could make a decision at this stage as to which 2 of the 3 proposed intake head locations for Unit 1 would be used to help demonstrate avoidance of *Sabellaria* reef.

**1.4.7** SZC Co. can confirm that, subject to any new information relating to geotechnical studies, construction or safety constraints, the two locations used for the cooling water intake heads for Unit 1 are likely to be the two most landward. According to present day distribution of *Sabellaria* reef these two locations impact the smallest area of *Sabellaria* reef (though, due to the extremely ephemeral nature of *Sabellaria* that may not be the case by the time construction starts).

- 1.4.8 A response to other, third party comments about the intake head locations will be provided at Deadline 8.

## 1.5 Fish Monitoring Plan

- 1.5.1 A **draft Fish Monitoring Plan** is submitted at Deadline 7 (Doc Ref. 9.89) in response to Condition 50 of the Deemed Marine Licence.

- 1.5.2 Further discussions relating to the provision of fish passes for eels in the Alde-Ore and Blyth rivers and the monitoring of smelt in the Alde-Ore have been taking place with the Environment Agency.

- 1.5.3 SZC Co. will provide funding to support 2 fish pass schemes to be installed by the Environment Agency, one on the Alde-Ore and one on the river Blyth. These passes will enable and facilitate upstream migration of eels and smelt (and other migratory species).

- 1.5.4 SZC Co. will also monitor smelt in the Alde-Ore for Water Framework Directive compliance.

- 1.5.5 Both are to be secured in Schedule 11 of the Deed of Obligation (please refer to the version provided at Deadline 7 (Doc Ref 8.17(f)).

## 1.6 Potential for Intake Heads to Perform as Reefs

- 1.6.1 During the ISH, the Environment Agency acknowledged that SZC Co. had conceded that, for the purposes of fish assessments, the Low Velocity Side Entry (LVSE) intake head is assumed not to perform any better than the existing Sizewell B intake head<sup>5</sup>. This means that when the Sizewell B impingement data are scaled up to estimate Sizewell C impingement rates (by multiplying the Sizewell B impingement data by the increased flow rate of Sizewell C) no further manipulation is performed (previous assessments included an assumed benefit from the LVSE intake head design that was then applied and thus reduced the scaled-up figure).

- 1.6.2 However, the Environment Agency stated that the Sizewell C intake, by virtue of its low velocity characteristics, might actually perform worse than the Sizewell B intake head by acting as an artificial reef, thereby attracting fish which would then become impinged.

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<sup>5</sup> SZC Co remains of the view that the LVSE will afford some mitigation and that by removing all benefit makes the assessment precautionary.

- 1.6.3 There is no evidence to suggest that the Sizewell C intake heads could act as artificial reefs and the suggestion appears to be based on a misunderstanding of the LVSE concept.
- 1.6.4 The “Low Velocity” element of the LVSE refers only to the water that is drawn into the intake head. As the tide flows past the intake head (either south as the tide floods or north as the tide ebbs), water is pulled sideways into the intake head due to the abstraction by Sizewell C and it is only that sideways abstraction that occurs at reduced velocities.
- 1.6.5 The LVSE head does not affect tidal current velocities, which prevail as normal all around the intake head.
- 1.6.6 Therefore, there is no large area of low velocity that might be favourable for reef building and dwelling organisms. The low velocity (i.e. lower than the baseline conditions without the intake head) occurs in the water column immediately outside of the intake heads and, even then only refers to the sideways abstracted water.
- 1.6.7 At periods of slack water, when tidal currents are slow and on the turn, the LVSE acts more like an ordinary velocity capped intake design and abstraction velocities further from the head increase – in this instance the intake head actually creates water velocities greater than the baseline environment. Therefore, the low velocity element of the LVSE design does have the potential to create conditions conducive to reef forming animals.
- 1.6.8 From a biofouling perspective, the LVSE intake head has been deliberately designed with its internal surface area reduced to restrict biofouling. The vertical bars on the entrance, which act to prevent objects and marine mammals entering the intake will be copper plated to prevent biofouling. Furthermore, once the water has entered the intake head the velocity increases rapidly as it is drawn down into the vertical shaft and main tunnel.
- 1.6.9 Finally, the upper facing surface of the intake head, being made of concrete, may foul with organisms over time. However, this has not occurred to any significant extent on the Sizewell B intake head.

## 1.7 Intake Head Redundancy

- 1.7.1 While describing the arrangements of the intake heads, SZC Co. stated that each intake tunnel has two intake heads and that the reason for this is redundancy, i.e. that if one intake head is lost another still remains available for water abstraction.
- 1.7.2 The ExA asked how the loss of an intake head would affect the performance of the other, specifically in terms of abstraction rate.



1.7.3 The redundancy offered by having two separate intake heads on each tunnel is for nuclear safety reasons, to ensure that a cooling supply is always available for the nuclear island. Redundancy does not provide an operational benefit. The loss of an entire intake head would be a very significant event and, given the intakes are designed to last 60 years and withstand external hazards, it is not obvious how such an incident might occur.

1.7.4 Hypothetically though, were an entire intake head lost, the corresponding EPR™ unit would be safely shut down, or at least down rated (i.e. run at a lower output thus requiring less cooling).

1.7.5 For the avoidance of doubt, for nuclear safety reasons the EPR™ unit would not be permitted to operate at normal commercial output with only one intake head available.

## 1.8 Direct impacts of bromoform and hydrazine on birds

1.8.1 In relation to the potential for direct toxic effects on birds as a result of the bromoform and hydrazine discharges, the Shadow HRA Report [APP-145] does not consider this effect pathway on the basis that the lack of evidence for any such effects, together with the lack of a plausible pathway (when considering the likely properties associated with these discharges), meant that likely significant effect (LSE) was not identified in relation to this effect pathway at the screening stage (and this conclusion was not challenged by Natural England or RSPB / SWT during consultation at the LSE screening stage).

1.8.2 In terms of considering the potential for direct toxic effects on birds from the bromoform and hydrazine discharges, the Applicant's position is that such effects are highly unlikely. This is on the basis that:

- The concentrations of both bromoform and hydrazine are low and of a level which is considered unlikely to result in direct toxicity. For example, based upon the available evidence for effects on fish species, the within-plume concentrations are substantially below levels which have been documented to result in lethal or chronic sub-lethal effects (see Sections 22.8 c) iii. and 22.8 d) iii. in [REP-317]).
- Following from the evidence available on fish, although marine birds might be exposed to such chemicals in the water via contact whilst swimming on the surface, diving in the water or through ingestion of seawater, it is considered precautionary to assume that birds would be expected to display similar levels of sensitivity to these chemicals in the

water column to that of vertebrates such as fish which have more direct contact with seawater via the skin and across the gill surface.

- The areas over which both bromoform and hydrazine are predicted to exceed their respective Predicted No-Effect Concentration (PNEC) values due to the Sizewell C discharges are small relative to the foraging ranges of the relevant SPA species (i.e. 52ha for bromoform, c.14ha and 158ha for acute and chronic PNEC values for hydrazine, at the sea-surface). Given this, the likelihood of birds being within these plume areas and, therefore, exposed to the chemicals at concentrations above PNEC for any prolonged period is small (making direct contamination unlikely on this basis alone).
- As summarised in the Applicant's response to the RSPB/SWT Written Representations concerning marine ornithology, both bromoform and hydrazine have low bioconcentration factors so that there is a low likelihood for these chemicals to accumulate through the food chain (see paragraphs 1.1.49 and 1.1.65 of Appendix P in [REP5-120]). Furthermore, bromoform rapidly degrades in the marine environment.
- The Applicant is not aware of any evidence being available from any other sites (or similar situations) to suggest that direct toxic effects on birds would result from bromoform or hydrazine discharges at the concentrations predicted for the Sizewell C Project. It is also notable that the bromoform plume resulting from discharges at Sizewell B encompasses an area approximately six times greater than that which is predicted to result from the operation of Sizewell C.

## 1.9 Fen Meadow

- 1.9.1 A note on the habitat multiplier requested by Natural England and the identification of the additional land at Pakenham is contained at **Appendix F** to the **Written Submissions Arising from CAH1 Part 1** (Doc Ref. 9.74).

## 1.10 Estate Wide Management Plan

- 1.10.1 An **Estate Wide Management Plan for the EDF Energy Estate** is submitted at Deadline 7 (Doc Ref. 9.88), alongside a new requirement in the **draft DCO** (Doc Ref. 3.1(G)) which secures its implementation.

## 1.11 Engagement with Mr Collins

- 1.11.1 Subject to Mr Collin's agreement, a meeting will be held between Mr Collins and the Biodiversity Net Gain assessment team at Arcadis, acting for SZC Co. to review his queries on the BNG Reports. The meeting was offered to

Mr Collins by email on 31<sup>st</sup> August and the meeting is scheduled for 21<sup>st</sup> September. An update on the meeting will be provided at Deadline 9.

## 1.12 Bats and draft licences

1.12.1 The draft Sizewell C Bat Licence Method Statement is being submitted to examination at Deadline 7 (Doc Ref. 9.92). This licence submission was also made directly to Natural England on 3<sup>rd</sup> September 2021. In addition, draft great crested newt licences for the northern park and ride, Sizewell link road and green rail route are also being submitted to the examination at Deadline 7 (Doc Ref. 6.4 7A.5(A), 6.7 7A.5(A) and 9.93).

1.12.2 At ISH10 Mr Lewis agreed to provide more details on the width of Bridleway 19, which runs in north-south direction through the proposed temporary construction area, just to the east of Upper Abbey Farm. The Bridleway comprises an unmade but drivable track with tall hedges on either side with scattered standard trees. In some places the bridleway is immediately adjacent to small wooded areas, such as Fiscal Policy (at the west end Kenton Hills) or adjacent to the sandpit to the north of Upper Abbey Farm. The width of the bridleway corridor was determined using aerial photography and by measuring its width from the outside edge of the hedgeline on the western edge to the outside edge of the opposite hedgeline on the east edge at six locations. These measured widths from south to north were 31m, 19m, 35m, 23m, 25m, and 19m giving an average width of the bridleway corridor, including hedgelines of 25.3m.

1.12.3 The dark corridor which is secured along Bridleway 19 is defined in the dark corridors plan, appended to the updated **Lighting Management Plan** (Doc Ref. 6.3 2B(A)), submitted at Deadline 7.

## 1.13 Future Submissions

1.13.1 At ISH10, Agenda item 6 was on future document submissions in relation to ecology. Mr Philpott QC agreed to provide a full table in this written response and it is provided below. Where these documents are revisions to existing reports, already before the examination, this is clearly stated. The table also references the fourth ES addendum, submitted at Deadline 7, which clearly has a wider scope but contains ecological assessments.

Report Title	Proposed submission (Examination Deadline)
Terrestrial Ecology and Ornithology	

Report Title	Proposed submission (Examination Deadline)
<p>Draft Protected Species Licences including:</p> <ul style="list-style-type: none"> <li>- Great Crested Newt: Rail (Doc Ref.9.93), Northern Park and Ride (Doc Ref. 6.4 7A.5(A) , Sizewell Link Road (Doc Ref 6.7 7A.5(A))</li> <li>- Project Wide: Bat Licence Method Statement (Doc Ref. 9.92)</li> </ul>	7
<p>2021 Ecology Survey Report Update to be submitted at D7 (Doc Ref. 6.13 B) including annexes:</p> <ul style="list-style-type: none"> <li>- 2021 Great Crested Newt: Associated Development Sites</li> <li>- 2021 Bittern Survey Report (main development site): Confidential</li> <li>- 2021 Barn Owl Survey Report (main development site, Sizewell link road and two vilage bypass): Confidential</li> <li>- Bat Crossing Point Surveys Report 1 (main development site, Sizewell link road and two vilage bypass)</li> <li>- Two Village Bypass Bat Preliminary Bat Roost Assessment Report</li> <li>- Two Village Bypass Bat Backtracking Report 1</li> <li>- Two Village Bypass Dormouse Survey Report 1</li> <li>- 2021 Aquatic Invertebrates Survey Report (main development site and two village bypass)</li> <li>- 2021 Breeding Bird Survey Reports: Northern Park and Ride, Southern Park and Ride, Freight Management Facility</li> <li>- Saxmundham to Leiston Branch Line Ecology Walkover Report</li> </ul>	7
<p>Shadow Habitat Regulations Assessment Third Addendum (Doc Ref. 5.10 Ad 3 Ch)</p> <ul style="list-style-type: none"> <li>- Consideration of proposed change 19 (Desalination Plant)</li> </ul>	7
<p>Fourth Environmental Statement Addendum (Doc Ref. 6.18)</p> <ul style="list-style-type: none"> <li>- Consideration of additional information submitted to examination to date</li> <li>- Consideration of proposed change 19 (Desalination Plant)</li> </ul>	7



Report Title	Proposed submission (Examination Deadline)
Marsh Harrier Compensatory Measures - Assessment Against Relevant Criteria (Doc Ref. 9.85)	7
Estate-wide Management Plan (Doc Ref. 9.88)	7
Outline Vessel Management Plan – Revision 2 (to respond to comments from stakeholders)	7
Bat Radio Tracking Licence	8 (Note this is to be submitted to NE at the earliest opportunity)
2021 Ecology Survey Report Update to be submitted at D8 including annexes: <ul style="list-style-type: none"> <li>- Bat Static Survey Report (main development site)</li> <li>- Two Village Bypass Dormouse Report 2</li> <li>- Two Village Bypass Bat Backtracking Report 2</li> </ul>	8
Fen Meadow Strategy - Revision 2.0 (to reflect revised 4.14ha target)	8
Fen Meadow Plan Draft 2 (to respond to comments from stakeholders of Draft 1)	8 / 9
Wet Woodland Plan	8
Monitoring and Mitigation Plan for Minsmere-Walberswick European site and Sandlings (North) European site - Revision 3	8
Monitoring and Mitigation Plan for Sandlings (Central) and Alde, Ore and Butley Estuaries European Sites - Revision 2	8
Terrestrial Ecology Mitigation and Monitoring Plan - Revision 3	8
2021 Ecology Survey Report Update to be submitted at D9 including annexes: <ul style="list-style-type: none"> <li>- Bat Crossing Point Surveys Report 2 (main development site, Sizewell link road and two village bypass)</li> </ul> 2021 Otter Holt Survey Report	9
2021 Ecology Survey Report Update to be submitted at D10 including annexes:	10

Report Title	Proposed submission (Examination Deadline)
- 2021 Terrestrial Invertebrates Survey Report (main development site) Mycology Report (main development site)	
<b>Marine Ecology</b>	
In-principle <i>Sabellaria</i> Reef Management and Monitoring Plan (Doc Ref. 9.90)	7
In-principle Fish Monitoring Plan: Impingement, FRR survival, and entrainment (Doc Ref. 9.89)	7
WFD Compliance Assessment Addendum (to incorporate desal proposed improvement schemes) (Doc Ref. 8.14 Ad 2 Ch)	7
Eels Regulations Compliance Assessment Addendum (to incorporate desal and proposed improvement schemes) (Doc Ref. 6.3 22O Ad 1 Ch)	7
East Marine Plan Compliance Checklist (Doc Ref. 9.86)	7
Sea bass local stock assessment	8

## 1.14 SSSI Crossing

1.14.1 An **updated Lighting Management Plan** is submitted at Deadline 7 (Doc Ref. 6.3 2B(A)) and contains a dark corridors plan, which defines a dark corridor along the Leiston Drain and under the SSSI Crossing.

1.14.2 At ISH10, Mr Lewis agreed to provide a note on the use of a Bailey bridge in the early months of the SSSI Crossing establishment, in response to a concern from ESC. The note will be provided at Deadline 8 and will consider the likely duration of use and how any possible barrier effects, associated with light and noise can be minimised.

## 1.15 Deadline 8 written submissions

1.15.1 For completeness and as set out in the ISH10 Written Summaries (Doc Ref 9.81), the Applicant will provide the following information at Deadline 8:

- A list of issues identified in the Appraisal of Sustainability Site Report for Sizewell, the Habitat Regulations Assessment Site Report for

Sizewell and the Habitat Regulations Assessment of the Nuclear NPS (EN-6) will be provided, as well as cross-referencing to where matters have been addressed in the DCO Application documents.

- An updated **National Policy Statement tracker** [[REP6-023](#)] will be provided to reflect paragraphs contained in the **ISH10 Detailed Agenda** [[EV-142b](#)].
- The points made by Ms Scott and Mr Collins in relation to fen Meadow will be addressed.
- A note will be provided on the use of a Bailey Bridge in the early months of the construction of the SSSI Crossing.

## 1.16 Deadline 9 written submissions

1.16.1 The Applicant will provide the following information at Deadline 9:

- A note of the meeting with Mr Collins on Biodiversity Net Gain will be provided, potentially in the form of a short SoCG, if this proves possible

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## 2 HRA ISSUES

### 2.1 Introduction

2.1.1 This section responds to the ExA's request for written responses from ISH10 [\[EV-188\]](#) and also provides written submissions in response to actions arising from ISH10.

2.1.2 This section excludes a response to items addressed to other Interested Parties in [EV-188](#), namely:

- 5.b.1, 5.e.iii and 5.e.iv directed to Natural England;
- 5.d(2) directed to Natural England, the MMO and RSPB/SWT;
- 5.c, 5.e.i.2 and 5.e.v.2 directed to the Natural England and the MMO;
- 5.e.i.3 directed to the MMO; and
- 5.g.ii.a, 5.g.ii.b and 5.g.iii directed to Natural England and the Environment Agency.

### 5.a – The Applicant's HRA Screening Assessment

#### 5.a.1 – Table on HRA Screening Assessment

2.1.3 **Appendix A** contains a completed version of the ExA's table on the Applicant's HRA screening assessment, confirming the Applicant's position.

#### 5.a.2 – Appropriate Assessment

2.1.4 The Applicant has not seen the Natural England's list in response to this agenda item in advance of Deadline 7. Therefore we would like to reserve our ability to respond to Natural England's list if there are still issues it considers outstanding.

#### 5.a.3 – Conservation Objectives for Plymouth Sound and Estuaries SAC

2.1.5 The conservation objectives for the Plymouth Sound and Estuaries SAC are included in **Appendix B**.

### 5.c – HRA and recreational pressures

2.1.6 The Applicant's oral submissions on the two Management and Monitoring Plans are contained in the **Written Summaries of Oral Submissions**



**made at ISH10** (Doc Ref. 9.81) submitted at Deadline 7. In addition, the Applicant has prepared a response to representations submitted by Natural England and the RSPB / SWT at earlier deadlines (Doc Ref. 9.73).

## 5.d(1) – Outer Thames Estuary SPA and red throated divers

- 2.1.1 **Section 8.8 c) iii.** of the **Shadow HRA Addendum** [AS-173] details the assessment of the potential effects of vessel movements associated with the deliveries to the BLFs on the Outer Thames Estuary SPA population of non-breeding red-throated diver. This assumes that there will be 200 deliveries to the temporary BLF (equating to 400 vessel movements) during each winter period - i.e. November to March inclusive, which is the seasonal period of main relevance to the SPA red-throated diver population (see paragraph 8.8.14 of [APP-173]). Therefore, the assessment that has been undertaken is entirely consistent with the Outline Vessel Management Plan [REP6-027] in this respect.
- 2.1.2 The above details represent a change from the original assessment undertaken in the **Shadow HRA Report** [APP-145], which was based on the design incorporating a permanent BLF only (and no second, temporary, BLF), with the vast bulk of deliveries to the permanent BLF being from 31<sup>st</sup> March to 31<sup>st</sup> October.
- 2.1.3 Although the design change means that there may be vessel deliveries during the ‘winter period’ (as described above), it remains the case that the bulk of vessel deliveries to the BLFs will be during the summer period (e.g. see paragraph 8.7.14 in the **Shadow HRA Addendum** [AS-173]).
- 2.1.4 For the purposes of assessing the potential effects of displacement due to the vessel deliveries on the SPA red-throated diver population, the assessment also assumes that all vessels will originate from ports in the inner Thames (with return trips also terminating at the inner Thames). This is a worst-case assumption which maximises the transit through the Outer Thames Estuary SPA (and hence also the potential for disturbance and displacement of red-throated divers). Vessel routing has been refined in the **Outline Vessel Management Plan** [REP6-027], which no longer relies on this worst-case assumption and would (consequently) be associated with considerably reduced potential for disturbance and displacement of the SPA red-throated diver population.
- 2.1.5 The **Outline Vessel Management Plan** has been updated to address comments made by the RSPB and is resubmitted at Deadline 7 (Doc Ref. 9.65(A)). Whilst the *maximum* number of deliveries in winter (November-April) to the temporary BLF remains at 200, the current expectation is that no vessel movements to the temporary BLF will be required in this period.

If this expectation is realised, there would be no related impacts to red-throated divers.

## 5.e – HRA and Marine Mammals

### 5.e.i (1) – Mitigation - Marine Mammal Mitigation Protocol

- 2.1.6 Measures for securing mitigation of marine mammals are provided by Condition 40 (2) (a) of the deemed Marine Licence which has an obligation to submit a Marine Mammal Mitigation Protocol (MMMP) to be approved by the MMO.
- 2.1.7 It has been agreed that the MMO will amend the DML to reflect their preferred wording.

### 5.e.i (2) - Mitigation - Marine Mammal Mitigation Protocol

- 2.1.8 It is important to note the draft MMMP is a draft which outlines the approach to mitigation to reduce the risk of permanent auditory injury in marine mammals during piling. The final MMMP will be developed in the pre-construction period and based upon best available information, latest guidance and detailed project design. The final MMMP for piling will be developed in consultation with the MMO and Natural England and, as outlined in the condition for securing the MMMP, will have to be approved by the MMO before piling can commence.

### 5.e.i (3) – Mitigation - Marine Mammal Mitigation Protocol

- 2.1.9 As outlined in ‘Underwater noise effect assessment for the Sizewell C revised marine freight options’ [[REP5-124](#)] submitted at Deadline 5: ‘*The assessments including the underwater noise from vessels indicates there is no increased risk of PTS in marine mammals, based on a precautionary approach. Therefore, no further changes to the draft MMMP to reduce the risk of permanent auditory injury during piling are required.*’

## 5.e.ii – Seals

- 2.1.10 The MMMP, as outlined above and agreed with the MMO, is the mechanism to ensure that appropriate mitigation is in place to prevent injury to seals. The final MMMP will be developed in consultation with the MMO and Natural England and, as outlined in the condition for securing the MMMP, will have to be approved by the MMO.
- 2.1.11 As outlined in the MMO Submission in lieu of attendance at Issue Specific Hearing 10 (ISH10) Biodiversity and Ecology - 27 August 2021 [[EV-161](#)]:

2.5.1: *The MMO considers that the HRA assessment for seals is appropriate.*

*The harbour seal is a feature of the Wash and North Norfolk Coast SAC and the grey seal is a feature of the Humber Estuary SAC. Therefore, the MMO ultimately defer to comments from the statutory nature conservation body (Natural England) on this matter.*

2.5.2: *The MMMP, which is discussed above in section 2.4, is the mechanism to ensure that appropriate mitigation is in place to prevent injury to seals. Other than agreeing the draft MMMP and securing this within the DCO and DML appropriately (as explained in section 2.4), the MMO does not consider that any further information/changes are required.*

- 2.1.12 As outlined in Natural England's Submission in lieu of attendance at Issue Specific Hearing 10 (ISH10) Biodiversity and Ecology - 27 August 2021 [[EV-190](#)]:

*Natural England agree with the Applicant's assessment that there will be no AEol of the Humber Estuary SAC and The Wash and North Norfolk Coast SAC due to noise, light and visual disturbance.*

- 2.1.13 Also, as outlined in Natural England's Deadline 5 Submission - Other - Natural England's Written Summary of Oral Representations made at Issue Specific Hearing 7: Biodiversity and Ecology on 15th and 16th July 2021 [[REP5-160](#)]:

*Collision risk/physical interaction between species and project infrastructure: Having reviewed the further information provided in response to our Relevant Representations [RR-0878], Natural England have no further concerns regarding physical interaction between project infrastructure and marine mammals.*

### 5.e.iii – Noise, light and visual disturbance

- 2.1.14 As outlined in Natural England's Submission in lieu of attendance at Issue Specific Hearing 10 (ISH10) Biodiversity and Ecology - 27 August 2021 [[EV-190](#)]:

*Natural England agree with the Applicant's assessment that there will be no AEol of the Humber Estuary SAC and The Wash and North Norfolk Coast SAC due to noise, light and visual disturbance.*

- 2.1.15 Natural England are reviewing the Southern North Sea Special Area of Conservation (SAC) Site Integrity Plan (SIP) (Appendix 9A of Document [\[AS-178\]](#)) and will provide comments at Deadline 7.

#### 5.e.iv – Southern North Sea SAC

- 2.1.16 The ‘Consideration of potential effects on selected fish stocks at Sizewell’ report submitted at Deadline 6 [\[REP6-016\]](#) determined that *‘local depletion due to impingement is orders of magnitude below natural variability in abundance to which predator-prey relationships are adapted to. It is therefore concluded that impingement from Sizewell B and Sizewell C would not have any adverse food-web effects on designated features of HRA sites’*, including harbour porpoise from the Southern North Sea SAC.
- 2.1.17 Therefore, there is no change to the assessment in the **Shadow HRA Report** [\[APP-145\]](#) and **Shadow HRA Addendum** [\[AS-173\]](#) that there will be no adverse effect on the integrity of Southern North Sea SAC from the potential loss of harbour porpoise prey species due to impingement.

#### 5.e.v – Draft Site Integrity Plan

##### 5.e.v.1 – Securing the SIP

- 2.1.18 Measures for securing the Sizewell C Southern North Sea Site Integrity Plan are provided by Condition 40 (2) (c) of the deemed Marine Licence which has an obligation to submit a SIP to be approved by the MMO.
- 2.1.19 It has been agreed that the MMO will amend the DML to reflect their preferred wording.

#### 5.f – Marsh Harrier compensatory measures

##### 5.f.1 – Suite of Marsh Harrier reports

- 2.1.20 Requirement 14C has been updated to require the marsh harrier implementation plan to be in general accordance with the **Marsh Harrier Habitat Report** [\[REP2-119\]](#) which describes the on-site provision of marsh harrier compensation. Square brackets have been added to the **Marsh Harrier Compensatory Habitat Report** [\[REP3-053\]](#) which describes marsh harrier compensation on the Westleton site because if the Secretary of State decides that compensation on the Westleton site is necessary then this report will be included. The titles of the reports will be updated for Deadline 8 to clarify which one relates to on-site provision and which one relates to the Westleton site.

##### Main development site: Marsh harrier

(1) No part of Work No.1A the authorised development may be commenced until a marsh harrier implementation plan for the establishment of marsh harrier compensation has been submitted to and approved by East Suffolk Council in consultation with Natural England. The marsh harrier implementation plan must be in general accordance with [the Marsh Harrier Compensatory Habitat Report and] the Marsh Harrier Habitat Report and include details of the proposed works including:

- (i) landscape and planting details;
- (ii) any relevant water management measures;
- (iii) monitoring and management measures; and
- (iv) an implementation timetable for the works

(2) The marsh harrier implementation plan must be implemented as approved.

### 5.f.2 – Note on Marsh Harrier Habitat

2.1.21 In relation to the specific points identified by the ExA on this issue, the Applicant's position is as follows:

- (A) This is correct. AEoI cannot be excluded on the basis of concerns over the potential displacement of marsh harrier from foraging habitat.
- (B) The ExA may have misunderstood what has been undertaken by way of the assessment of the potential effects on the SPA marsh harrier population. It is the case that a very detailed assessment was undertaken of the potential effects of displacement from foraging habitat on the Minsmere South Levels and Sizewell Marshes. This involved; (i) several years of survey work to determine the extent of usage of these areas by foraging birds; (ii) detailed review and consideration of the evidence base to determine appropriate thresholds for noise and visual disturbance effects; and (iii) detailed calculations to estimate the foraging resource that could (under highly precautionary assumptions) be 'lost' to the SPA marsh harrier population. This work is detailed in the Shadow HRA Report [APP-145] (see **Sections 6.3 f) iii** (paragraphs 6.3.71 – 6.3.94) and **8.8 d) v.**)

Based on the assessment work undertaken, it was deemed to be feasible (on a precautionary basis) that the estimated potential 'loss' of foraging resource could act to reduce the breeding productivity amongst that part of the SPA marsh harrier population affected by the 'loss' of foraging habitat (i.e. those birds which use the Minsmere nesting area). If such a reduction in breeding productivity extended over the full construction period (approximately 10 years) it is conceivable that this could lead to a reduction in the SPA population size and so cause AEoI (see paragraphs 8.8.238 – 8.8.244 of the **Shadow HRA Report** [APP-145]). However, actually establishing



whether such an effect on population size would result from the estimated 'loss' of foraging resource is extremely challenging and problematic and may be impossible. Therefore, it was not possible to exclude AEoI, so leading to the need to propose compensatory habitats.

- (C) The Applicant is also unclear what Natural England means in the statements highlighted under (C) but the Applicant will respond further at a later deadline if Natural England is able to clarify.

In relation to the provision of compensatory habitats, the Applicant highlights that the creation of a larger area of optimal wetland habitat is not considered feasible because areas for such wetland creation are not available. The land to the south of the Minsmere reserve, but to the north of the temporary construction area, is on a broad elevated 'sandy ridge' between the Minsmere drainage and the Leiston Beck drainage. It is therefore entirely unsuitable for the creation of more extensive wetlands other than the wetland which has been brought into the proposals, east of Upper Abbey Farm and Lower Abbey farm, at the edge of the Minsmere South Levels at the edge of the 'sandy ridge'.

- (D) The Applicant also assumes that Natural England's reference to the development of an experimental approach to maximise prey populations refers to the compensatory dry habitats being provided on the EDF Estate east of Upper Abbey Farm. However, the Applicant emphasises that such an approach is not considered to be 'experimental' because it relies upon approaches and methods of habitat management which are established and known to increase the abundance of bird and mammal species that are preyed upon by marsh harrier. It is also established that marsh harrier do forage on dry habitats and can make extensive use of such habitats, where the management regimes facilitate high prey availability (which would be the case on the permanent compensatory habitat east of Upper Abbey Farm).
- (E) In relation to the provision of compensatory habitat, it is important to recognise that the key requirement is for habitat that will provide the required foraging resource to marsh harrier (and not necessarily the creation of wetland habitat *per se*). It is considered that the compensatory dry habitats east of Upper Abbey Farm does provide this resource, via the application of appropriate habitat management measures which will increase the abundance and availability of prey on this area. Additionally, since Natural England provided their Relevant Representations, it has been possible to confirm that a

wetland habitat creation component will be incorporated within the habitat management measures being implemented on the area of compensatory habitat east of Upper Abbey Farm.

On the specifics of the sub-points identified by the ExA under item (E):

2) (i): The Applicant has no comment to make on this since it is directed solely to Natural England.

- 2) (ii): In relation to Natural England's statement in [REP5-160] (epage 1) that "The offer of additional compensatory habitat at Westleton will minimise residual concerns that the displacement of marsh harriers could result in an impact", the Applicant takes this to mean that in Natural England's view, if the Applicant was to provide the Westleton marsh harrier habitats, in addition to the on-site habitats at Upper Abbey Farm, then Natural England would consider (i) the total habitat provision would be sufficient and (ii) that the doubts over the potential for impacts on marsh harriers would be minimised (i.e. reduced to an acceptable degree).

- However, in REP6-042, at para 4.3, Natural England states

"We welcome the inclusion of the wetland element within proposals. Having reviewed the report we believe that the design is sufficient to compensate for habitat losses within the main development site which will be impacted by noise and visual disturbance during construction."

- This would suggest Natural England's view is that the onsite habitat provision, as updated to include the wetland component, east of Upper Abbey Farm, is sufficient compensatory habitat, without the addition of the Westleton site.
- The Applicant will respond further at a later deadline if Natural England is able to clarify and will work with Natural England to provide an agreed position in a future SoCG.

2) (iii): In relation to the Applicant's understanding of the two outstanding points that Natural England has identified in relation to the provision of compensatory measures, these are addressed in full as far as the Applicant understands Natural England's position in the response to **ExQ1 HRA.2.8** submitted at Deadline 7 (Doc Ref. 9.71).

2) (iv): In relation to the proposal to commence the wetland creation in the first winter and to avoid impacts to marsh harriers and other

breeding birds, the Applicant can confirm that this is an absolute commitment. As explained in the response to **ExQ2 HRA.2.8** (Doc Ref. 9.71), the open water habitat which will be available in the following summer, will provide habitat for foraging marsh harriers.

2) (v): The wetland component of the compensatory habitat east of Upper Abbey Farm will comprise a small area of incipient wet woodland (0.7ha), wet reedbed (2.85ha) and open water (0.75ha) [[REP2-119](#)]. It is the wet reedbed and open water which provide the ideal marsh harrier foraging habitats.

2) (vi): The Applicant's position is that the SofS decision on the requirement for the Westleton site should be based on consideration of whether the compensatory habitat east of Upper Abbey Farm provides sufficient compensation for the predicted adverse effect on the SPA marsh harrier population. The Applicant is of the view that the permanent compensatory habitat is sufficient in this respect and the Westleton site is not needed. The Applicant's position in relation to the sufficiency of the compensatory habitat east of Upper Abbey Farm is set out in [AS-408](#).

2) (vii): The Applicant assumes that this question is directed to Natural England. However if this question is directed towards the Applicant, the answer would be yes. In other words the SofS should review the sHRA and the related submissions to the examination and determine accordingly whether the onsite provision is sufficient.

2) (viii): Yes. The Applicant's position is that the SofS should decide if the onsite provision (i.e. the compensatory habitat east of Upper Abbey Farm) is sufficient compensation for the predicted adverse effect and that the SofS only needs to consider the Westleton site if he thinks the onsite provision is not sufficient.

2) (ix): No. The Westleton site has *not* been proposed as additional compensation because of the problematic and highly technical work necessary to attempt the assessment. As detailed in the Applicant's responses above (at (B)), a detailed assessment has been undertaken. The Westleton site has been proposed as *possible* additional compensation only because certain of the Interested Parties (IPs) disagree with the Applicant's position (and arguments) on the sufficiency of the permanent compensatory habitat being provided east of Upper Abbey Farm. Given this, it is possible that the SofS may agree with these other IPs on this matter, in which case there would be a requirement for further compensatory measures to be provided.

- 2.1.22 **Appendix C** contains a note which assessed the Marsh Harrier provision both at the EDF Energy estate land and at the Westleton site against the criteria in the NPS and in the DEFRA guidance.

## 5.g – HRA and migratory fish

### 5.g.i – Prey Species

- 2.1.23 In relation to both **marine mammal** and marine bird **prey species**, the ‘Consideration of potential effects on selected fish stocks at Sizewell’ report submitted at Deadline 6 [REP6-016] determined that ‘local depletion due to impingement is orders of magnitude below natural variability in abundance to which predator-prey relationships are adapted to’. This is the case in relation to both the between-year variability in fish abundance and the spatial variability in abundance even at localised scales.
- 2.1.24 Furthermore, and particularly with regard to little tern (as a qualifying feature of the Minsmere-Walberswick SPA and Outer Thames Estuary SPA), it is important to bear in mind that the predicted levels of local-scale depletion, as well as being small, result from the combined operation of Sizewell B together with Sizewell C. Mixing and fish behaviour would dampen the depletion with distance from the intakes and, in the case of pelagic shoaling species and particularly juvenile stages (which are of importance in the diet of little tern), tidal replenishment would replace losses. Little terns have relatively inshore foraging ranges, with the intakes for Sizewell B being within the expected foraging range of birds from the SPA colonies, whilst those for Sizewell C would be just beyond the likely foraging range. Given this, for SPA little terns, the largest component of these small levels of local-scale depletion (as detailed in [REP6-016]) results from the effects of the existing operation of Sizewell B.
- 2.1.25 It is therefore concluded that impingement from Sizewell B and Sizewell C would not have any adverse food-web effects on designated features of HRA sites. For marine mammals this includes harbour porpoise from the Southern North Sea SAC, grey seal from the Humber Estuary SAC and harbour seal from The Wash and North Norfolk SAC. For marine birds this incorporates breeding little tern from the Minsmere-Walberswick SPA (and Ramsar site), breeding little tern, breeding Sandwich tern and breeding lesser black-backed gull from the Alde-Ore Estuary SPA (and Ramsar site) breeding little tern from the Benacre to Easton Barents SPA and breeding little tern, breeding common tern and non-breeding red-throated diver from the Outer Thames Estuary SPA.
- 2.1.26 Therefore, there is no change to the assessment in the **Shadow HRA Report** [APP-145] and **Shadow HRA Addendum** [AS-173], that there will

be no adverse effect on the integrity of SACs with marine mammal or marine bird qualifying features from the potential loss of prey species due to impingement.

5.g.ii – Equivalent Adult Values and stock sizes

- 2.1.27 In the Examining Authority's "Note of information for which written answers were requested by the Examining Authority at the ISH under Item 5 of the Agenda" the Examining Authority asks at section G:

*G(c) The EA [REP5-150] requested the Applicant to update the impingement assessment to include repeat spawning in the EAV calculations (i.e. follow the SPF model). Could the Applicant indicate the resource implications for this work to be undertaken and whether this could be completed before the end of Examination?*

*G(d) (If they can do it): Could the Applicant clearly present the figures for its own model and that of the SPF. Please could the Applicant clearly identify assessments relevant to EIA, HRA and WFD.*

- 2.1.28 SZC Co. is not able to provide an answer at Deadline 7 on this query but will provide a response at Deadline 8.



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## APPENDIX A: RESPONSE TO EXA'S NOTE ON ISH10 AGENDA 5(A)

**Application by NNB Generation Company (SZC) Limited for an Order Granting Development Consent for The Sizewell C Project**

**Issue Specific Hearing 10 (ISH10) on Biodiversity and Ecology**

Regarding **agenda item 5a of ISH10**, held on 27 August 2021 (*The Applicant's HRA screening assessment – to seek clarification on specific European sites and qualifying features, with views also sought from Natural England and IPs to understand any outstanding differences between the Applicant and Natural England/IPs with regards to the conclusions of no likely significant effects (LSE)*):

At the ISH, the ExA noted that throughout the Examination, there have been a number of representations questioning the conclusions of the Applicant's HRA screening assessment and listed the relevant European sites.

The ExA advised that he had produced a table (provided below), listing the relevant European sites, qualifying features and potential impacts under dispute. The ExA requested the Applicant, Natural England, The Environment Agency and other Interested Parties to complete the table, confirming their position.

Responses are requested for **Deadline 7** (3 September 2021).

European site	Qualifying feature	Potential impact	Applicant/IP current position regarding LSE
Alde-Ore and Butley Estuary SAC	Mudflats and sandflats not covered by seawater at low tide	Recreational pressure	No LSE
	Atlantic salt meadows ( <i>Glaucopuccinellietalia maritimae</i> )	Recreational pressure	No LSE
	All qualifying features	Damage from water use/abstraction	No LSE
Alde-Ore Estuary SPA	Sandwich tern	Water quality impacts from drilling mud and bentonite breakout	No LSE
	Little tern		No LSE
	Lesser black-backed gull		No LSE
	All qualifying features	Damage from water use/abstraction	No LSE
	Not specified*	Collision risk	No LSE (but with assessment undertaken in submission at

			deadline 6 in response to NE concern)
Alde-Ore Estuary Ramsar	Little tern	Water quality impacts from drilling mud and bentonite breakout	No LSE
	All qualifying features	Damage from water use/ abstraction	No LSE
Benacre to Easton Bevants SPA	Bittern	Noise, light and visual disturbance	No LSE
	Little tern		No LSE
	Marsh harrier		No LSE
Humber Estuary SAC	Sea lamprey	Water quality impacts	No LSE
	River lamprey	Water quality impacts	No LSE
Minsmere to Walberswick Heath and Marshes SAC	All qualifying features	Damage from water use/ abstraction	No LSE
	European dry heaths	Alteration of coastal processes/sediment transport	No LSE
Minsmere– Walberswick SPA	Little tern	Water quality impacts from drilling mud and bentonite breakout	No LSE
	All qualifying features	Damage from water use/ abstraction	No LSE
	Not specified*	Collision risk	No LSE (but with assessment undertaken in submission at deadline 6 in response to NE concern)
Minsmere– Walberswick Ramsar	Little tern	Water quality impacts from drilling mud and bentonite breakout	No LSE
	All qualifying features	Damage from water use/ abstraction	No LSE
Outer Thames Estuary SPA	Little tern	Recreational disturbance	No LSE
	Little tern	Water quality impacts from	No LSE
	Common tern		No LSE
	Red-throated diver		No LSE

		drilling mud and bentonite breakout	
	All qualifying features	Habitat loss and fragmentation	No LSE
	Not specified*	Collision risk	No LSE (but with assessment undertaken in submission at deadline 6 in response to NE concern)
Plymouth Sound and Estuaries SAC	Allis shad	Impingement	No LSE
Staverton Park and the Thicks, Wantisden SAC	Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains	Airborne pollution	No LSE

\* Collision risk to birds due to new pylons and overhead power lines has been raised by NE [RR-0878][REP2-153][REP2-071] in relation to Alde-Ore Estuary SPA, Minsmere-Walberswick SPA and Outer Thames Estuary SPA. However it is not clear for which qualifying feature(s) this concern relates. Please can NE clarify.

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## APPENDIX B: EUROPEAN SITE CONSERVATION OBJECTIVES FOR PLYMOUTH SOUND AND ESTUARIES SAC



# European Site Conservation Objectives for Plymouth Sound and Estuaries Special Area of Conservation Site Code: UK0013111



With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

**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;**

- 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.

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

## **Qualifying Features:**

H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks

H1130. Estuaries

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats

H1160. Large shallow inlets and bays

H1170. Reefs

H1330. Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

S1102. *Alosa alosa*; Allis shad

S1441. *Rumex rupestris*; Shore dock

## **This is a European Marine Site**

This site is a part of the Plymouth Sound & Estuaries European Marine Site. These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS. Natural England's formal Conservation Advice for European Marine Sites can be found via [GOV.UK](https://www.gov.uk).

## **Explanatory Notes: European Site Conservation Objectives**

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 as amended from time to time (the "Habitats Regulations"). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment', including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features.

These Conservation Objectives are set for each habitat or species of a [Special Area of Conservation \(SAC\)](#). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term 'favourable conservation status' is defined in regulation 3 of the Habitats Regulations.

**Publication date:** 27 November 2018 (version 3). This document updates and replaces an earlier version dated 30 June 2014 to reflect the consolidation of the Habitats Regulations in 2017.

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## APPENDIX C: MARSH HARRIER COMPENSATORY MEASURES – ASSESSMENT AGAINST RELEVANT CRITERIA

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# 1 MARSH HARRIER COMPENSATORY MEASURES - ASSESSMENT AGAINST RELEVANT CRITERIA

## 1.1 Signposting to consideration of marsh harrier compensatory habitat

1.1.1 This section signposts to the key assessment conclusions relevant to the compensatory habitat provision for marsh harrier, including the assessments submitted with the Application and subsequent submissions made during the Examination.

1.1.2 The conclusion of Stages 1 (screening) and 2 (appropriate assessment) of SZC Co.'s **Shadow Habitats Regulations Assessment Report, Volume 1** [APP-145] for the Project is that an adverse effect on the integrity of the Minsmere-Walberswick SPA and Ramsar site cannot be discounted.

1.1.3 Section 2 of the **Shadow Habitats Regulations Assessment Report, Volume 4** [APP-152] describes the investigations that have been carried out over a number of years to establish the feasibility and design of the proposed habitat enhancement measures within the EDF Energy Estate.

1.1.4 Since the Application was submitted, a series of other submissions have been made to the Examination of relevance to marsh harrier compensatory habitat, as summarised below:

- **Appendix 7F to the Responses to the Examining Authority's First Written Questions**, Bio.1.48 [REP2-110] presented SZC Co.'s responses to various questions connected with marsh harrier, including whether there is a compelling case for the compulsory acquisition of the Westleton land in those circumstances, as set out in paragraphs 1.2.37 to 1.2.48 of REP2-110, and confidence in the success of replacement foraging areas for marsh harrier and the probabilities of success.
- The **Marsh Harrier Compensation Area Design Update to Include Wetland** [REP2-119], which describes the effects of the inclusion of wetland habitat components within the on-site compensatory habitat site.
- The **Marsh Harrier Compensatory Habitat Report** [REP3-053], submitted as Deadline 3, details the proposed approach to marsh harrier habitat provision on this additional land at Westleton.



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- In response to various matters raised at Issue Specific Hearing 7, a paper describing the sufficiency of compensatory measures for marsh harrier was submitted at Deadline 6 (refer to **Appendix B of Written Submissions Responding to Actions Arising from ISH7: Biodiversity and Ecology Parts 1 and 2** [REP6-002]).
- The **Marsh Harrier Habitat Improvements Areas** note [AS-408] was submitted in response to a request from the Examining Authority at the Compulsory Acquisition Hearings Part 1 (18 August 2021). This describes the condition in section 122(2) of the Planning Act 2008 regarding compulsory acquisition of land, summarises SZC Co.'s and Interested Parties' views on whether the condition in section 122(2) has been satisfied and identifies what the Secretary of State should have regard to in deciding whether the proposed habitat constitutes sufficient compensation.

## 1.2 Analysis of the tests for compensatory measures

1.2.1 **Table 1.1** provides an analysis of the compensatory habitat in the EDF Energy Estate, and the provisional compensatory habitat at Westleton, in light of the requirements of the following relevant guidance and policy:

- National Policy Statement (NPS) for Nuclear Power Generation (EN-6).
- Defra guidance on 'Habitats regulations assessments: protecting a European site' (February 2021).

1.2.2 **Table 1.1** expands on Table 1.3 in **Shadow Habitats Regulations Assessment Report, Volume 4** [APP-152] (as reproduced as Table 5.1 in Appendix B of [REP6-002]). The changes made in **Table 1.1** compared with that included in the earlier submissions are the inclusion of an analysis of the permanent foraging habitat within the EDF Energy Estate in the context of the 2021 Defra guidance (noting that this analysis was provided, in a different format, in response to ExQ1 (question HRA 1.6) [REP2-100]) and a new analysis of the provisional compensatory habitat at Westleton.

1.2.3 Overarching EC guidance on Article 6 of the Habitats Directive is available at: [Provisions Art 6 nov 2018 en.pdf \(europa.eu\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017R1025). With respect to compensatory measures, this guidance states (at p.64):

*"In order to ensure the overall coherence of Natura 2000, the compensatory measures proposed for a project should therefore:  
a) address, in comparable proportions, the habitats and species*

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*negatively affected; and b) provide functions comparable to those which had justified the selection criteria for the original site, particularly regarding the adequate geographical distribution....”*

- 1.2.4 The guidance goes on to address the objective and general content of compensatory measures. Notably, it includes recognition that compensation relating to birds may include improving the biological value of an area:

*“In terms of the Birds Directive, compensation might for example include work to improve the biological value of an area, which is or will be classified, so that the carrying capacity or the food potential are increased by a quantity corresponding to the loss on the site affected by the project. Accordingly, the re-creation of a habitat favourable to the bird species concerned is acceptable provided that the created site is available at the time when the affected site loses its natural value.*

*...  
Compensatory measures appropriate or necessary to offset the adverse effects on a Natura 2000 site (i.e. in addition to what is already required under the Directives) may consist of:*

- *habitat improvement in existing sites: improving the remaining habitat on the site concerned or restoring the habitat on another Natura 2000 site, in proportion to the loss due to the plan or project;*
- *habitat re-creation: creating a habitat on a new or enlarged site, to be incorporated into Natura 2000; or*
- *as described above, and in association with other works, proposing a new site of sufficient quality under the Habitats or Birds Directive and establishing/implementing conservation measures for this new site.’ (p.65)”*

- 1.2.5 The above EC guidance is overarching, and is equally applicable to the compensatory habitat in the EDF Energy Estate, and the provisional compensatory habitat at Westleton. Moreover, the NPS EN-6 and the Defra February 2021 guidance (both of which are analysed in **Table 1.1**) sit within the context of (and reflect) the overarching EC guidance.

**Table 1.1: Analysis of the proposed compensatory measures in light of the requirements of guidance and policy**

Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
<b>National Policy Statement (NPS) for Nuclear Power Generation (EN-6)</b> NPS EN-6 states that where site-level assessments identify that compensation is required, the compensation must meet certain criteria. The compliance of the proposed compensatory habitat provision within the EDF Energy Estate and the additional land at Westleton with these criteria is analysed below.		
Be appropriate for the area and the loss caused by the Sizewell C Project	<p>The compensation habitat is considered appropriate in that it would replace (locally) foraging resource that is predicted to be lost to the marsh harrier population. The high degree of precaution in the conclusion of the Shadow HRA is important in this respect, namely:</p> <ul style="list-style-type: none"> <li>- the assumption that displacement as a result of noise and visual disturbance and the barrier effect to Sizewell Marshes would operate at 100%; and,</li> <li>- the predicted worst-case noise levels on which the assessment is based are likely to occur over a limited period only during both Phases 1 and 2.</li> </ul>	<p>The compensatory habitat at Westleton is within the marsh harrier foraging range from the nesting areas at Minsmere, but at approximately 3.5km away, it is more distant than the 48.7ha of permanent foraging habitat within the EDF Energy Estate. On that basis, the Westleton land would be expected to be less intensively used as a foraging area compared with the habitat within the EDF Energy Estate. Nevertheless, should the Secretary of State decide that the land within the EDF Energy Estate is insufficient to fully compensate for the loss of foraging resource, the Westleton land would provide a substantial area of additional habitat within the foraging range of marsh harrier that breed at Minsmere and would, therefore, provide additional assurance as to the appropriateness of compensatory habitat provision. The Westleton site is situated 1km west of Minsmere-Walberswick Heaths and Marshes Site of Special Scientific Interest (SSSI) across which marsh harrier currently forage.</p>

SIZEWELL C PROJECT – MARSH HARRIER COMPENSATORY MEASURES  
– ASSESSMENT AGAINST RELEVANT CRITERIA

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Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
Be capable of protecting the overall coherence of the Natura 2000 network	The compensation habitat is intended to address an effect which is predicted to occur for part of the construction phase and does not result in a physical direct effect on habitats within the boundaries of the SPA and Ramsar site. As a result of the compensatory measures, no negative effect on marsh harrier productivity is predicted and the coherence of the Natura 2000 network would be protected.	The inclusion of the land at Westleton adds further resilience to the conclusion reached in the second column should the Secretary of State decide that the land within the EDF estate is insufficient to compensate fully for the loss of foraging resource.
Be capable of implementation	The compensatory measures would have been developing over a period of approximately 7 years prior to start of construction and do not require the adoption of innovative or untested measures. This demonstrates that the measures are clearly capable of implementation. The wetland component is not yet established and will be created in the first winter following the grant of the DCO.	The additional compensatory habitat will only be created should the Secretary of State consider that additional compensatory habitat is required. Therefore, no habitat management measures to benefit marsh harrier foraging have yet been implemented. However, the habitats proposed at Westleton are capable of implementation and are similar to some of the measures proposed on the land within the EDF Energy Estate, namely: <ul style="list-style-type: none"> <li>- Tussocky grassland: mix of a minimum of 3 tussocky to 1 short grassland; approximately 27ha : 9ha.</li> <li>- Existing hedges: retained; 2,435m present, gaps filled where needed.</li> <li>- Wildbird seed planting and nectar rich flower mix: approximately 4.5ha of each.</li> </ul>

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**SIZEWELL C PROJECT – MARSH HARRIER COMPENSATORY MEASURES  
– ASSESSMENT AGAINST RELEVANT CRITERIA**

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Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
		<ul style="list-style-type: none"> <li>- Game cover crops: 12m wide to form linear features to reflect the types of habitat marsh harriers hunt over; approximately 9ha.</li> </ul> <p>Additionally, to increase the opportunities for harriers to surprise prey, strips of taller game cover crop will be included on the habitat design. As with the measures proposed on the land within the EDF Energy Estate, the habitats proposed to be created do not require the adoption of innovative or untested measures.</p>
Be capable of ensuring that the Natura 2000 site is not irreversibly affected by the Sizewell C Project before the compensation is in place	The compensatory measures have been initiated, albeit that the wetland component is not yet established (the wetland habitat area will be created in the first winter following the grant of the DCO) and would have been developing over a period of approximately 7 years prior to start of construction. It is expected that marsh harrier would forage over the compensation habitat prior to the start of the construction phase. With the proposed compensation measures in place, combined with the fact that no physical damage to habitats within the SPA and Ramsar site would occur, it can be concluded that the SPA and Ramsar site would not be irreversibly affected.	The habitats at Westleton (summarised above) are proposed taking account of the fact that they can be rapidly established and would support high numbers of small mammal and small birds; this would supplement the already established habitat within the EDF Energy Estate and which would have been in place and functioning for several years by the time of commencement of construction (albeit that the wetland component is not yet established and will be created in the first winter following the grant of the DCO). As a supplement to the habitat creation within the EDF Energy Estate, the rapid establishment of the Westleton habitats would ensure that the SPA and Ramsar site would not be irreversibly affected should the Secretary of State decide that compensation land additional to that within the EDF Estate is necessary.

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SIZEWELL C PROJECT – MARSH HARRIER COMPENSATORY MEASURES  
– ASSESSMENT AGAINST RELEVANT CRITERIA

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Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
Be directed in measurable proportions to the habitats and species negatively affected	The analysis of the area of compensatory measures considered necessary concludes that the compensation area would attract a greater level of usage by foraging marsh harrier than an equivalent area at the same distance from the Minsmere reedbed as the Sizewell Marshes or the southern part of the Minsmere South Levels. The proximity to the marsh harrier nesting location is, therefore, a key point when considering the overall functionality of the compensatory habitat provision (i.e. it is too simplistic to simply assess functional losses and gains purely on an area by area basis). The compensatory area is likely to be heavily used by foraging marsh harrier and to a greater extent (per unit area) than currently occurs on the SSSI.	The inclusion of the land at Westleton site as part of the compensatory measures would mean that the total area of land within which targeted habitat management to enhance foraging conditions for marsh harriers is implemented within the putative foraging range of the Minsmere marsh harriers (i.e. 103ha) would be approximately equivalent to the area of wetland from which foraging marsh harriers are predicted (under highly precautionary assumptions) to be displaced by disturbance due to construction activities (i.e. approximately 100ha). When considered together, and taking into account the important point about proximity of the foraging habitat within the EDF Energy Estate made in the second column, the net effect is a greater than 1:1 provision of compensatory habitat area compared to the assumed 'loss'.
Be related to the same biogeographical region (within the UK)	The proposed measures are in very close proximity to the SPA and Ramsar site and in the same biogeographical region in the UK.	The statement in the second column equally applies to the Westleton land, albeit the Westleton land is not immediately adjacent to the marsh harrier nesting location at Minsmere. The site is, however, within the marsh harrier foraging range from Minsmere, making it a highly favourable location for foraging marsh harrier.
Serve functions that are comparable to those that motivated the original area's submission for designation	The SPA and Ramsar site are (in part) classified for breeding marsh harrier, with land within the European site providing a supporting function (foraging habitat) to	The statement in the second column equally applies to the Westleton land. The compensatory habitat at Westleton would provide enhanced foraging

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Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
	the breeding marsh harrier population. However, marsh harrier also forage over significant areas of land outside of the boundaries of the European site and it is (largely) this non-designated area that is predicted to be affected by noise and visual disturbance during the construction phase. The compensatory measures do, therefore, serve a function that is comparable to that which motivated the designation of the SPA and Ramsar site.	opportunity outside the boundary of the SPA and Ramsar site and, when considering alongside the foraging habitat within the EDF Energy Estate, provide further resilience to the compensatory habitat provision.
Be clearly defined, with implementation goals and managed so that the compensatory measures can achieve the goal of maintaining or improving the overall coherence of the Natura 2000 network	The compensatory measures are clearly defined, with quantified targets for the various habitat types. The habitats can be managed over the long-term to ensure that they continue to achieve their objectives and maintain the overall coherence of the Natura 2000 network.	The targets for the various habitat types proposed for the Westleton site are quantified, as summarised above. The habitats are similar to some of those proposed within the EDF Energy Estate and can be managed to ensure that they continue to achieve their objectives (as set out in REP3-053).
<p><b>Defra guidance on ‘Habitats regulations assessments: protecting a European site’ (February 2021)</b></p> <p>This guidance describes the requirements of the three legal tests involved in seeking a derogation for a proposal that has failed the integrity test. ‘<i>Test 3: Secure compensatory measures</i>’ is relevant to the provision of compensatory measures and refers to points that should be considered in order to be confident that the proposed measures will fully compensate for the negative effects of the proposal. These requirements substantially overlap with those set out in NPS EN-6 analysed above.</p> <p>One of the considerations of the guidance is how financially viable the measures are (the proposer must have enough funds to cover costs). Given this is not a technical / ecological consideration, this point is not analysed in this paper. Details of how the Project will be funded are provided in the <b>Funding Statement</b> [APP-066], <b>Funding Statement Addendum</b> [AS-011] and <b>Funding Statement Second Addendum</b> [AS-150]. It is also relevant to note that the compensatory measures within the EDF Energy Estate have been initiated.</p>		
These measures will need to fully offset the damage which will or could be caused to the site.	SZC Co. considers that the compensatory measures do fully offset the damage that may occur to the SPA and Ramsar site. There are a number of elements that	As noted in the second column, SZC Co. concludes that the permanent foraging habitat within the EDF Energy Estate fully offsets the damage that may occur

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Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
	<p>support this conclusion, which are explained in response to other requirements of the guidance analysed in this table, with the key points including:</p> <ul style="list-style-type: none"> <li>- Local replacement of foraging resource for marsh harrier that breed within the SPA and Ramsar site.</li> <li>- An appropriate scale of compensatory habitat provision, taking into account the proximity of the compensatory habitat to the location of marsh harrier nesting areas at Minsmere.</li> <li>- Implementation of the compensatory habitat well in advance of the potential adverse effect on integrity of the SPA and Ramsar site (albeit that the wetland component is not yet established and will be created in the first winter following the grant of the DCO).</li> <li>- The habitats are capable of implementation and do not involve use of novel or untested techniques.</li> </ul>	<p>to the SPA and Ramsar site. The inclusion of the land at Westleton adds further resilience to the conclusion reached in the second column if the Secretary of State decides that it is necessary.</p>
<p>The compensatory measures themselves must not have a negative effect on the national network of European sites as a whole, despite the negative effects of the proposal on an individual European site.</p>	<p>The compensatory measures are not located within a European site and given the nature of the works (habitat management) required to create the habitats there is no potential to negatively affect a European site, either during construction or during their operational lifetime.</p> <p>The creation of the wetland component will require excavation of material from the lowest lying parts of the north and eastern edges of the compensation area to intercept near surface groundwater levels. These works will be implemented outside the marsh harrier breeding</p>	<p>The comment in the second column equally applies to the provisional measures at Westleton (with the exception of the comment regarding wetland creation, which does not form part of the provisional proposals at Westleton).</p>

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Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
	period to avoid the potential for a disturbance effect to this species.	
Compensatory measures can include creating or restoring the same or very similar habitat on areas of little or no conservation value: <ul style="list-style-type: none"> <li>within the same site - if it exists</li> <li>at a suitable location outside the site.</li> </ul>	The compensatory measures comprise creating appropriate foraging habitat for marsh harrier on land that formerly had minimal conservation value given it was intensively farmed and largely covered in plastic sheeting. The land is outside the boundary of a designated site, but in close proximity to the nesting areas for marsh harrier at Minsmere.	The provisional compensatory measures would comprise creating appropriate foraging habitat for marsh harrier on what is currently predominantly arable land. The land is outside the boundary of any designated sites, is not covered by existing environmental stewardship schemes and is located within the foraging range for marsh harriers that breed at Minsmere.
How technically feasible and effective the measures will be - based on scientific evidence and previous examples	<p>The compensatory habitat measures are feasible (because, with the exception of the wetland component, they have been implemented) and would have been developing over a period of approximately 7 years prior to start of construction. Further consideration of the feasibility and effectiveness of the compensation measures is provided in <b>Appendix B of Written Submissions Responding to Actions Arising from ISH7: Biodiversity and Ecology Parts 1 and 2</b> <a href="#">[REP6-002]</a>, covering the range of habitat types to be created, the predicted use of compensatory habitat by marsh harrier and the importance of proximity, predictions of prey resource and comments on competition from meso-predators and other birds of prey.</p> <p>The wetland component is technically feasible to create by excavating approximately 120,000m<sup>3</sup> of material from the lowest lying parts of the north and eastern edges of</p>	<p>The habitats proposed at Westleton are technically feasible and are very similar to some of the measures proposed on the land within the EDF Energy Estate, which have already been implemented (demonstrating the feasibility of implementation). Quantified targets for the habitat to be provided have been defined and would be expected to be as effective as those created within the permanent foraging habitat within the EDF Energy Estate in terms of prey abundance and availability on an area by area basis.</p> <p>The Westleton land is located approximately 3.5km from the nesting areas at Minsmere, but is within the foraging range of marsh harrier. The inclusion of the land at Westleton adds further resilience to the conclusion reached in the second column regarding</p>

NOT PROTECTIVELY MARKED

Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
	<p>the compensation area. The wetland area will be achieved by excavating to intercept near surface groundwater levels.</p> <p>The compensatory habitat will be effective in meeting its objectives, for the reason set out within the analysis of the requirements of NPS EN-6, for the following elements:</p> <ul style="list-style-type: none"> <li>- Location relative to the 'lost' foraging habitat.</li> <li>- Capable of implementation.</li> <li>- In place prior to the loss occurring.</li> <li>- Of an appropriate area, taking into account proximity and the fact that the compensatory area is likely to be heavily used by foraging marsh harrier and to a greater extent (per unit area) than currently occurs on the SSSI.</li> <li>- Clearly quantified targets for the various habitat types have been defined.</li> </ul>	<p>effectiveness of the proposed compensatory measures.</p>
How the compensation would be carried out, including how it'll be managed and monitored over the time that's needed, and how it's been secured.	<p>As noted above, the compensatory habitat has been implemented and is subject to ongoing management; the land is within the EDF Energy Estate. A programme of monitoring, as set out in the <b>Terrestrial Ecology Monitoring and Mitigation Plan</b> [REP5-088], will be implemented, as follows:</p> <ul style="list-style-type: none"> <li>- Survey to determine the success of establishment of foraging habitats for marsh harriers, to include vegetation establishment and botanical monitoring.</li> </ul>	<p>The habitats proposed at Westleton are similar to some of the measures proposed on the land within the EDF Energy Estate, namely:</p> <ul style="list-style-type: none"> <li>- Tussocky grassland: mix of a minimum of 3 tussocky to 1 short grassland; approximately 27ha : 9ha.</li> <li>- Existing hedges: retained; 2,435m present, gaps filled where needed.</li> </ul>

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Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
	<ul style="list-style-type: none"> <li>- Survey to determine the success of establishment of prey species (small mammals and birds) for marsh harriers.</li> <li>- Surveys of foraging activity levels of marsh harrier on both the existing wetland foraging habitats (Minsmere South Levels and Sizewell Marshes) and the permanent foraging area within the EDF Energy Estate.</li> </ul> <p>Further interventions are proposed in the <b>Terrestrial Ecology Monitoring and Mitigation Plan</b> <a href="#">[REP5-088]</a> that could be deployed in response to the findings of the monitoring if necessary.</p> <p>Requirement 14C of the <b>dDCO</b> (Doc Ref. 3.1G) requires that a marsh harrier implementation plan for the establishment of marsh harrier compensation land be approved by East Suffolk Council in consultation with Natural England. That plan must be in general accordance with the <b>Marsh Harrier Compensatory Habitat Report</b> <a href="#">[REP3-053]</a> and include details of the proposed works including (amongst other things) landscape and planting details and monitoring and management measures.</p>	<ul style="list-style-type: none"> <li>- Wildbird seed planting and nectar rich flower mix: approximately 4.5ha of each.</li> <li>- Game cover crops: 12m wide to form linear features to reflect the types of habitat marsh harriers hunt over; approximately 9ha.</li> </ul> <p>The land at Westleton (Work No. 8 (Marsh Harrier Habitat, Westleton) is included within the draft DCO to cater for the possibility that the Secretary of State might conclude that further marsh harrier compensatory habitat is required in addition to the permanent foraging habitat within the EDF Energy Estate. Provisions are also included in the Draft Deed of Obligation to secure the delivery of the additional compensatory habitat at Westleton.</p> <p>Requirement 14C of the <b>dDCO</b> (Doc Ref. 3.1G), as described in the second column, will apply to the land at Westleton if the Secretary of State chooses to include this land within the DCO.</p>
Distance from the affected site - compensation closer to the site is generally preferred, unless measures further away will benefit the network of European sites as a whole.	The comments provided in response to the analysis of NPS EN-6 ('Be directed in measurable proportions to the habitats and species negatively affected') applies to this test of the February 2021 Defra guidance.	The comments provided in response to the analysis of NPS EN-6 ('Be directed in measurable proportions to the habitats and species negatively affected') applies to this test of the February 2021 Defra guidance.

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Compensation Requirement / Requirement of Policy And Guidance	48.7ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate	54.3ha Comprising Permanent Foraging Habitat Within The EDF Energy Estate and Habitat To The West of Westleton
<p>How long the compensatory measures will take to reach the required quality and amount of habitat.</p>	<p>The comments provided in response to the analysis of NPS EN-6 ('Be capable of ensuring that the Natura 2000 site is not irreversibly affected by the Sizewell C Project before the compensation is in place') applies to this test of the February 2021 Defra guidance.</p> <p>With the exception of the wetland component, which will be created in the first winter following the grant of the DCO the compensatory measures have been initiated and would have been developing over a period of approximately 7 years prior to start of construction. As explained above, Requirement 14C of the <b>dDCO</b> (Doc Ref. 3.1G) requires approval of a marsh harrier implementation plan for the establishment of marsh harrier compensation land which must include details of the proposed works including (amongst other things) an implementation timetable for the works.</p>	<p>Should the Westleton land be deemed necessary as part of the compensatory habitat measures, the planting of the habitat components would occur in the autumn of year 1. The habitats at Westleton (summarised above) are proposed given that they can be rapidly established and would support high numbers of small mammal and small birds.</p> <p>As explained above, Requirement 14C of the dDCO (Doc Ref. 3.1G) requires approval of a marsh harrier implementation plan for the establishment of marsh harrier compensation land which must include details of the proposed works including (amongst other things) an implementation timetable for the works.</p>



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## 2 CONCLUSION

- 2.1.1 The analysis provided in **Table 1.1** confirms that the permanent foraging habitat within the EDF Energy Estate satisfy the requirements of NPS EN-6 and the Defra 2021 guidance on 'Habitats regulations assessments: protecting a European site'. The analysis also confirms that this is the case for the provisional compensatory habitat at Westleton, should it be included.
- 2.1.2 SZC Co. considers that the permanent foraging area within the EDF Energy Estate provides sufficient compensatory habitat for foraging marsh harrier. The introduction of an area of contingency land at Westleton (if this is judged to be required by the Secretary of State) provides further resilience that the test of certainty would be met.
- 2.1.3 NPS EN-6 and the Defra 2021 guidance reflect the overarching EC guidance on Article 6 of the Habitats Directive referred to in Section 1. In satisfying the requirements of NPS EN-6 and the Defra 2021 guidance, the requirements of the EC guidance are also satisfied.
- 2.1.4 It is noted that the EC guidance refers to the fact that:
- “In order to ensure the overall coherence of Natura 2000, the compensatory measures proposed for a project should therefore: a) address, **in comparable proportions** [emphasis added], the habitats and species negatively affected; and b) provide functions comparable to those which had justified the selection criteria for the original site, particularly regarding the adequate geographical distribution....”*
- 2.1.5 The key point is, however, ensuring that the functionality of the site is adequately compensated. Given the nature of the predicted effect of the Sizewell C Project, this provision involves more than a simplistic consideration of the area of habitat predicted to be affected, as assessed within the Shadow HRA and analysed in Table 1.1. When the important points about proximity are taken into account, the permanent foraging habitat within the EDF Energy Estate is appropriate and sufficient and meets the criteria of the guidance analysed in **Table 1.1**. Notwithstanding this point, the inclusion of the Westleton land results in a net effect – when viewed solely on an area basis – that is a greater than 1:1 provision of compensatory habitat compared to the assumed 'loss'.